GTatrium
by Georgia Tech

Service Design and Delivery

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I'd like to first take a moment to say thank you. I say this to many people, but Georgia Tech changed my life. Never in a million years did I think I could do what I'm doing now. Nor did I think I would have the opportunities I now have because of this place and more importantly because of the people I've met along the way.

In that sense, it is fitting my closing chapter at Georgia Tech begins by dreaming of its future. I'd like to thank Steve Harmon, my advisor, and everyone at the Center for 21st Century Universities (C21U). The team behind C21U is strong, inspiring, and innovative as they build future tools, technologies, and education modalities for Georgia Tech. A special thanks goes out to Jonna Lee and Brittany Aiello for their encouragement and guidance.

To my committee members, Florian Vollmer and Kevin Shankwiler — you were incredibly adaptable, curious, asked good questions, sparked new ideas, and strengthened me along the way. You also were some of my best teachers; thank you.

To my friends, family, & classmates — wow. Grad school isn’t for the faint of heart, and I was crazy enough to get two degrees. It wouldn’t have been possible without your encouragement, meals, hugs, laughs, and support. Matthew, you were my rock and steadfastly believed in me. This is for you. Thank you.
## Table of Contents

### Discover 1
  1. GTatrium Background 3
  2. Project Introduction 8
  3. Literature Review 14
  4. Current State 23

### Define 32
  5. Market Survey 32
  6. User Research 42
  7. Design Criteria 50

### Deliver 54
  8. Users & Stakeholders 54
  9. Service Areas 65
  10. Technology 76
  11. The GTatrium 83

### Develop 90
  12. The Business Model 90
  13. Strategy Implementation 97
  14. Next Steps 102

### Summary 108

### Appendix 111
1. Background

What sparked this project?
As a highly selective public university with a history of educational innovation, Georgia Tech chartered the Commission for Creating the Next in Education (CNE) in 2015 to draw with broad strokes the nature of education in the year 2040. While it’s nearly impossible to outline the different pathways to the Georgia Tech of 2040, the commission identified characteristics and drivers of change that will undoubtedly shape future education experiences. CNE’s final report, entitled “Deliberate Innovation, Lifetime Education” (2018), outlined a plan for the future based on an ambitious proposal called the Georgia Tech Commitment to a Lifetime Education and resulted in five key education priorities: Whole Person Education, New Products and Services, Advising for a New Era, AI and Personalization, and A Distributed Worldwide Presence.

As part of Georgia Tech’s commitment to a lifetime education, CNE proposed a physically distributed Georgia Tech initiative — the GTatrium — as part of the Institute’s 2020-2030 Strategic Plan. The GTatrium is a reinvention of the university’s physical presence in a form that is a more personal, more affordable, and a more effective way to experience education — a significant departure from current university business models.

A large amount of research went into the recommendations proposed by the CNE, and many of those have bearings in GTatrium development.
The GTatrium is a cornerstone initiative for the next decade of institutional development, as part of Georgia Tech’s Strategic Plan for 2020-2030. While the GTatrium touches upon several goal areas, it will specifically advance the Institute’s strategic goals of connecting globally and expanding access. The GTatrium is designed to provide personalized education, career development, advising, enrichment, and specialized learning experiences to not only current Georgia Tech students, but also to alumni, prospective learners of all ages, and the community at large.

Yves Bertehelot, Georgia Tech’s former Vice-Provost for International Initiatives once stated, “Global engagement is absolutely essential if we want to increase our reputation and move up in global and national rankings... the way to accomplish that is to be present and make a difference in key hubs of scientific and economic activity around the world.” In this sense, Georgia Tech is prioritizing the development of a scalable, flexible, and international education hub — different from anything the Institute has done before.
The GTatrium is a reinvention of Georgia Tech's physical presence on a global, yet localized, scale.
This visual model represents the base level of what could be a GTatrium service experience. Moving through the design process, the model began to take shape to more fully encapsulate and identify factors that will shape what the GTatrium experience might become.
2. Introduction

What are the project’s aims and goals?
GTatrium Project Area

THE OPPORTUNITY

Some components for the GTatrium were present when the project began, some were unknown, and none of them fit together.

My mission? Arrange the pieces, identify gaps and lay the groundwork for future success.
Because Georgia Tech prioritized GTatrium development and included it in the 2020-2030 Strategic Plan, some groundwork was completed before the project started.

To start, there was never the question of “if” there would be a GTatrium, but it was more of a question of “how?” C21U knew the GTatrium would be international, scalable, flexible, and intended for learners of all kinds. There was a very general idea of whom the users would be. The design challenge lay in process, strategy execution, technology enablement, and how to design a flexible, yet customizable, sustainable experience.

**A North Star for the GTatrium**
The concept of the GTatrium already existed, which served as a strong launching off point for determining its vision, users, and services.

**Insights from a Previous User Research Study**
A previous researcher at C21U conducted a GTatrium UXR study focused on Online Masters Students (OMS), GT alumni, and mid-career professionals.

**International Locations**
This project didn't focus on identifying locations for GTatrium, but rather working with potential international locations as they arose.
How can the GTatrium serve learners in their communities throughout their lifetimes?
The research question has 3 primary focus areas.

**Part A**
Who are the users and what do they need?

**Part B**
How can Georgia Tech leverage its brand offering GTatrium?

**Part C**
How does Part A and Part B come together to create a differentiated, sustainable business model for GTatrium?
Human centered design principles were used to continually move deeper throughout the process. Unlike other master's projects, this one was evolving in real time. Therefore, a lot of the process involved designing on the spot and soliciting feedback informally to continually iterate and refine. It did not always move seamlessly from one stage to the next.

However, a mix of research methods from design thinking and business strategy were used to pull together a cohesive direction for the atrium. In a way, this process made the final result stronger because stakeholders were involved in every stage of atrium development. This work lays a strong foundation for future refinement as C21U pursues GTatrium development and implementation.
3. Literature Review

What can we learn from research already completed?
LITERATURE REVIEW TOPICS

Knowledge Transmission
21st Century Education
The Role of Digitization
Education Hubs
Upskilling & Reskilling
COVID-19 & Black Swan Events
Design Implications
The university of the future will be an international university, physically as well as virtually.

-- Brett van der Zwaan, “Higher Education in 2040”
Historically, universities have had three fundamental missions: the creation of knowledge, the dissemination of knowledge, and the preservation of knowledge (McRobbie, 2013). Access to a college education may have been the hallmark of 20th century education, but the development of frameworks, tools, and services to support lifelong learning will be a defining aspect of 21st century education (Holoubeck & Hibbard). As the world changes, accessibility and new technologies are shifting how, when, and where we learn as well as the creation and distribution of knowledge.

Physical college campuses have inherent advantages readily observed by the prevalence of educational facilities broadly available, but they do not necessarily match services to regional needs. Furthermore, the idea of a singular, contained college campus, historically a mainstay in collegiate experiences, is a fragile model as the world trends towards increased digitization of services. The rise of online learning environments, education disruptions propelled by COVID-19, and increasing globalization are a few of the factors contributing towards this shift.

The emerging mission of universities has shifted to include workforce reskilling and how universities contribute to economic development in its region. The purpose of the GTatrium is to begin to think about how Georgia Tech can respond to change and to macro factors shaping shifts in higher education. The GTatrium is one manifestation of how Georgia Tech could respond to these shifts.
Education hubs today typically fall into one of three types: student hubs (attract local and foreign students), talent hubs (develop skilled people who will stay in the country), and knowledge hubs (seek to build research infrastructure). The first phase of education hubs was historically linked to student mobility, when students left their homes to pursue higher education. The second phase was linked to institutional mobility, where universities set up branch locations both abroad and in their respective countries. Transnational education represents the third stage and continues to evolve where the focus won’t be on physical location, but on connection. As such, the third stage will attract both foreign students and foreign branch campuses.

Universities have historically been linked to cities that form economic and cultural centers. This is still true today as “the nature and location of a campus play a defining role in the development of a university” (van der Zwaan, 126). Jane Knight, in her book International Education Hubs, summarizes the concept of an education hub which “rests on the motivation to be perceived and act as a reputed centre for higher education, training and research” within and extending beyond a geographic region. To operationalize, education hubs require a “coordinated and strategic effort to build a critical mass of local and foreign actors — including students, education institutions, training companies, knowledge industries and science and technology centres (Knight, 13-14).”

**Literature Review Takeaways**

**KNOWLEDGE CENTERS, PART 1**

**Phase 1**

*Students left their homes and traveled to the university for higher education*

**Phase 2**

*Universities set up branch locations abroad & in their respective countries*
An education hub is a strategic effort to bring together a critical mass of local and international actors for students (attracting local and foreign students within higher education), to expand the talent pool for those who stay within a country, and to contribute to the knowledge economy by building research infrastructure. Concentrated knowledge institutions “will play a leading, pioneering global role in the scholarship of the future” through the establishment of knowledge hubs (van der Zwaan, 129). Successful implementation is dependent upon careful planning and embedding itself within the fabric of the local geography.

From an implementation perspective, education hubs must be embedded within the local context in order to be successful. Setting up a branch location in a key city is not enough; these hubs must strive to be a place with the free flow of knowledge, services, money, ideas, and collaboration. Furthermore, the development of education hubs is not a one-size-fits-all approach (Jaschik, 2014). Each city, country, or region has its own needs, in addition to the university, all while being impacted by external drivers such as policy. Therefore, “one type of education hub may be more appropriate than another depending on the context” (Knight, 2014).
This graphic illustrates just how much the world has changed in a few short years as a result of technological innovation and black swan events like COVID-19. The iPhone came to market in 2008, and with it, came a rise of new products and services. For education specifically, digitization suddenly increased how and to whom knowledge is shared. Access to knowledge has changed via the internet and enabled “a new way of sharing knowledge internally and across organizational boundaries” (Hossain & Lassen, 2017). Evidence of this is seen in the emergence of digital platforms, the development of Massive Open Online Courses (MOOCs), shifts from local teaching material towards global course networks, and the ability to access information and learn from experts across the world.

Not only did COVID-19 highlight a need for institutions to improve their technological infrastructures, but it also stressed that education systems ensure students have equal access to the technological resources needed (Garcia-Morales, et al., 2021), requiring a financial investment to enable a real digital transformation. “We do not yet know what the shift to virtual learning will mean for the future of higher education at global level, but it is clear in the current scenario that universities should develop a sophisticated combination of face-to-face and online learning to harness the potential of the technological tools available to meet students’ expectations and enhance their learning experience in the current digital environment.” (Garcia-Morales, et al., 2021).
Over the past year, 70% of U.S. companies reported major talent shortages — the highest number in a decade (Guild, 2021). Technological advancements, digitization, and automation loom as a significant threat to American jobs and are rapidly changing job functions, requiring the workforce to continually be learning new skills. More than half of all jobs in the U.S. at significant risk of being fully or partially automated (Guild, 2021). Additionally, Americans without a college degree or skilled training are four times more likely to be displaced from the job market (Guild, 2021).

The World Economic Forum forecasts reskilling 1.4 million US workers will cost $34 billion, as a conservative estimate (Axios, 2019), and Guild Education estimates there’s 88M working adults in the US in need of upskilling (Guild, 2021). While there’s not a right way or primary solution for reskilling and upskilling, there is an enormous amount of activity in this space. Reskilling, upskilling, professional development, advising are all pivotal aspects of lifelong learning and cornerstones for future education models. Credentialing is also becoming increasingly prevalent, where individuals are seeking certificates and stacking them as “microcredentials” to gain a more competitive edge in the job market, even doing so in conjunction with earning a bachelors or masters (Marcus, 2020).
Higher Education is Ripe for Disruption

The rise of online learning environments, education disruptions accelerated by COVID-19, and increasing globalization are a few factors contributing to this shift.

The continued existence of physical campuses will likely not be threatened, but institutions must adapt to the rise of digitization, diversify how students interact with them, and how they engage globally.

Internationalization Considerations

- Prioritize strategic alignments with governments + cities
- Consider regional knowledge exports and alignment with Georgia Tech’s expertise or where GT wants to be
- Be embedded within the local community and match services to regional needs
- GTatrium is aligned with new wave of internationalization for universities

Service Considerations

- Face-to-Face interactions are more important than ever
- Offer flexibility in modality (face-to-face and virtual offerings) because network effects will be paramount to harnessing GTatrium’s potential
- Reskilling, upskilling, professional development, & advising are all pivotal aspects of lifelong learning and cornerstones for future education models
- Differentiate the GTatrium from Phase 2 Education Centers
4. Current State — GT

What is Georgia Tech’s expertise and how do we leverage it?
Going back to the basic sketch of the service experience, the first question was,

“What is Georgia Tech hoping to achieve by offering the GTatrium internationally?”

Secondly,

“How can Georgia Tech leverage its expertise? What is Georgia Tech recognized for, and what is its reach?”

In essence, “What elements are specific to a Georgia Tech experience?” Knowing Georgia Tech's core offerings should influence how the GTatrium functions in different geographies, and these factors will also influence the business justification for the GTatrium.
Georgia Tech as a Brand

GEORGIA TECH'S CORE OFFERINGS

Market Position
Georgia Tech is a top 10 public research university with nearly 40,000 students, representing 50 states and 149 countries.

Brand Promise
Committed to inclusive excellence and innovation, daring every day to imagine and then create solutions for a better future. Progress and Service for all.

Known For
- Academic Excellence
- Innovation & Entrepreneurship
- Research Leadership
- Technology
- Diversity & Inclusion

Learning Locations
- Atlanta, Georgia — Main Campus
- France & China — Additional Campuses
- Distance & Online Learning

Competitive Set
- Virginia Tech
- Caltech
- MIT
- Purdue University

Position
Internationally recognized as one of the largest and among the highest-ranked colleges for engineering and computing. Georgia Tech is one of the nation’s most research-intensive universities, and offers outstanding programs in business, design, liberal arts, and sciences.

Mission
Developing leaders who advance technology and improve the human condition.

Data Source: https://strategicplan.gatech.edu/vision
Georgia Tech is known for innovation, technology, and research and is committed to developing leaders (read: innovators) who utilize this expertise. Developing leaders can be achieved at many stages throughout an individual’s life. Furthermore, Georgia Tech’s primary presence is in Atlanta. They are international in terms of countries represented and brand recognition, but they are not international in physical presence. Georgia Tech recently began offering distance and online learning. All of these are ingredients to leverage for GTatrium.

Data Source: https://strategicplan.gatech.edu/vision
Georgia Tech's Presence

GEORGIA TECH TODAY

Education at Georgia Tech today primarily functions like this. The majority of Georgia Tech students physically travel to Atlanta for education at the Institute.
Georgia Tech’s Presence

GEORGIA TECH TODAY

The Institute has 2 international campuses — one in France and one in China. Some colleges, like Industrial and Systems Engineering, have global centers with expertise similar to the MIT SCALE Network.

To some extent, Georgia Tech is also international. Despite having many international students, Georgia Tech itself is not as globally distributed.

It is unknown how many international students in these regions attend the Georgia Tech location in that region, but for the most part, Georgia Tech students travel to these hubs for shorter terms abroad. While not yet fully operational, there are plans to offer degrees from these hybrid campuses in the coming years.
Georgia Tech’s Presence

GEORGIA TECH TODAY

While Georgia Tech boasts students from 150 countries, it is less internationally present. Georgia Tech primarily sends their students to international locations. The other campuses bring in some local expertise and resources, interfacing with the surrounding communities some, but not to a large extent.
Instead of using resources from the community, the aim of the GTatrum is to embed itself within the community. This is what the Georgia Tech network could look like with the GTatrum. Highlighted are some of the proposed GTatrum locations in Taipei, Medellin, Monterrey, Morocco, and Kazakhstan.
“Previous “case studies” demonstrate Georgia Tech has successfully leveraged its brand internationally and aligned itself with specific knowledge hubs.”

**STRENGTHS**

Georgia Tech is universally recognized as a prestigious institute and is highly revered internationally.

**OPPORTUNITIES**

- Georgia Tech’s distance and online learning programs are a new capability to leverage.
- Georgia Tech is internationally known but is not internationally present.
- A mission to develop leaders is not bound to a time frame or geography; it’s an opportunity to use Georgia Tech’s expertise in technology and innovation to accomplish its mission.
5. Market Survey

What opportunities can we find by looking at the market?
The literature review showed that there weren’t similar models of the atrium concept already in existence. From a benchmarking perspective, there also weren’t other services to compare to the GTatrium in a true competitive analysis. In some ways, this was a key finding because it affirmed Georgia Tech is pursuing a truly innovative future education modality.

In light of this, the next best option was to research the market based off of context. Firms and organizations that were exemplary in different competencies intended to also be incorporated into the GTatrium were incorporated into the survey. For example, WeWork is focused on co-working and GTatrium will be a co-learning hub that brings different stakeholders together. This presents an opportunity to learn from their business model.

In total, 15 different firms were included in the market survey and examined 20 different sub-functions for each firm. In broad strokes, this included information pertaining to the business model, key activities, key services, notes on experience, and culminated into design implications for the GTatrium.
<table>
<thead>
<tr>
<th>Analogous Contexts</th>
<th>Indirect Context</th>
<th>Parallel Context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analogue Contexts</strong> are not considered competitors, but are sources of inspiration for successfully creating click-to-brick experiences. <em>(different solution + different customer)</em></td>
<td><strong>Indirect Context</strong> provide similar services, but have a different target customer (i.e. enterprise, founders only, online only). <em>(similar solution + different customer)</em></td>
<td><strong>Parallel Context</strong> provide similar features to the same audience but do not directly compete against our offering <em>(similar solution + target customer)</em></td>
</tr>
</tbody>
</table>

**Design Implications**

- First touchpoint begins digitally and then transfers to in-person
- How do we help atrium users "Find Their Fit?" and take advantage of services?
- Experiment with pop-ups as proof of concept
- Offer free courses as a try before you buy

- Community is a primary differentiator in the indirect context offerings.
- An Atrium app can have a dedicated activities section along with services where people can rate activities and write reviews.
- Online platforms target more organizations than users at the individual level

- Localize community-specific events
- Develop community-academia connections
- Design with user autonomy in mind
- Sort course offerings by language
- Consider what services might be "open-access" to all Atrium users and what would be specific to certain member types
What’s Out There Today?

MARKET SURVEY

Analogous Contexts

Overview
This group consists of firms that GTatrium would likely never consider as a competitor. What is interesting about the analogous context group, however, is how they bridged digital-to-physical interactions. This demonstrates a proof of concept (at least in the retail space) that physical presence extends connection to otherwise digital experiences or products.

Use Case Example: Apple
Apple is particularly interesting as a case study in how they transformed how the world shops for technology. They turned their physical stores into both a service center with the genius bar and a learning center by offering classes. Apple essentially created a community center by being able to shop, talk to an expert, learn something new, get something fixed, and even “nerd” out with other raving fans.

Takeaways
It is curious to me that firms included in this set primarily started with an online offering and then extended to physical locations to double down on interfacing directly with their customers face-to-face. Firms in different contexts are doing the opposite, but this suggests there truly is no replacement for in-person options.

The driver for in-person visits seems to be personalization. This is true regardless of firm. For Apple, even when the store is packed, visitors don’t mind going. They know they can book an appointment, and they know they will receive personalized care. With Warby Parker, visitors receive custom fittings.

Design Implications

- First touchpoint begins digitally and then transfers to in-person
- How do we help atrium users “Find Their Fit?” and take advantage of services?
- Experiment with pop-ups as proof of concept
- Offer free courses as a try before you buy
What’s Out There Today?

MARKET SURVEY

Indirect Context

Overview
This group has the most variation across their offering, but most firms in this group were primarily focused on leveraging the internet for knowledge distribution. They varied in the lens they applied to do this, i.e. reskilling, upskilling, credentialing, bootcamps, networking.

Use Case Example: Guild Education + On Deck
Guild Education is an online program management (OPM) provider whose primary value proposition is “education as a workplace benefit.” They help employers attract and retain talent, while also drawing in employees and preparing them for their future. For example, Guild partners with online universities and large corporations which in turn provides opportunities for a line cook at Chipotle to be able to get a degree for free as a workplace benefit. Guild’s target user is someone who has historically had a bad relationship with higher education and now they have a pathway to it, if they choose to take advantage of the opportunity. Additionally, On Deck seeks to build “a modern educational institution that redefines how community and learning come together.”

Takeaways
Be very thoughtful and strategic in developing partnerships where GTatrium can utilize feedback loops. To further explain, where can GTatrium match user needs with user offerings? Guild looked for pockets where large groups of people sat and built a 3-sided marketplace where value propositions aligned for each group. Additional takeaways:
- Focus on expanding access
- Think about how to build flywheels in the business model
- Capture user groups by offering free and paid access to GTatrium
- Online platforms target more organizations than users at the individual level
- Cultivate a niche value proposition distinct from MOOCs or online university classes

Indirect Competitors provide some similar services, but have a different target customer (i.e. enterprise, founders only, online only).

(similar solution + different customer)

Design Implications

- Community is a primary differentiator in the Indirect Context offerings.
- An Atrium app can have a dedicated activities section along with services where people can rate activities and write reviews.
- Online platforms target more organizations than users at the individual level
What’s Out There Today?

MARKET SURVEY

Parallel Context

Parallel competitors provide similar features to the same audience but do not directly compete against our offering

(similar solution + target customer)

Overview
Parallel Contexts are the closest GTatruim has to a “direct competitor.” As seen in the brandmarks, this group primarily consists of co-working spaces and academic networks.

Use Case Example: MIT SCALE Network + Othello Commons
MIT SCALE Network is the absolute closest model similar to what the GTatruim could become. It is distributed across 6 different geographies, allows students to receive a degree at that physical location, and develops partnerships with universities and businesses in that particular region. Each Center conducts joint research, administers educational programs, and works with corporate partners. They are independently organized with decade-long contracts. This allows for local expertise to be hired, grown, and developed. It is different in that it has a singular focus area — supply chain and logistics — throughout all centers, and the SCALE Network isn’t associated with an online platform drawing together differing types of expertise.

Othello Commons offers a lot to learn from in how it seeks to integrate itself within the local Seattle community. It has a test center, offers tutoring, and acts as a learning resource for disinvested communities. Being attached to a university, it also is able to offer classes and events.

Design Implications

- Localize community-specific events
- Develop community-academia connections
- Design with user autonomy in mind
- Sort course offerings by language
- Consider what services might be “open-access” to all GTatruim users and what would be specific to certain member types
What's Out There Today?

ATRIUM OPPORTUNITY

To further visualize these findings, I mapped the market based on audience and mode of interaction. It became very obvious that there's much more room to focus on how to foster community in a hybrid click-to-brick environment, utilizing both face-to-face and online tools.
This image shows just how many new tools and innovations are emerging throughout the education spectrum. Even in this grid, the GTatium is a distinct offering and could have the opportunity to partner with some of the firms on this list.
I want to learn something new. What are my options?

“THE LEARNER’S BUFFET” = KEY INNOVATION

GTatrum = hybrid of in-person + remote learning channels

<table>
<thead>
<tr>
<th>In Person Learning</th>
<th>Online School</th>
<th>Education Marketplace</th>
<th>Remote Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Channel</strong></td>
<td><strong>Traditional Education</strong></td>
<td><strong>Online School</strong></td>
<td><strong>Education Marketplace</strong></td>
</tr>
<tr>
<td><strong>Product Type</strong></td>
<td>(in-person or on campus)</td>
<td>(university courses packaged for online audiences)</td>
<td>(passive interaction where people can take courses as they will)</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td>- 4 Year University</td>
<td>- Associates</td>
<td>- Micromasters Programs</td>
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<tr>
<td></td>
<td>- Community College</td>
<td>- Bachelors</td>
<td>- Micromasters Bachelors</td>
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<td></td>
<td>- Apprenticeship</td>
<td>- Masters</td>
<td>- Certificates</td>
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<td></td>
<td>- Tradeschool</td>
<td>- PhD</td>
<td>- Individual Courses &amp; MOOCs</td>
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<td>- Bootcamp</td>
<td>- Bootcamps</td>
<td>- Learning Management Platforms</td>
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<td></td>
<td>- Ad Hoc Classes</td>
<td>- Intensives</td>
<td>- Short Term Courses</td>
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<tr>
<td></td>
<td>Georgia Tech, General Assembly, Savannah Technical College, Kennesaw State University</td>
<td>ASU, Strayer, University of Phoenix, Georgia Tech, Perdue University Global, Morehouse</td>
<td>LinkedIn Learning, Coursera, Udacity, Simplilearn, Udemy</td>
</tr>
</tbody>
</table>

Synthesizing the previously discussed research, “What are someone’s options for learning something new?”

Learning channels can be distilled down into four lanes. In reflecting on these channels, the GTatrum isn’t going to be an innovation within a particular channel. It’s going to be an entirely new offering as a hybrid between remote and in-person learning. This is one key value proposition for the GTatrum.
**SUMMING IT UP**

**Market Survey Opportunities**

**Service Gap**

- **DIGITAL SOLUTIONS**
- **GTatrium**
- **IN-PERSON SOLUTIONS**

**Opportunity to Focus on:**
- Community & Expanding Access
- Hybrid modes of interaction
- Digital Self-Service Modalities
- Providing value to different groups to generate network effects
6. User Research

Who did we talk to? How did we identify user needs?
A user research study completed by former C21U GRA Su Fang served largely as a starting point. Her work focused on the needs of OMS students, GT alumni, and mid-career professionals.

A few additional standout items helped identify where to move forward. The study affirmed users in Atlanta had a harder time conceptualizing the value of the GTatrium than those who were more geographically distributed. To that, OMS students were among the interviewed users who were most likely to feel disconnected from Georgia Tech, affirming the value of physical spaces helping people develop a sense of connection. Lastly, a large theme observed when reading back through the study was a focus on the value of relationships.

**Key Insights from Prior User Research**

1. **The atrium should be designed to build and support different levels of relationships among its visitors, ranging from strangers to close mentors.**

   The GTatrium should be physically and conceptually designed to afford “water-cooler interactions,” to initiate interactions between visitors.

2. **The value of the atrium needs to be clearly articulated and resonate with potential visitors in order for them to choose to visit the atrium**

3. **Convincing potential visitors of the value of the atrium may require shifting their current notions of what higher education looks like.**

   Alumni and current OMSCS students participants think of Georgia Tech as being inherently tied to Atlanta.
Though not obvious at the time, in retrospect, this research focused on identifying the needs and interests of what we’re referring to as the Enablers user group. Previous UXR studies focused on the needs and interests of the Academia and Affiliate users. The nuances and details of these user groups will be discussed later in this book, but it is important to mark here for framing purposes.
User Research

CONTINUOUS FEEDBACK

The user research process really looked like two parallel tracks that were constantly feeding off of each other. As I moved through the design process, I regularly went back to users and previous research to validate design directions and uncover insights.
The next step was to interview stakeholders who would represent the interests and speak on behalf of international partners and alumni. I conducted a semi-structured interview and spoke with Sara Araujo, Georgia Tech’s Latin America Managing Director of Development and Shelton Chan, Georgia Tech’s Asia Pacific Managing Director of Development. The goal was to identify services, user groups, and to explore the value proposition of the GTatrium. SMEs represented the Voice of the Customer for the purposes of this project.

Interview Questions

Interviewee: The recent Commission for Creating the Next in Education at Georgia Tech issued a report which outlined several ways that Tech can better meet the needs of its students through innovation. One of these initiatives is the GTatrium, which will address how Tech might move towards a model of distributed learning and lifetime education and therefore promote distributed world-wide presence. The Center for 21st Century Universities (C21U) is working to make the GTatrium a reality. We are currently in the process of interviewing different stakeholders where Georgia Tech is looking to establish a GTatrium presence in order to better understand user needs, context, and the educational environment Georgia Tech would be entering.

1. To start, can you tell us a little bit about you, your background, and your work in [XYZ country]?
2. What are the biggest challenges in [XYZ country] facing the workforce, current students, and upcoming students?
3. How would you describe the education and innovation culture in [XYZ country]? How do you see the GTatrium integrating with that?
4. Given your expertise, could you describe some of the applications or users of a GTatrium, from your perspective?
5. When operating a program like the GTatrium, which kinds of stakeholders do you think you will be working most closely with?

Physical Space:
1. From what you know so far about the GTatrium, what do you see as the benefits of a GTatrium in [XYZ country]? What do you see as the challenges?
2. If you were to design your own GTatrium to serve the needs of the local community, what programmatic aspects would you implement?
3. Do you think that the GTatrium fills a gap where more traditional educational experiences are lacking? What kinds of resources do you wish or think users would need access to in the future?
### Value Proposition Thoughts

GTatrium could have a large value proposition to the city and region. Value lies in being a physical place for information sharing and for connection.

GTatrium could “align what GT is really good at with relevant trends while being great for sparking global curiosity and interest.” The goal is for people to think “Wow, Georgia Tech is really advanced!”

Continuous learning is a starting point for someone’s relationship with GT, not an ending point. There are so many resources available to GT alumni.

### Identified Users

- Georgia Tech Alumni
- Georgia Tech Faculty Members
- Universities — Local or Otherwise
- Corporate Research & Philanthropy
- Private companies
- Governments
- Prospective Students
- Current Students
- Exchange Students
- High School Students
- Parents of Students
- Anyone who is a friend of GT
- Friends & Family Members
- Sponsors & Financial Contributors
- Staff

The GTatrium can be a place where users “find” each other (i.e. researchers, cofounders, other students) and the physical space can be a knowledge hub to foster learning exchanges.

### Recommended Features

- Forums on specific topics
- Joint research
- ESL courses. There’s a big need for English training. Students want to apply for U.S. schools, but have poor English
- Incubator or maker space
- Professional training hub
- Aerospace or entrepreneurship focus, or more generally, build a specific regional expertise into the GTatrium
- GTPE courses & trainings, certificate programs for anyone in region
- Customized courses aligned with expertise
- Public workshops

There are a core set of services that will be attractive to all user groups, but these can be activated at different development stages, based on local demand.
User Research

INTERVIEW INSIGHTS

**Match Services to Regional Needs**

“The GTatrium could align what GT is really good at with relevant trends while being great for sparking global curiosity and interest.” The goal is for people to think “Wow, Georgia Tech is really advanced!”

The Georgia Tech name carries a lot of significance internationally. Each GTatrium should match services to regional needs, and consider how to be relevant to community members.

**Physical Place Needed for Connection**

“Alumni expect GT to have more contact in the region. Physical presence changes the dynamic for rich information sharing and connection.”

The GTatrium can be a place where users “find” each other (i.e. researchers, cofounders, other students) and the physical space can be a knowledge hub to foster learning exchanges.
The biggest takeaways from user research boil down to relationships in two ways:

A Need to Connect
A Place to Connect
7. Design Criteria

Using what we’ve learned, how is the GTatrium shaping up? What could this look like for Georgia Tech?
For the GTatrium to continue in its development, it should:

- **Be a flexible system that can be adapted for different uses and geographies**
  At this stage, the GTatrium needs a framework for service. It needs to be a flexible model that can be replicated and adapted to different geographies. In this way, it can morph within different contexts.

- **Focus on community & expanding access**
  The GTatrium aims to focus on community and nurturing connection. For it to expand access, it needs to offer different services where users can choose to engage with the things that bring them value.

- **Develop a network, both globally and in single GTatrium locations**
  Network effects will be paramount to harnessing GTatrium’s potential. In order to achieve this, the whole network has to be able to participate in the GTatrium and its services for it to be valuable.

- **Support hybrid modes of interaction**
  Offering international physical locations alone is not enough. The GTatrium can offer flexibility in interaction modality (face-to-face and virtual offerings) to bridge click-to-brick interactions and increase GTatrium utility and access.
Design Aims

SERVICE DESIGN AIMS

My aim is to identify the users, services, and technology components and how they could work together to provide a service experience. This is especially important given the innovation opportunity for the GTatrium is hybrid of digital and physical interactions.
Pulling together research gathered thus far, a conceptual model for the GTatrium was beginning to take shape. This was the first draft visualization of what the GTatrium could be.

Central to the experience are universal core services that will be the same at each GTatrium, regardless of location. External factors will inevitably impact how the GTatrium experience will localize based on its geography. While there are obvious user groups the GTatrium will serve, it was unclear how these factors fit together.

**Conceptual Model**

**GTatrium Core Capabilities & Service Areas** — We don’t know what they are, but we know there will be a core offering

**The GT Ecosystem** — Our offering will be true to a GT experience; external factors will impact how it is manifested. Initial factors include Employers, Cultural Influences, Regional Expertise, and Intent of Use

**Attractors** — What types of users are going to be attracted by our offering? Who are they?

**Outputs** — If the GTatrium comes together correctly, what could we say would be an output?
8. Users + Stakeholders

Who are the users and who do we need to work with?
WHO ARE THE USERS & STAKEHOLDERS?

Design Aims

Technology-Facilitated Service Encounter

“brick”
TECHNOLOGY-FREE SERVICE EXPERIENCE

Technology

“click”
HUMAN-FREE SERVICE EXPERIENCE
(100% self-service for customer)

Step 1 - We are here
Who Do We Need To Work With?

ATRIUM STAKEHOLDERS

Using available data, it was possible to group and differentiate between user types and stakeholders. Stakeholders are vital to the project, but will have a different degree of influence over atrium development. Stakeholders additionally have a different set of needs distinct from users.

Stakeholders listed in the “High Interest + High Influence” category are groups C21U actively partnered alongside as this project progressed. A fun validation that it’s going in the right direction.
As previously stated, all research activities completed to date helped draft the initial types of users and differing levels of engagement. This was a good first start, but the user groups were a little ambiguous and ill-defined. It was important that there be fluidity across user groups, but this was too fluid and pointed to a need for more refinement and to consider more deeply who would truly be considered a core user.
Round 2 began by looking for similarities between user groups and exploring how they could be better clustered. Feedback, refinement, market research, and dissecting key user groups from other markets helped inform this round.

Round 2 resulted in three differentiated tiers for users, based on function and how they would interact with the GTatrum, and based on types of services they might need.

While this looks pretty, it still wasn’t right. These user groups were almost too detailed, the opposite of Round 1. “The Learner” wasn’t apt because all GTatrum users are going to be some form of learner. An “Alumni” could also be a “Collaborator,” and GTatrum staff members aren’t going to be core users but rather service providers. This led to refinement Round 3.

**The Architect**
The mastermind who leads, envisions, and executes the strategic plan

**The Influencer**
I’ll pursue partnerships and build relationships to make the initiative a success

**The Collaborator**
Partnering with academic institutions is good for my business

**The Academician**
When I’m not researching, I’m educating others so that they can be future leaders

**The Maverick**
I’m independent and want to spend my time efficiently
**Who**: Online Students, Founders
**Services**: Co-working, Networking, Innovation Hub

**The Learner**
I’m here to learn and immerse myself in new experiences
**Who**: Local Students, Exchange Students, Prospective Students
**Services**: ESL, Advising, L3, Innovation Hub

**The Seeker**
I’m here to learn and immerse myself in new experiences
**Who**: Alumni & Working Adults
**Services**: Upskilling & Reskilling

**The Alumni**
I want to remain connected and stay involved with Georgia Tech
**Who**: GT Alumni, Friends of GT
**Services**: Networking, Workshops, Professional Development, Corporate Partnerships
Personas were developed as part of Round 2 to better understand similarities and differences between user types. This was an important step in determining motivations and how GTatium could play a role in alleviating pain points. This exercise was vital in beginning to think through how users would move through GTatium as a business and what services they might expect to be in place. However, for the reasons previously mentioned, this grouping scheme still wasn’t right and further affirmed this due to redundancy in needs and presumed services.
Identifying Users — Round 3

REFINED USER GROUPS

In this third round of refinement, users were identified by motivation and access. Formerly, online students and in-person students were in different groups, but, they are actually similar because they both opted-in for education at Georgia Tech. How they interact with Georgia Tech might be different, but at the end of the day, they want access to resources as they need them. This follows similar logic for the Affiliates and Enablers groups. Their motivations drive how they will interact with the GTatrium and what resources or services they might need.

Motivator - Academia
Academia wants access in-person resources and differentiated experiences through Georgia Tech when needed.

Motivator - Affiliates
Affiliates desire to remain or become affiliated with Georgia Tech.

Motivator - Enablers
Enablers desire to establish a business affiliation with Georgia Tech. They are interested in partnerships due to the Institute’s prestige and access to best-in-class talent and professional education resources.
Feedback from C21U and International Development stakeholders validated the groupings. There were a few adjustments to some of the users, but overarching, when presented to stakeholders it was a “lightbulb moment” where it became clear who GTatrium intended to serve.

What is significant about this structure is that it allows for fluidity across groups. For example, an in-person student could soon be an alumni, and as that alumni continues in their career, they could become an Enabler (via business partner or employer). It also makes it clear as to how needs can be funneled into services and business model structures.

Fluidity Use Case

1. Hello, I'm Emily. I'm a current Masters student at Georgia Tech!

2. In a few months, I’ll be an alumnus at Georgia Tech and I'd love to stay connected to the school.

3. In a few years, I might want to come back to hire students or form a business affiliation with GT.
Furthermore, user groups are not fixed. There are opportunities to engage different user groups at different points throughout their lifetime. This is important as Georgia Tech could potentially have large savings in reduced marketing expenses if it successfully leverages the GTatrium as a pipeline for students into Online and Distance Learning programs in addition to potential in-person education experiences. Users can also represent two groups simultaneously, as seen in the example below.

**Example**

Let's look at Scenario 2. Malia works for Globant, a large IT services company that has offices in both Medellin, Colombia and Monterrey, Mexico. Globant became a member of the GTatrium to sponsor student projects and for access to professional development and leadership training programs for their workforce. Malia went through a GTPE certificate for Analytics and was surprised by how much she enjoyed it. She decides to enroll in Georgia Tech's one-year online masters program in Analytics; Globant wants to keep Malia and support her growth so they pay for the program. Malia does both work and school and eventually becomes a Georgia Tech Alumni. In this case, Globant nurtures employee retention by fostering the growth and development of employees. Malia develops new skills and is supported. Georgia Tech has reduced marketing expenses to recruit new students and receives valuable industry data.
From Pain-Points to Opportunities

PERSONAS + USE CASES

Ivan Harris

Occupation: Online Masters Student
Location: Monterrey, Mexico

Ivan is a 28-year old OMS at Georgia Tech. He wants to meet some of his classmates and work on projects together in a non-virtual setting.

User Type: Academic

Painpoint: Online, asynchronous provides flexibility and is less expensive, but it is not conducive to building relationships. Remote learning also contributes to feeling disconnected from the Institute.

Design Insight: Access to a physical location and the ability to opt in to attend in-person events such as networking, career fairs, or central meeting locations foster relationships & help people feel connected to GT.

Carolina Ortega

Role: Teacher
Location: Medellin, Colombia

Carolina wants to pivot away from education. She has an idea for her own business.

User Type: Affiliate

Painpoint: User has a viable idea but doesn't have access or the resources to the tools or knowledge to help get started. Feels isolated & alone in founding a business venture.

Design Insight: GTatrum can serve as a launching point and resource connector where GT Affiliates can take courses, network with others, have some advising or learning roadmaps created in alignment with goals.

Allison Watson

Role: VP of Product
Location: Taipei, Taiwan

Allison is a representative from a leading international company. She wants to expand her hiring pool and has some business problems ripe for GT partnership.

User Type: Enabler

Painpoint: Needs new ideas and different ways to engage with broader innovation ecosystems. It's challenging to find and run university-industry partnerships effectively.

Design Insight: GTatrum serves as a partnership vehicle and streamlines university-partnerships for international businesses in key knowledge hubs that are synergistic with Georgia Tech.
Users ≠ Fundraising Partners

For the sake of this project, “Enablers” are a user group. If a country government is using the GTatrium as a service, then they would be considered an Enabler. If a government is paying Atrium LLC to set up an atrium in their country, they would not be classified as an Enabler, but would more likely be classified as a stakeholder. They are merely fundraising conduits to bring the atrium to that locale.
9. Service Areas

We have users, but what are they looking for in a service?
WHAT ARE WE OFFERING?

Design Aims

TECHNOLOGY-FREE SERVICE EXPERIENCE

“brick”

Technology-Facilitated Service Encounter

Technology

Users

Services

“click”

HUMAN-FREE SERVICE EXPERIENCE

(100% self-service for customer)

Step 2 - We are here
By this point, there was a strong sense of the users and key ideas of what services the atrium would offer. These themes were distilled into 6 overarching service areas by C21U.

At the outset of the project, the GTatrium was intended to be a physical gathering place, similar to many co-working facilities in existence today. Hence, co-learning is a core service of the GTatrium. During user interviews with stakeholders, we learned how valuable an ESL offering could be for international users. Georgia Tech already has the infrastructure in place to add that as a core service area. Other service areas were predetermined by the CNE and from other stakeholders involved with the project.
It was unknown what features would be offered under these six overarching service areas. Using GTatrium's 6 core services and user data, I went back to the working model of the GTatrium and brainstormed what types of sub-services would fall under the primary services. In addition to providing value to users, it was important to consider how these services could be monetized as an effort to build a sustainable business model.
Market Survey

**SERVICE AREAS**

Data collected during the market survey was used to map key activities of other firms to the 6 intended service areas of the GTatrum. This exercise shows what capacity other contexts offered similar or dissimilar offerings.

<table>
<thead>
<tr>
<th>In-person Experiences</th>
<th>Online Experiences</th>
<th>Education Experiences</th>
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<tr>
<td>WeWork</td>
<td>Switchyards</td>
<td>Othello Commons UW</td>
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<tr>
<td>Co-Working</td>
<td>Co-Working</td>
<td>Education Hub</td>
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<td>Spaces</td>
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<td>Co-Working</td>
<td>Apple Store</td>
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<td>Hot Desk/Cafe/Hotel</td>
<td>Retail Experience</td>
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<td>WiFi</td>
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<td>Community Space</td>
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<td>Navigate Your Career</td>
<td>Othello Commons UW</td>
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<td>General Advising</td>
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<td>Networking &amp; Events</td>
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<td>Education Features</td>
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<td>Learning Resources</td>
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<td>Degrees/Courses/Charts</td>
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<td>Entrepreneurship Resources</td>
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<td>ESL Courses</td>
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<td>Degrees - mixed modality</td>
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- **Present offering**
- **Do not offer**

Tension existed between education-centered activities and place-based activities. Only education-centered offerings had a mix of services, but even still, service aspects related to customization and personalization were missing.

See Appendix for Link to Spreadsheet
Pulling market research, user interview data, and existing Georgia Tech competencies together along with the 6 core service areas, there began to be more distinction within atrium service areas. It was challenging to consider the intention behind the service offerings and how to use these services to expand education access rather than simply being just about the services (and subsequent profit) themselves.
After identifying user groups and having a general idea of the services offered, it was time to check back in with stakeholders who could speak on behalf of international partners and alumni. Once again, these stakeholders were Georgia Tech’s Managing Directors of Development for Latin America and Asia Pacific. The goal was to check in on progress made to date and get a sense for how users in international locations might use services. Stakeholders reviewed the map of users (Academia, Affiliates, Enablers), the revised model of the GTatrium, and a proposed list of service areas (slide 68).

Co-learning was a service area initially expected to be a large value add for all users, but, that's only true of specific user groups. Both stakeholders expressed a need for professional development classes and trainings, and companies expressing a need for access to innovation to stay relevant. They also recommended adding a research hub as an overarching core service area for the atrium.

User Research

EXPERT INTERVIEWS

Key Insights from Round 2 Interviews

1. Stakeholders have very different-from-each other visions for what the GTatrium could look like in their respective countries.

This isn't surprising, but it points to a need to make sure the system is flexible and accommodating to different local needs.

2. “The GTatrium is an ‘answer to many requests we’ve received’ from alumni, business partners, etc.”

This validates the direction the GTatrium is headed.

3. Companies are very eager to partner with GT.

Both stakeholders had a plethora of ideas for who to engage in this project, being inherently tied to Atlanta.
Core Services

USE CASES

One key insight from stakeholder interviews is that not all users will value services similarly. The Enablers and Affiliates (Allison and Carolina) will find higher value in services like Professional Development and ESL. Academia will find greater value in co-learning spaces. All users can find value in the services, just some services will be more valuable than others. Shown below is how services and users start to map together.

Ivan Harris
Occupation: Online Masters Student
Location: Monterrey, Mexico
Ivan is a 28-year-old OMS at Georgia Tech. He wants to meet some of his classmates and work on projects together in a non-vertical setting.

Valuable Services
- Build relationships
- Feel connected to GT
- Learn & find opportunities
- Have fun & find opportunities
- Personalized career planning
- Find opportunities

Not as Valuable Services
- Already enrolled in courses
- Already developed proficiency in order to take courses

Carolina Ortega
Role: Teacher
Location: Medellin, Colombia
Carolina wants to pivot away from education. She has an idea for her own business.

Valuable Services
- Freely enroll in courses
- Association with GT
- Build relationships
- Learn & discover opportunities
- Get ready for school in the USA
- Find new opportunities / resources
- Career placement & customized advising
- Meet peers in similar career stages
- Mingle with others associated with GT
- Place to work and meet people
- Feel connected to GT because of its physical presence in respective locale

Allison Watson
Role: VP of Product
Location: Taipei, Taiwan
Allison is a representative from a leading international company. She wants to expand her hiring pool and has some business problems ripe for GT partnership.

Valuable Services
- Training for employees
- Customized courses based off need
- Develop employees for international business opportunities
- Ease of personalization in reskilling & upskilling workforce
- Access to talent (i.e. Affiliates + Academia)
- Partnership and association with GT

Not as Valuable Services
- Mainly interested in talent and prestige, not as much in networking events
- Already have a working space but could be a good place to collaborate with students
Matching Services to Users

PERSONAS

I refined the former personas after identifying service areas and mapping them to user groups. While each individual user will look someone different, overwhelmingly this serves as a guide for future iterations to map services to users to opportunities and their drivers. Each user group will value different GTatium services differently and it’s important to understand the relationships between users and services to make sure each user group will be engaged and have a customized, valuable time in the GTatium. This perceived value also will drive how much a user might be willing to participate or pay for GTatium services. All of these are visible in full-size version in the Appendix.
User Journeys

SERVICE BLUEPRINTS

I used data and insights from the research to begin “sketching” with broad strokes what a GTatrium visit could look and feel like for different users. In this process, I asked, “What activity will I do? How will I do it?” I also mapped these experiences down to identify what types of touchpoints might a user have with the brand and who or what is going to enable the experience for the user.

More importantly, I also did this for a First Time Guest, thinking through how they will hear about the atrium, how they will move about the physical space, and what their expectations might be for a digital experience.
Insights from Service Blueprint

WHAT EFFICIENCIES DO WE NEED TO BUILD?

The Service Blueprint exercise helped distill basic efficiencies that C21U needs to have in place in order to achieve a fully realized hybrid click-to-brick GTatium experience. Knowing different user needs by type of user also affirmed each customer journey was going to look different at the atrium. This exercise affirmed project direction and pointed to the need for so much more in-depth planning, strategy, design research, and execution before it would be ready to deliver value to users.

I also started brainstorming what types of activities GTatium as a business might hope its users do.

Business Objectives
By offering the GTatium, we want Guests to:
- Feel connected to the Institute
- Expand knowledge of Georgia Tech
- Become a member of the GTatium
- Give money to the Georgia Tech
- Represent Georgia Tech in their country
- Recruit members & future partnerships
- Become a participant in services
- Seek resources from GTatium
- Talk positively about GTatium & Georgia
- Tech, inadvertently recruiting members
- Expand access to online adult learners by
  - purchase of Enabler membership

Feature Needs
For the GTatium to be successful, these systems and experiences aspects are critical to eventual success:
- Co-Learning Space
- Mobile App
- Business Account / user profile (membership)
- Online Portal — Be able to access GTatium resources (LMS platform of some type)
- Marketing Materials — Enablers will want to display their affiliation with GT
- Social Network
  - View other alumni or GT connections in a region
  - Easily communicate with other GTatium visitors
- Donation Profile — Easy to donate and track giving
- Self-Service Support and coordinated, collaborative support services
- In depth program information (membership)
- Metrics
- Conversion of ESL course takers to GT students
- Start-ups or innovations from GTatium collaboration
- Advising — proactive, personalized advising
- Physical and digital service hubs
10. Technology

What technologies can we use to deliver the service experience?
WHAT TECHNOLOGIES CAN WE USE?

Design Aims

TECHNOLOGY-FREE SERVICE EXPERIENCE

Technology-Facilitated Service Encounter

HUMAN-FREE SERVICE EXPERIENCE
(100% self-service for customer)

Step 3 - We are here

Technology

Users

Services

Users

Services

(100% self-service for customer)
Georgia Tech is known for the “T”, the technology. It’s central to the Institute’s brand, and, as a complement to an emphasis on technology is the innovative deployment and applications of it. SAMI, Skillsync, and Digital Credentialing technologies are all tools Georgia Tech is actively playing a role in developing and deploying. How might these tools play a differentiating role in the GTatrium and what value could they provide for core user groups?

**Future Technological Capabilities for the GTatrium**

**DOUBLING DOWN ON THE “T” IN GT**

**SamI**
- **Description**: Virtual Agent that promotes online interactions. Aims to promote learner engagement, interaction, and community.
- **Application to Service Areas**: Co-Learning, Networking, Events
- **Segments**: Connecting academia, affiliates, and enablers to form micro-communities online and offline.

**Skillsync**
- **Helps connect companies’ training needs to colleges’ training opportunities by helping companies identify skills and helping colleges identify needed training programs.**
- **Application to Service Areas**: Professional Development

**Digital Credentialing**
- **A trusted, distributed, and shared infrastructure that will become the standard for issuing, storing, displaying, and verifying academic credentials, digitally.**
- **Application to Service Areas**: Advising, Professional Development, ESL Courses
- **Segments**: Academia & Affiliates receive a verifiable record of lifelong learning achievements from multiple education institutions to share with employers. Enablers benefit from having credible source to evaluate talent.
ENVISIONING FUTURE SCENARIOS

Framework for Thinking About Future Scenarios

Instead of thinking about adding milestones to quarterly roadmaps, what semi-educated guesses can we infer about the technologies we have today and what they could be in the future given proper investment? Then, let's scale that down into strategic roadmaps based on likelihood. I took two C21U / Georgia Tech involved technologies and forecasted what these could be in the future. In reality, we could complete this exercise for the GTatrium, the Living Library for Learning, Digital Credentialing, and a whole host of technologies. We could also scenario play to see how they could work in tandem. More details regarding these scenarios are found on the next slide.
Future Technological Capabilities for the GTatrium

ENVISIONING FUTURE SCENARIOS

**SAMI TODAY**
- An AI-powered online discussion tool that is used in classrooms to introduce classmates and facilitate discussion
- **Local Learning**
  - SAMI could facilitate introductions to OMS students based off of degree, geography, interests
- **Networking & Events Tool**
  - Used during in-person networking events to help people meet based off of interest areas
- **Global Network Activated**
  - SAMI could introduce and connect GTatrium members from all around the world as part of membership process

**SKILLSYNC TODAY**
- AI-powered platform aligns job requirements & reskilling opportunities, connects companies’ training needs to colleges’ training capabilities.
- **SkillSAMI**
  - Skillsync & SAMI could work in tandem to connect Affiliates to upskilling programs
- **Customized Education Planning**
  - Enablers could benefit from Skillsync @ GTatrium to create customized learning plans for current employees
- **Matchmaker**
  - Skillsync could be deployed at the individual level, helping connect academia and affiliates to enablers for hiring
GTatrium Strategy

INTERNATIONALIZATION vs. LOCALIZATION

I am compelled to note localization and internationalization are not the same, nor are those the stages we are exploring in this project. This is important to keep in mind as we consider how to compete internationally. The contents in this GTatrium book offer some macro factors to consider as we compete internationally, with an aim to eventually localize via internationalization. However, my work on contributing barely skims the surface of internationalization. Technically, my scoping is the tip of the iceberg under Internationalization.

PHASE 3 — Technically, Globalization in product offering
PHASE 2 — Localization to offer a valuable customer experience
PHASE 1 — Foundational Work Enables Localization
PHASE 0 — Emily’s Contributions to GTatrium
Doubling Down on Differentiated Offerings

KEY PARTNERSHIPS

**Georgia Tech Partners**
GTPE, E12, ESL, GT Library, Internal Systems

**Local Community Partners**
NGOs and engagement from local community

**Education Technology Providers**
Faethem AI, Skillsync, Canvas

**Government Partners**
Country and Local Governments

**Business Partners for Expansion**
WeWork

Strategic partners, especially within the education technology space, can help GTatrium further differentiate its offering while also reducing the amount of upfront investment required and perhaps even resulting in increased fundraising opportunities.
11. The GTatrium

How does all of this come together?
**GTatrium Offering**

**VALUE PROPOSITION**

**What is distinct about the GTatrium?**

A key focus for the GTatrium is to provide customer value. If we are providing value, then pain points translate to perks and users will come.

- **Adaptable**
  - Matches service to regional needs

- **Best-in-Class**
  - Leverages Georgia Tech’s reputation, global reach, and best-in-class researchers and students

- **Personalized**
  - Delivers personalized learning, career development, & advising experiences

- **Inclusive**
  - Accessible to a wide audience from alumni, businesses, and the community at large
Why join GTatrium?

- Improve English
- Meet Co-Founders
- Help Others
- Navigate My Career
- Obtain New Knowledge
- Make Lasting Connections
- Find New Opportunities
- Access to a Hiring Pool
- Meet Mentors
- Expand network
- Research Access
- Build MVP
- Co-Published Works
GTatrium Conceptual Model

REVISED CONCEPTUAL MODEL

Pulling everything together results in a working conceptual model of the GTatrium! If we’re doing iterative design right, then this will likely morph again as C21U moves forward in execution of the GTatrium. However, this is a strong first pass outlining the users, services, influences, and outputs.

Conceptual Model

Users — Academia, Affiliates, Enablers

Services — Co-Learning, Advising, ESL, Networking, Events, Professional Development

Influences — GTatrium will look different in each location based off of: Regional Expertise, Cultural Influences, Regional Employers, and GTatrium Focus Area, & Financial Contributors

Outputs — Knowledge Creation, Growth of GT Brand & Network, Economic Growth in regions where GTatriums are embedded
GTatrium Offering

VALUE EXCHANGE FOR ALL PARTIES

**Academia Benefits**
- Free Access to GTatrium
- Access to Enablers, Project Opportunities, Jobs
- Expanding GT reputation
- Access to opportunities and jobs through Enablers

**GTatrium Benefits**
- Receives Industry Data for Trends, Needed Curriculum, Opportunities
- Reduced Marketing Costs for Potential Students
- Sustaining Revenue
- Increased Global Reputation

**Enablers Benefits**
- Access to Talent (Hiring Pool of Academia and Affiliates)
- Access to Innovation & New Ideas
- Brand Affiliation with GT

The Enablers are a critical piece to the GTatrium working well because their involvement makes services more attractive to other user groups

**Affiliates Benefits**
- Access to Training & Tools
- Affiliation with GT
- Potential Access to Jobs & Resources
- Access to opportunities and jobs through Enablers
COMPETITIVE ADVANTAGE

Value Proposition

Main Competitors

Differentiators In The Market

- **Personalization**
  for Advising, Reskilling, Networking

- **Emerging Tech**
  Unique experiences through the use of emerging education technologies

- **Focus on Businesses**
  Businesses are at the center of our strategy

- **GT Brand Association**
  GT Brand is internationally respected globally

- **Alumni**
  Strong Alumni Network & Perks

- **Click-To-Brick**
  Develop hybrid interaction modalities bridging digital and physical experiences

- **Global**
  Multiple locations across the world
The Vision for GTatrium

PROPOSED GTATRIUM LOCATIONS

Instead of using resources from the community, the aim of the GTatrium is to embed itself within the community. This is what the Georgia Tech network could look like with the GTatrium. Highlighted are some of the proposed GTatrium locations in Taipei, Medellin, Monterrey, Morocco, and Kazakhstan.

These locations have primarily been determined by alumni presence, industry presence, and sponsors that can help back the project while it gets fully launched. However, there is an overarching need to be strategic and thoughtful in establishing future GTatrium locations.
12. The Business Side of Things

This is great, but is it sustainable? How can we monetize GTatrium service offerings?

This section was developed with EI2 GRA, Sarah Harris, an MBA student at Scheller
When simplified down to the most basic component parts, the GTatrium aims to eventually be self-sustaining. Donations from businesses and alumni will cover expenses in the early years as the GTatrium gets its footing. Then the goal is for it to achieve break even through memberships with varied tiers and one-time fees.

The following section presents monetization options focused on memberships and one-time fees. It will not delve into specifics due to complexity of international markets (and it’s out of scope for this project).
Each user group values different aspects of the GTatrium and has a different willingness to pay. This is a first pass at thinking about those values and how it could translate into a sustainable business model. These will be refined and substantially improved over time, especially as Georgia Tech draws nearer to implementation.

**Academia**
- **Low Willingness to Pay**
- **High Value GTatrium User**

Academia users have already “opted-in” to Georgia Tech. As such, one piece of the network is automatically grafted supplied. These users have a low willingness to pay. However, this group is a high-value group to the GTatrium to make it attractive to other user groups.

**Affiliates**
- **Willing to Pay**
- **Moderate Value GTatrium User**

In addition to the services, Affiliates will find the GTatrium most attractive if the other two user groups are in place and active.

**Enablers**
- **High Willingness to Pay**
- **High Value GTatrium User**

If Enablers find value in the GTatrium, then they will subsequently make the GTatrium even more attractive to the Affiliates and Academia groups. They have a higher willingness to pay and are a critical, high-value group to the success of GTatrium.
MEMBERSHIP MODEL

Membership tiers based off of user groups are one way to funnel users into a business model. The memberships are based on what services each user group would find most valuable. All of this at this point in time is highly theoretical, especially when considering international markets and currencies.

- Memberships tailored to user groups
- Memberships accommodate price sensitivity of user groups
- Flat membership fee might reduce user engagement in other GTatrium services like classes
- This gets complicated when considering pricing for events or exclusive offerings

**Academia**
- All GTatrium features and services available for current Georgia Tech students, faculty, and staff.
- Services: Co-Learning, Advising, Events, Networking
- Segments: Students, Staff, and Faculty
- Pricing: Freemium (Individual)

**Affiliates**
- Differentiated services to foster relationships and enhance learning throughout different life stages and business phases
- Services: Professional Education, Advising, ESL, Networking
- Segments: Alumni, Prospective Students, Friends of the Institute, Career Shifters
- Pricing: Standard Pricing (Individual)

**Enablers**
- Advanced features and services for the pros that need customized offerings
- Services: Professional Education, ESL, Events
- Segments: Local Employers, Incubators, Other Universities, Corporate Partners, Governments
- Pricing: Premium Pricing (Institutional)
## Business Model Exploration — Option 2: Add-ons

### Memberships with Add-ons

#### Consumables Model

**Academia**
- Co-Learning Space & Digital Tools Access
- Events
- Advising
- Networking
- ESL
- Professional Development
- In-person experiences
- Networking opportunities with Enablers and Affiliates

**Affiliates**
- Co-Learning Space & Digital Tools Access
- Events
- Advising
- Networking
- ESL
- Professional Development
- Connected to Georgia Tech network
- Access to resources to grow and develop
- Co-learning space, digital tools, and casual collision networking as immediate benefits

**Enablers**
- Co-learning & Collaboration Space
- Access to talent pool for hiring students
- Access to leadership advising
- Network
- ESL
- Professional Development
- Advising
- Networking
- Events

**Monthly Price**
- **Academia**: $0
- **Affiliates**: $15.99
- **Enablers**: $2,000

**Annual Price**
- **Academia**: $0
- **Affiliates**: $160
- **Enablers**: $24,000

**Enablers have some level of personalization in service offerings received**

**Stronger business model because courses and some services are highly sought after and this differentiates from a general Education Marketplace. Having users pay per class taken translates to higher engagement and participation. Customer pays a fee based on product / service usage**

**Challenge to figure out how to accurately differentiate Enablers from Affiliates in service access and offerings. These groups could be very different**
Business Model Exploration — Option 3: Enablers Focused

MEMBERSHIP MODEL

Pricing Strategy

MEMBER TYPE

INCLUDED SERVICES

Co-Learning Space & Digital Tools Access

- Advising
- Networking
- Prof. Dev.
- Events
- ESL

MONTHLY PRICE

- $0
- $50
- See Side Panel

ANNUAL PRICE

- $0
- $500

BENEFITS

- In-person experiences
- Networking opportunities with Enablers and Affiliates
- Connected to Georgia Tech network
- Access to resources to grow and develop
- Co-learning space, digital tools, and casual collision networking as immediate benefits
- Co-learning & Collaboration Space
- Access to talent pool for hiring students
- Access to leadership advising
- Network

Extra Benefits
- Access to the GT name and brand
- Write white papers with Academia
- Customized courses for companies
- Business branding affiliation with GT

Attempts to match services to user needs

Clearly caters to most valuable user group

If only some groups have access to services, it doesn’t work very well to break down silos and integration across offerings

Type of Business | Annual Price
--- | ---
Small | $
Medium | $$$
Large | $$$$

Pricing Structure for Enablers
This is a sample breakdown but could vary based off of size of firm, revenue, or another metric.
RECOMMENDED MEMBERSHIP MODEL

Pricing Strategy

MEMBER TYPE

INCLUDED SERVICES

Focus on Enablers

Co-Learning Space & Digital Tools Access

Networking | Events
--- | ---
Networking | Events
Prof. Dev. | ESL

MONTHLY PRICE

$0

$50

ANNUAL PRICE

$0

$500

ADD-ONS (Fee per use)

• Professional Development
• ESL

• Professional Development
• ESL

• Events — Fees for Hosting
• Customized courses for companies
• Business branding affiliation with GT

BENEFITS

• In-person experiences
• Networking opportunities with Enablers and Affiliates

• Connected to Georgia Tech network
• Access to resources to grow and develop
• Co-learning space, digital tools, and casual collision networking as immediate benefits

• Co-learning & Collaboration Space
• Access to talent pool for hiring students
• Access to leadership advising
• Networking & joint-research

Academia and Affiliates offerings are the same; the only difference is the paid vs. freemium version. These groups are more similar than the Enabler-Affiliates like Model #2

Remains highly customizable to Enablers based off of need

Type of Business | Annual Price
--- | ---
Small | $
Medium | $$
Large | $$$

Pricing Structure for Enablers
This is a sample breakdown but could vary based off of size of firm, revenue, or another metric.
13. Strategy Implementation

Ok, so now what? Is there anything else we should be thinking about?
Geographic Note

STRATEGY IMPLEMENTATION

GTatrium will be set up internationally and domestically. Most of the research and documentation in this project focused on the framework for the services and not on nuances related to international vs. domestic markets. It is worth including a few themes that have become increasingly evident throughout this research. Because of these factors, we are seeing a lot more traction and activity in setting up international GTatrium, which will be a more challenging and complex endeavor than domestic atrium.

**International**
- Partners are hungry to supply funds and invest
- Alumni and Businesses are hungry to participate
- High Attraction to GT brand
- Finance models are difficult to build this early

**Domestic**
- Easier to set up and develop partners
- Easier finances & easier to build revenue models
- Hold on launch until technologies are in place
The GTatrium should spend the first few years “listening hard” and “changing fast.” Launching an entirely new service, globally, inherently is rife with challenges. At a base level, the first GTatrium is essentially going to be a working prototype where C21U can learn & refine service experiences. Phase 1 will be focused on refining technology and early service implementation, Phase 2 will focus on refinement and sustainable business models, and Phase 3 is a fully-realized atrium — internationally & domestically.

### Phase 1 - Launch & Refine

<table>
<thead>
<tr>
<th>1-2 Years</th>
<th>2022 - 2024</th>
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<tbody>
<tr>
<td>Launch MVP Atrium</td>
<td></td>
</tr>
<tr>
<td>• 2022 — Taipei atrium</td>
<td></td>
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<tr>
<td>• 2023 — Monterrey atrium</td>
<td></td>
</tr>
<tr>
<td>Launch Domestic Atrium</td>
<td></td>
</tr>
<tr>
<td>• 2023 — Huntsville, Alabama atrium</td>
<td></td>
</tr>
<tr>
<td>Develop Technologies</td>
<td></td>
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<tr>
<td>• Invest resources to further build out capabilities of L3, SAMI, Skillsync</td>
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</tbody>
</table>

### Phase 2 - Implement Tech & Be Self-Sustaining

<table>
<thead>
<tr>
<th>4 Years</th>
<th>2024 - 2028</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement New Tech</td>
<td></td>
</tr>
<tr>
<td>• Identify &amp; partner with education technology providers</td>
<td></td>
</tr>
<tr>
<td>• Implement in-house solutions specific to GTatrium</td>
<td></td>
</tr>
<tr>
<td>Achieve Break-Even Point</td>
<td></td>
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<tr>
<td>Launch Additional Atrium</td>
<td></td>
</tr>
<tr>
<td>• Use market evaluation to select strategic markets for GTatrium</td>
<td></td>
</tr>
<tr>
<td>• Continue to bring more atrium online with appropriate staffing</td>
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</table>

### Phase 3 - Fully Realized

<table>
<thead>
<tr>
<th>4 Years</th>
<th>2028 - 2032</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be Fully Operational</td>
<td></td>
</tr>
<tr>
<td>• 2032 Keep bringing new atrium online and have evaluation strategy to measure performance and implementation success</td>
<td></td>
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</tbody>
</table>

- Observe and measure what is and isn't working in order to refine future GTatrium experiences.
- Build Geographic Evaluation Strategy for Future International & Domestic Target Markets
- Design GTatrium Process Strategy
- Build new technologies
- Add new GTatrium
- Refine Localization efforts for online resources could be a big challenge
- Develop and nurture strategic partnerships
ESTABLISHING GTATRIUM

At a very high level, GTatrium set-up scenarios could fall into one of the three categories outlined below. Processes are established and refined over time, therefore future implementation will progress faster and smoother as more and more GTatriums are brought online. Keep that in mind when looking at the next slide.

GTatrium Implementation Scenarios

<table>
<thead>
<tr>
<th>Presence</th>
<th>Time</th>
<th>Location Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic GTatrium</td>
<td>1 year or less</td>
<td>Savannah, Huntsville</td>
</tr>
<tr>
<td>Existing Relationship / Presence</td>
<td>1 - 1.5 years</td>
<td>Taipei, Monterrey</td>
</tr>
<tr>
<td>No Existing Relationship / Presence</td>
<td>1.5 - 2 years</td>
<td>Kazakhstan, Morocco</td>
</tr>
</tbody>
</table>
GTatrium Strategy

ESTABLISHING GTATRIUM

Below are some examples of milestones and processes for setting up GTatrium with varying degrees of presence and brand recognition.

0 - 6 MONTHS

Domestic GTatrium
These will be the fastest to set up due to existing relationships, brand familiarity, familiar market, already localized, etc.

Planning & Preparation
Open GTatrium

Evaluate Innovation Ecosystem in country
Engage GT partners and contacts in country

International GTatrium with GT Presence
Moderate set-up time; some activities can be accomplished simultaneously. Piloting programs gives time to prime the network and refine offerings before launch

Pilot a few professional education programs or certificates
Enhance & localize GTPE course offerings
Open GTatrium

International GTatrium without GT Presence
Go slow to go fast later. Focus on cultivating relationships for long-term contracts, understanding culture and needs, and localizing service offering

Evaluate Innovation Ecosystem in country
Establish GT presence and relationship in country
Pilot a few professional education programs or certificates

Open GTatrium
14. Next Steps

Some recommendations and future challenges
Next Steps & Future Considerations

RECOMMENDATIONS

- **Dedicate Time and Resources For GTatrium Development**
  Secure funding, hire additional staff, and invest resources into building GTatrium competencies and technologies like SAMI and Skillsync

- **Competitive Global Market Analysis**
  Complete a competitive analysis of global emerging markets. Identify clear parameters, importance weight, and score by country. Determine synergistic geographies aligned with GTatrium’s goals and are emerging internationally. As GTatrium grows, it will be very important to have evaluation criteria prepared so that GTatriums are strategically placed and aligned with our market

- **Continue with Internationalization Efforts**
  Continue building the technical product structure for internationalization; develop a localization plan that interfaces with Georgia Tech infrastructure

- **Create a Product Roadmap**
  Create a systematic plan for how to execute on developing and differentiating service offerings. Develop design requirements for GTatrium. How are product (service) releases going to be rolled out differently in different geographies?
Why didn’t I prototype the GTatrium?

At one point in time, there was discussion regarding prototyping the GTatrium in the CODA Building at Georgia Tech. If I continued with the project into Spring 2022, prototyping would be the next step, but there were too many variables and unknowns in order to be ready to prototype the atrium in 2021. Furthermore, it didn’t make sense to prototype the GTatrium at Georgia Tech because it is intended to be located elsewhere. Prototyping would be good to do near the Atlanta perimeter or in a different state or country entirely, but not at GT in ATL.
**VIEW TAIPEI AS A PROTOTYPE**

**Next Steps & Future Considerations**

**0 - 6 MONTHS**
- Prototype GTatrium Experience
  - Set up Basic GTPE, ESL, Networking, Co-learning, Events

**6 - 12 MONTHS**
- Advising
  - Enhance GTPE Course Offerings
  - Co-learning Enhancement
  - Learning Library

**YEAR 1**

**YEAR 2**

*Phase in services over time and focus on doing a few things well in the beginning to avoid people having a bad initial impression with services.*
Next Steps & Future Considerations

KEY QUESTIONS

- **Design Questions**
  - Digital — What will the “click-to-brick” interaction feel like? What services will be accessible digitally? Additional user research and prototyping is needed.
  - Onboarding — How will a guest be “onboarded” to the GTatrium? This is mostly agnostic of user group, but presumably marketing efforts and engagement will look different for each user group.
  - Mobility — In what way will users be attracted to the physical location? How will there be a value add to the location beyond technology access or networking?

- **Operational Questions**
  - How do we impart a GT experience internationally? How do we properly train staff to imbue Georgia Tech’s culture to new geographies for GTatriums?
  - What times of day will atrium be open? This will need to be measured, prototyped, and might look different depending on geography, but it will impact staffing especially if the GTatrium is more similar to an evening hub
What is truly needed for innovation?
Each GTatrium having a different core competency is a good idea but challenging to execute. While it makes it more attractive for a certain business in a region to participate, how will this impact actual innovation because so much value is found when different disciplines work together. How can we leverage that? (insight from SME conversation)

How to localize while preserving the spirit of Georgia Tech?
This could be a challenge.

Reputational risk if GTatrium fails to serve stakeholders well
Georgia Tech is interested in the GTatrium for the long-game. If we fail to execute well and meet user needs, then that could reflect poorly on GT in international markets.

Scaling Challenges Internationally
Be careful and strategic in what degree of customized offerings are utilized internationally. Dealing with multiple different currencies and cultures to deliver innovation and education will be a challenge.
15. Summary

Final thoughts
Some Final Thoughts

Sometimes the hardest part is just getting started.
I had a hard time getting started because I thought everyone else knew more than I did, and I couldn't see where I was needed. As I progressed, I began noticing how many gaps there were and how much my role was really becoming one to shape the path forward and lay the foundation for others to build upon.

Listen intently and learn the right questions to ask
It’s nearly impossible to know what the GTatrium will look like in 10 years, and that is part of the fun! As part of this, I needed to be savvy and selective. Each stakeholder takes a slightly different position, and I often needed to pause and zoom out to see the bigger picture of the project vision. I also needed to ask the right questions to the right people at the right time to understand pain points, opportunities, and when to bring in expertise.

Welcome feedback and be nimble.
I needed to relearn how to lean into ambiguity and invite people into the murky process. Sometimes you have to throw everything out and begin again. Nothing is wasted, and each revision results in a stronger end result.
Thank you!
Thank you!
Thank you!

For additional questions or information regarding this project, please contact C21U at Georgia Tech
16. Appendix

Are you curious to see alllll the extra deets?
# Appendix Contents

## Resources & Links A-2

## Literature Review A-5

## Business Aspects A-14

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTatrium Sample Org Chart</td>
<td>14</td>
</tr>
<tr>
<td>Sample Finance Flow</td>
<td>15</td>
</tr>
<tr>
<td>Conceptual Model</td>
<td>16</td>
</tr>
<tr>
<td>Service Package</td>
<td>17</td>
</tr>
<tr>
<td>Flywheels</td>
<td>18</td>
</tr>
<tr>
<td>Costs and Finances</td>
<td>20</td>
</tr>
<tr>
<td>Colombia Use Case Example</td>
<td>21</td>
</tr>
</tbody>
</table>

## Design Aspects A-26

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Personas</td>
<td>26</td>
</tr>
<tr>
<td>Revised Personas</td>
<td>27</td>
</tr>
<tr>
<td>Service Blueprints</td>
<td>28</td>
</tr>
<tr>
<td>Stakeholders Engaged</td>
<td>32</td>
</tr>
</tbody>
</table>
## RELEVANT RESOURCES

### Appendix

<table>
<thead>
<tr>
<th>File</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Literature Review</td>
<td>link</td>
</tr>
<tr>
<td>2 Market Survey</td>
<td>link</td>
</tr>
<tr>
<td>3 Process Book</td>
<td>link</td>
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<tr>
<td>4 Service Blueprints</td>
<td>link</td>
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<td>5 Pitch Deck</td>
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<thead>
<tr>
<th>GT Technology for Atrium</th>
<th>Link</th>
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<tbody>
<tr>
<td>1 Digital Credentialing</td>
<td>link</td>
</tr>
<tr>
<td>2 Ear Sketch</td>
<td>link</td>
</tr>
<tr>
<td>3 Skillsync</td>
<td>link</td>
</tr>
<tr>
<td>4 SAMI</td>
<td>link</td>
</tr>
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GLOSSARY OF TERMS

OMS — Online Masters
OMSCS — Georgia Tech Online Master of Science in Computer Science
SME — Subject Matter Expert
ESL — English as a Second Language
GATV — Georgia Advanced Technology Ventures
GT — Georgia Tech
UXR — User Research
A LITERATURE REVIEW EXAMINING TRANSFORMATIONAL FACTORS IN HIGHER EDUCATION

Introduction
My project is focused on developing potential future education experiences with an eye towards GTatrium implementation. The goal of this literature review is to identify transformative factors shifting higher education delivery to inform the nature of services and strategy implementation of the GTatrium. This report will provide context for how the GTatrium initiative came to be and will undergird that with supporting research and design implications for successful implementation.

In January 2021, Georgia Tech began prioritizing GTatrium development and concept testing. The initial locations for the GTatrium include: Monterrey, Colombia, South America; Morocco, Africa; Taipei, Taiwan, as well as several locations in the United States. The challenge lies in standardizing GTatrium core service offerings while building a flexible model that can adapt to local community needs. Other inherent businesses challenges include GTatrium revenue models, pricing structures, strategic evaluation of geographic locations, as well as international aspects related to ongoing success.

Georgia Tech and Education
As a highly selective public university with a history of educational innovation, Georgia Tech charted the Commission for Creating the Next in Education (CNE) in 2015 to draw with broad strokes the nature of education in the year 2040. While it’s nearly impossible to outline the different pathways to the Georgia Tech of 2040, the commission identified characteristics and drivers of change that will undoubtedly shape future education experiences. The Commission's final report, entitled Deliberate Innovation, Lifetime Education (2018), outlined a plan for the future based on an ambitious proposal called the Georgia Tech Commitment to a Lifetime Education and resulted in five key education priorities: Whole Person Education, New Products and Services, Advising for a New Era, AI and Personalization, and A Distributed Worldwide Presence.

This moment is ripe for transformation in higher education. Successful implementation of the Lifetime Commitment will demonstrate a roadmap for other institutions to follow. However, to become a reality, institutions must redefine the fundamental approach to education delivery by eliminating artificial barriers between college and other educational experiences, including workforce development. They must invent flexible educational pathways that recognize continual learning, reinvent the university’s physical presence, and build the advising and coaching networks that serve the lifetime needs of learners of all ages.

Opportunities for GTatrium™
Historically, universities have had three fundamental missions: the creation of knowledge, the dissemination of knowledge, and the preservation of knowledge (McRobbie, 2013). Access to a college education may have been the hallmark of 20th century education, but the development of frameworks, tools, and services to support lifelong learning will be a defining aspect of 21st century education (Holmbeck & Hibbard). As the world changes, accessibility and new technologies are shifting how, when, and where we learn as well as the creation and distribution of knowledge.

Physical college campuses have inherent advantages readily observed by the prevalence of educational facilities broadly available, but they do not necessarily match services to regional needs. Furthermore, the idea of a singular, contained college campus, historically a mainstay in collegiate experiences, is a fragile model as the world trends towards increased digitization of services. The rise of online learning environments, education disruptions propelled by COVID-19, and increasing globalization are a few of the factors contributing towards this shift.

Today, Georgia Tech is more global than ever before with students and alumni living and working in more than 122 countries across the world. Georgia Tech's existing global population highlights an opportunity for the Institute to adapt and develop opportunities for students and alumni to connect with Georgia Tech and each other in locations closer to home. Georgia Tech's online master's (OMS) program, the largest of its kind in the world, boasts more than 15,000 current students all learning and connecting remotely daily. Furthermore, Georgia Tech's experience with affordable OMS degrees suggests there are opportunities to develop a physically distributed presence, instead of having remote offerings that connect people to a central campus (Deliberate Innovation, Lifetime Education, 2018). Digitization and new ways to disseminate and foster learning environments while cultivating relationships...
Appendix

A LITERATURE REVIEW EXAMINING TRANSFORMATIONAL FACTORS IN HIGHER EDUCATION

with students throughout their lifetime also present opportunities for Georgia Tech to think deeply and innovate in how it delivers education experiences internationally.

As part of Georgia Tech's commitment to a lifetime education, CNE proposed a physically distributed Georgia Tech initiative – the GTatrium™ – as part of the Institute's 2020-2030 Strategic Plan. The GTatrium is a cornerstone initiative for the next decade of institutional development and is a reinvention of the university’s physical presence in a form that is a more personal, more affordable, and a more effective way to experience education – a significant departure from the current university business model.

The GTatrium is a scalable gathering place and portal to real and virtual services for Georgia Tech to achieve a distributed global presence. Like the physical atrium of a campus building, this new atrium is a flexible space located near learners. It is an open, flexible, high end, modular space with scalable service neighborhoods. The GTatrium is designed to provide personalized education, career development, advising, enrichment, and specialized learning experiences to not only current Georgia Tech students, but also to alumni, prospective learners of all ages, and the community at large.

Each location will reflect its surrounding culture and community and will provide a rich environment for exploring new opportunities. Services will include co-working and co-learning spaces designed to connect people, providing the space and technology for professional development, collaboration, and online studies. The GTatrium will serve a wide range of stakeholders, such as alumni, in-person students, distance learners, working professionals, and local community members to expand the Georgia Tech experience into the community.

The GTatrium is designed to be independent of Georgia Tech. With a sustainable business plan, independent governance, and a separate board of directors, the GTatrium business model is open and operates in partnership with other public and private entities, including other schools and post-secondary institutions.

21st Century Education: Looking to the Future

Transformation in higher education is rooted in the evolving needs of industry, technological innovations that can be used for teaching and learning, and paradigm shifts from education occurring during a specific time in a student’s life to understanding education as a lifelong endeavor. From a financial perspective, universities plan for large scale investments for the coming ten years, at least (van der Zwaan, 106). University investment decisions anticipate long time-horizons and therefore, future models and experiences must at least start to be planned. While we can’t know for certain what future modes of education will look like in 2040, we can begin looking at trends and anticipating where we expect to see shifts.

In the book, “Higher Education in 2040: A Global Approach,” Bret van der Zwaan identifies four key phenomena that will undoubtedly influence the future contexts of higher education. Those areas include the development of economic blocks, urbanization and the development of the world’s future knowledge centers, IT and digitization of communication and knowledge transfer, and finally, the development of the labor market versus the educational level of the global population (110). The following section examines some of these aspects to draw insights as to how these phenomena might impact the development of the GTatrium.

Knowledge Centers / Education Hubs

Universities have historically been linked to cities that form economic and cultural centers. This is still true today as “the nature and location of a campus play a defining role in the development of a university” (van der Zwaan, 126). Jane Knight, in her book International Education Hubs, summarizes the concept of an education hub which “rests on the motivation to be perceived and act as a reputed centre for higher education, training and research” within and extending beyond a geographic region. To operationalize, education hubs require a “coordinated and strategic effort to build a critical mass of local and foreign actors – including students, education institutions, training companies, knowledge industries and science and technology centres (Knight, 2014).”
A LITERATURE REVIEW EXAMINING TRANSFORMATIONAL FACTORS IN HIGHER EDUCATION

The first phase of education hubs was historically linked to student mobility, when students left their homes to pursue higher education. The second phase was linked to institutional mobility, where universities set up branch locations both abroad and in their respective countries (Knight, 2014). Transnational education represents the third stage and continues to evolve wherein the focus won’t be on physical location, but on connection. As such, the third stage will attract both foreign students and foreign branch campuses. Education hubs today typically fall into one of three types: student hubs (attract local and foreign students), talent hubs (develop skilled people who will stay in the country), and knowledge hubs (seek to build research infrastructure).

From an implementation perspective, education hubs must be embedded within the local context in order to be successful. Setting up a branch location in a key city is not enough; these hubs must strive to be a place with the free flow of knowledge, services, money, ideas, and collaboration. Furthermore, the development of education hubs is not a one-size-fits-all approach (Jaschik, 2014). Each city, country, or region has its own needs, in addition to the university, all while being impacted by external drivers such as policy. Therefore, “one type of education hub may be more appropriate than another depending on the context” (Knight, 2014).

Knowledge centers can be seen as more recent manifestations of internationalization demonstrating the changing and responsive nature of internationalization to the realities of globalization (Knight, 2014). To establish a knowledge center, certain quantities of this kind of concentration of enterprises, knowledge, and diversity are needed to create positive feedback loops that ultimately lead to the creation of large industrial or knowledge centers (van der Zwaan, 2012). For example, Silicon Valley is largely recognized as a global center of technological innovation; life science is poised to be Boston’s largest industry; Shenzhen is known as a manufacturing hub. Interestingly, Asia is the third largest “exporter” of education branches but is the largest recipient of these centers from universities from the United States and United Kingdom, for example. Van der Zwaan posits that Asia will be home to four knowledge hubs in 25 years’ time (2012). Countries are also actively working towards the development of these hubs including: Hong Kong, Singapore, Malaysia, the United Arab Emirates, Qatar, and Botswana (Knight, 2014).

In conclusion, an education hub is a strategic effort to bring together a critical mass of local and international actors for students (attracting local and foreign students within higher education), to expand the talent pool for those who stay within a country, and to contribute to the knowledge economy by building research infrastructure. Concentrated knowledge institutions “will play a leading, pioneering global role in the scholarship of the future” through the establishment of knowledge hubs (van der Zwaan, 2012). Successful implementation is dependent upon careful planning and embedding itself within the fabric of the local geography.

Digitization
Access to knowledge has historically been place-dependent, hardening back to the three fundamental missions of universities to preserve, disseminate, and create knowledge. For education specifically, digitization suddenly increased how and to whom knowledge is shared. Access to knowledge has changed via the internet and enabled “a new way of sharing knowledge internally and across organizational boundaries” (Hossain & Lassen, 2017). Today, knowledge is omnipresent and available everywhere making the effective use of knowledge paramount and complicated by an overwhelming flow of data (van der Zwaan, 2013). This shift in knowledge is the true disruption, not necessarily the rise of the technological underpinnings that enabled it (2014). Evidence of this is seen in the emergence of digital platforms, the development of Massive Open Online Courses (MOOCs), shifts from local teaching material towards global course networks, and the ability to access information and learn from experts across the world through use of the internet. Institutions of the 21st century have shifted their focus from “by-the-book” learning to imbuing students with a combination of explicit and tacit knowledge that will be impactful in the real world.

This is transformative in an education context. Books, videos, articles, passive online courses, and other traditional educational communication tools are useful for transmitting explicit knowledge, but tacit knowledge is difficult to convey without person-to-person interaction (Zhai, Zhao, & Wang, 2012). Tacit knowledge is knowledge that is “non-verbalizable, intuitive, and unarticulated,” or “knowledge beyond what we can tell” (Polanyi, 1967). It is no longer enough for students to master formulaic processes or explicit knowledge; understanding how to apply and communicate about those processes is much more valuable.
A LITERATURE REVIEW EXAMINING TRANSFORMATIONAL FACTORS IN HIGHER EDUCATION

Furthermore, the emergence of digital platforms has also played a large role in shaping society and education. Digital platforms are products and services bringing together different types of users in two-sided networks (Eisenmann, Eisenmann, Parker, and Van Alstyne, 2006), and can be extremely powerful because of the network effect generated through user participation. There are several different types of digital platforms ranging from ones focused on problem-solving, co-creation, ideation, crowdsourcing, and online marketplaces, to name a few. InnoCentive is a powerful digital platform that brings together “seekers” (those with a business problem) and “solvers” (those with ideas for solving challenges) and incentivizes participation through generous cash prizes. Platforms like InnoCentive are transformative because of how they offer new opportunities for innovation, collaboration, and knowledge exchange while inviting people from global and diverse industries to leverage their expertise and participate (Hossain and Lassen, 2017).

Tacit knowledge transfer can be one of the main benefits of the GTatrium, using a mix of digital and physical tools to facilitate social interactions and personal communication needed for successful tacit knowledge transmission. Furthermore, the GTatrium can continue to utilize digital platforms as an enabler to leverage distributed knowledge (Sedera et al., 2016). However, inherent challenges lie in implementation, organization, exchange of data, and knowledge exchange (Hossain and Lassen, 2017). This transition makes it increasingly imperative to build education networks where there are multiple users to achieve profitability in pooling future digital resources.

Finally, we must also consider how digitization impacts physical campus experiences. It is unlikely that the continued existence of physical campuses will be threatened, but institutions must adapt and diversify how students interact with them and how they engage globally. As seen in the COVID-19 pandemic, universities had to make sudden shifts to deliver almost entirely online education course modalities. Online degree programs were available before the pandemic and will continue to be an offering, but COVID-19 highlighted that, despite the successes of online course offerings, in-person learning experiences are still rather fundamental (Jeffery & Bauer, 2020). It is unlikely online degree programs will completely replace physical, in-person education. Experiencing content as a continuous stream of information is not optimal for efficient information processing and deeper learning (Jeffery & Bauer, 2020). While costs of online education are substantially cheaper, the educational benefits of studying within a community still are vital, particularly for the initial years of university education and interacting with peers in actual face-to-face education. “After the first two years of study at university, however, there is a substantial change of continued ‘unbundling,’ less campus education and more distance learning” (van der Zwaan, 141). While building community in a post-COVID world is challenging, it is also essential for universities in developing lifelong alumni and donor relationships, further compounded when that network is globally distributed (Garcia-Morales, et al., 2021).

Upskilling, Reskilling, & Employment
When new graduates join the workforce, the three main skills that employers value are leadership, critical thinking, and creativity (Boyles, 2012). Universities like Georgia Tech excel at providing vocational training in “hard” skills, such as math, science, and coding, but there is room for growth in cross-functional and “soft” skill sets. Collaboration and emotional awareness are areas which are highly valued by employers but are not allocated the requisite resources by many educational institutions (Kereluik, Mishra, Fahnoe, & Terry, 2013). While there is a growing appreciation for these qualities, the educational system is not yet structured nor equipped to provide students with adequate training in these areas. While some of this learning can happen in the classroom, there are ancillary services that educational institutions can put into place to facilitate emotional awareness and collaboration. Many universities have begun to offer their students access to leadership institutes or coaching programs, hackathons and incubator programs to foster innovation, and cross-disciplinary courses focusing on different methods or frameworks to facilitate creative thinking. The GTatrium may also help foster these skills, through interpersonal interaction and the exchange of stories about collaborative and cross-functional experiences.
Appendix

A LITERATURE REVIEW EXAMINING TRANSFORMATIONAL FACTORS IN HIGHER EDUCATION

In the U.S., approximately 88 million working adults need upskilling for the future of work (Guild, 2021). Reskilling, upskilling, professional development and advising are all pivotal aspects of lifelong learning and cornerstones of future education models. Technological advancements, digitization, and automation are replacing jobs formerly fulfilled by people, rapidly changing job functions, and requiring the workforce to continually be learning new skills. Upskilling is “learning additional skills or enhancing existing abilities, often with the goal of advancement” (Holoubeck & Hibbard). Reskilling is “learning a new set of skills or training for a new role, often with the goal of transitioning to a new job or different industry.” Credentialing is also becoming prevalent, where individuals are seeking certificates and stacking them as “microcredentials” to gain a more competitive edge in the job market, even doing so in conjunction with earning a bachelors or masters (Marcus, 2020).

The World Economic Forum forecasts reskilling 1.4 million US workers will cost $34 billion, and that’s a conservative estimate (Axios, 2019). While there’s not a right way or primary solution for reskilling and upskilling, there is an enormous amount of activity in this space. Universities, industry, and emerging technologies are iterating and developing solutions to accomplish this most efficiently and effectively.

Black Swan Events (COVID-19)

Looking towards that future state of education is what originally led Georgia Tech to the concept of the GTatrium, but the emergence of COVID-19 certainly accelerated its development. While COVID-19 was not the impetus for the GTatrium, it is worth discussing how it has accelerated digital transformation in higher education and will continue to shape the future technological transformation of higher education in a post-covid era globally (Dwivedi et al., 2020; Garcia-Morales, et al., 2021).

The e-learning industry is among those few industries that experienced phenomenal growth after the world came to a halt because of nationwide lockdowns. In March 2020, universities suddenly shifted primarily, and at first – exclusively, to online teaching in record time. By definition, a disruption involves a sudden switch or interruption, and this disruption in education was a switch from traditional, established models of knowledge transmission towards something that afforded new ways of understanding, opening new alternatives for learning (Garcia-Morales, et al., 2021). Universities had to quickly determine how to adapt and use technology to provide quality education during a “scenario of digital transformation, disruptive technological innovation, and accelerated change in the educational framework” (Garcia-Morales, et al., 2021). This disruption, in a sense, validated and accelerated the directions Georgia Tech initially identified in the 2018 Deliberate Innovation, Lifetime Education report.

Not only did COVID-19 highlight a need for institutions to improve their technological infrastructures, but it also stressed that education systems ensure students have equal access to the technological resources needed (Garcia-Morales, et al., 2021), requiring a financial investment to enable a real digital transformation. “We do not yet know what the shift to virtual learning will mean for the future of higher education at global level, but it is clear in the current scenario that universities should develop a sophisticated combination of face-to-face and online learning to harness the potential of the technological tools available to meet students’ expectations and enhance their learning experience in the current digital environment.” (Garcia-Morales, et al., 2021).

Other studies have further reinforced this notion that online learners more frequently experience social isolation stemming from a lack of face-to-face interactions (Wang, Q., Camacho, Ida, & Goel, A.K., 2020).
A LITERATURE REVIEW EXAMINING TRANSFORMATIONAL FACTORS IN HIGHER EDUCATION

Development Implications for GTatrium

The research and findings included in this literature review affirm the recent shifts experienced in higher education and play a vital role in shaping the design, strategy, and implementation of the GTatrium. What value can the GTatrium provide that cannot be easily replicated elsewhere? What makes a hybrid working and collaboration space powerful?

The GTatrium will focus on providing learning outcomes that move beyond what a lecture can offer through interactive, immersive, collaborative, and face-to-face experiences. The challenge is to develop a GTatrium implementation structure that is flexible and adaptable, but that will also allow the GTatrium to develop in such a way that creates a repeatable process. In light of these factors it also important to begin considering designing technology to help students make connections remotely (Wang, Q., Camacho, Ida, & Goel, A.K., 2020).

As Richard DeMillo writes, “strategy cannot start with aspirations. It has to begin with what you have to work with—what makes you different and... a clear statement of what competition threatens you.” For the GTatrium to be successful, it needs to focus on emerging disruptive trends in education, but it also must focus on developing a clear structure and strategy for where and how to compete with clear indicators to measure success. Furthermore, the university should work with the wider community to generate shared knowledge resources to fulfill the mission of universities and aim to generate, disseminate, and preserve knowledge that will benefit the broader community.


Innocentive. https://www.innocentive.com/


Appendix

ICON REFERENCES

https://thenounproject.com/search/?q=female&i=1690271
https://thenounproject.com/search/?q=graduate&i=2000566
https://thenounproject.com/search/?q=woman+team&i=2909353
https://thenounproject.com/search/?q=puzzle+pieces&i=3585702
https://thenounproject.com/search/?q=reputation&i=3522197
https://thenounproject.com/search/?q=personalized&i=995646
https://thenounproject.com/search/?q=inclusive&i=4392605

Adobe Stock icons, don't have direct link

Material Design Icons sourced from Figma Community: https://www.figma.com/file/XgzRNoWPaYBKEEPVqXqFm/Material-Design-Icons-(Community)?node-id=9%3A8

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author unknown, but PowerPoint icons
This is a sample structure to demonstrate how GTatrium will be set up.

To begin, the GTatrium will sit within C21U and as it grows and expands, it will likely have a different structure.

• This is to demonstrate what it could look like at a very high level. As additional Atrium are brought on, additional gold and blue verticals are added.
GTatrium Sample Structure

FINANCE FLOW

This is a sample structure to visualize what GTatrium funding could look like.

The goal is for the GTatrium to become self-sustaining as years progress. To get the atrium off the ground, it will initially be primarily funded through donations.

Notes
GTatrium-specific donations flow from the GT Foundation through C21U to Atrium LLC

Donations are pooled, separated into categories, and distributed to each GTatrium

Revenue received from memberships and GTatrium services flow back into Atrium LLC
IN-PROCESS CONCEPTUAL MODEL

**Attracts Users**
- Students
  - Prospective Students
  - OMS
  - Current Students
- Alumni
  - Regional alumni
  - Friends of the Institute
- Regional Businesses
  - Business partners
  - Regional Incubators
  - Local Employers
- GT Faculty
  - Professors
  - Researchers
  - Staff

**Service Experience**
- GTatrium Intent of Use
- GTatrium Ecosystem
- Regional Expertise
- Cultural Influences
- Regional Employers

**Outputs**
- Knowledge Creation
- GT Growth + Network
- Economic Growth

**core capabilities & service areas**
- Co-Learning
- ESL (International)
- Events
- Advising
- Networking
- Professional Development
GTatrium

SERVICE PACKAGE

Supporting Facility
• GTatrium space
• Proprietary Technology

Facilitating Goods
• GTatrium space
• Course Materials

Information
• Course Offerings
• Class Schedules
• Reserving work space
• Website
• Mobile App

Explicit Services
• Professional Education - Reskilling, Upskilling, ESL
• Networking - L3
• Co-Learning and Collaboration Space
• Incubator
• Advising - SAMI, Professional, & Leadership
• Events

Implicit Services
• Physical place to connect with others affiliated with Georgia Tech
• Access to a far-reaching network ripe for collaboration and innovation
• Access to innovation and talent
• Access to resources
This is a sample structure to visualize user engagement and participation.

Flywheels are positive feedback loops that build momentum, increasing the payoff of incremental effort. We can begin to think about this within the context of the GTatrium. What will bring users in, what will keep them in the loop, and what will differentiate the experience?

It will look different for different users and different geographies.

How to Delight Customers:
- Good customer service provided from program director, admin staff
- Great IT
- Ease of building access
- Membership/GT perks
- Help companies write white papers

How to attract customers:
- GT label and name
- Products
- Co-learning spaces
- Event spaces
- Professional development
- Advising
- ESL
- Marketing
- Beautiful, Clean Facility

How to continue engaging with our customers:
- Networking
What will draw in users and what will keep them?

**TAIPEI GT ATRIUM FLYWHEEL**

**How to attract customers:**
- GT label and name
- Marketing
- Beautiful, Clean Facility

**How to Delight Customers:**
- Membership/GT perks
- Access to GT faculty
- Hiring Pool from GT
- Help companies write white papers

**How to continue engaging with our customers:**
- Networking
- Products
- Professional development
- Advising (Leadership Coaching)
- ESL
- Co-learning spaces
- Event spaces

This is a sample structure to visualize user engagement and participation for Enablers in Taipei.

Flywheels are positive feedback loops that build momentum, increasing the payoff of incremental effort. We can begin to think about this within the context of the GTatrium. What will bring users in, what will keep them in the loop, and what will differentiate the experience?
Business Estimates

COSTS & REVENUE

Costs

- Largest Costs
  - Staffing
  - IT
  - Renovations (Y-Y)

- Potential Additional Costs
  - TAs for Staffing
  - Costs for Addresses

- Site Costs Differences
  - International vs Domestic Costs
  - If in-EZOS Development Required

Revenue

- Professional Development
  - 35% online courses, 65% in-person
  - Average online course cost: $346
  - Average cost per in-person course: $1,364
  - Can create new courses within 90 days

- Co-learning Space
  - Average WeWork occupancy in last two years: 55% - 65%
  - WeWork monthly price for hotdesking in Taipei: $423
  - WeWork monthly price for dedicated office in Taipei: $670

- ESU
  - Online courses: $173
  - In-person: $225

- Memberships
  - Largest revenue opportunity is for partnerships and memberships with businesses

Breakdown

- Large Business: $600,000
- Medium Business Partnership: $300,000
- OR
- 140 CPSE Participants: $100,000
Executive Summary
This use case outlines the goals and rationale for the launch of a GTatrium in Colombia, South America. The use case relies on the transformational capabilities of C21U to provide early proofs of concept and initial deployments in order to demonstrate the effectiveness, scalability, and financial viability of recommendations outlined by the Georgia Tech Commitment to a Lifetime Education.

Overview
As a highly selective public university with a history of educational innovation, Georgia Tech chartered the Commission for Creating the Next in Education (CNE) to draw with broad strokes the nature of education in the year 2040. The Commission’s final report, entitled Deliberate Innovation, Lifetime Education, outlined a plan for the future based on an ambitious proposal called the Georgia Tech Commitment to a Lifetime Education.

This moment is ripe for transformation in higher education. Successful implementation of the Lifetime Commitment will demonstrate a roadmap for other institutions to follow. However, in order to become a reality, institutions must redefine the fundamental approach to education delivery by eliminating artificial barriers between college and other educational experiences, including workforce development. They must invent flexible educational pathways that recognize continual learning, reinvent the university’s physical presence, and build the advising and coaching networks that serve the lifetime needs of learners of all ages.

Distributed Learning
Georgia Tech continues to expand its profile as a global technological university through teaching, research, and innovation partnerships in more than 60 countries, driving research and economic growth in sectors such as aerospace, automobiles, biomedicine, logistics, oil and gas exploration, renewable energy, and sustainability. Georgia Tech has international hubs in France, China, Panama, South Korea, Saudi Arabia, Singapore, in addition to other locations. Each global partnership gives students opportunities to gain unique experiences that makes them more competitive. Each international collaboration seeks to retain the DNA of Georgia Tech, something that will continue to be critical in future international projects moving forward.

Role of C21U
Georgia Tech’s Center for 21st Century Universities is responsible for leading the programs that will make the 2040 vision a reality. C21U programs have already changed the face of graduate education with top-ranked online Masters degrees that disrupt higher education pricing models and measurably expand the market for graduate degrees.
**COLOMBIA USE CASE EXAMPLE**

The **GTatrium**
The GTatrium is a scalable gathering place and portal to real and virtual services for Georgia Tech to achieve a distributed global presence. Like the physical atrium of a campus building, this new atrium is a flexible space located near learners. It is an open, flexible, high end, modular space with scalable service neighborhoods. The GTatrium is designed to provide personalized education, career development, advising, enrichment, and specialized learning experiences to not only current Georgia Tech students, but also to alumni, prospective learners of all ages, and the community at large.

The GTatrium is one of the priority initiatives for Georgia Tech’s strategic plan championed by C21U and GTPE. It is a reinvention of the university’s physical presence in a form that is a more personal, more affordable, and more effective way to experience education – a significant departure from the current university business model. The GTatrium is designed to be independent of Georgia Tech. With a sustainable business plan, independent governance, and a separate board of directors, the GTatrium business model is open and operates in partnership with other public and private entities, including other schools and post-secondary institutions.

GTatriums can be built and staffed quickly and inexpensively, unlike existing physical campus infrastructure. This agility does not sacrifice quality and effectiveness. Atrium staff are trained practitioners, equipped with AI-Based tools to personalize educational experiences and are part of a distributed network that amplifies the reach of content specialists. The following diagram represents a preliminary market segmentation for GTatrium and the proposed service offerings for each segment.

---

**The Revenue Pipeline**

- K-12
  - Large
  - Underserved
- Residential
  - Small
  - Focused
- Online Degrees
  - Large
  - Focused
- Online Non-Degree Students
  - Very Large
  - Underserved
- New Career Professionals
  - Very Large
  - Focused
- Specialized Learning Networks
  - Very Large
  - Focused
- Alumni
  - Large
  - Underserved
- General Public
  - Large
  - Underserved
**GTatrium: Colombia Justification**

Medellin, Colombia is one of the best case-studies of smart city growth. The city is in a great location, has a strong innovation network, and is additionally home to many Georgia Tech alumni. Medellin is exemplary compared to other cities in South America, following a similar growth trajectory as Santiago, Chile, which completed an Innovation Ecosystem Study that concluded in February 2021. The city has a vibrant entrepreneurship and innovation ecosystem with growing entrepreneurial activity, mature investors, increased quantity of business establishments, all coupled with strong community leadership grounded in hard work, resilience and innovation. Compared to other cities, Medellin has comparatively high investments in science, technology, and innovation.

Despite its astonishing growth and strong focus on innovation, there are still challenges. Some of these include a lack of support from local service providers, limited capacities of the educational ecosystem, high demands of English as a second language (ESL) education, and a lack of specialized STEM training and entrepreneurial education.

In Medellin, the GTatrium has promising potential to serve as an incubator for business expertise. Georgia Tech has already established and built relationships with leaders in Medellin, and the emergence of Colombia and Medellin as an innovation ecosystem hub in South America holds much promise. A challenge noted in one report identified the lack of a strategic innovation plan for entrepreneurs. This is an opportunity for Georgia Tech to leverage its existing partnerships and resources to boost and partner with community leaders in Medellin to coordinate events, training programs, and resources to bring greater awareness to entrepreneurs in Medellin to allow them to better succeed with entrepreneurial ventures. This presents a great alignment with the intended strengths of the GTatrium and its core services with community needs in Medellin.

**Proposed Services and Value Proposition**

This use case covers an initial justification for the development of a GTatrium: Colombia and outlines high-level implementation phases and goals.

**Key Value Propositions:**
- Bringing entrepreneurship where expertise and infrastructure are budding or are not as readily available. This includes providing expertise in tech transfer, innovation, and commercialization.
- Accessing corporate partners and local governments for scalable field deployment of GT technology
- Providing access to corporate partners
- Reskilling / Upskilling workforce
- Facilitating Professional network-building and career development
- Enriching local communities through GT Alumni engagement
- Offering accessible and effective ESL education
- Developing and expanding a mentor network with mentors from different backgrounds and experience levels will have a greater impact on entrepreneurs’ growth and success.
**Example**

**COLOMBIA USE CASE EXAMPLE**

### Key Service Areas

<table>
<thead>
<tr>
<th>Key Services</th>
<th>Service Area Offerings</th>
<th>Potential Partners &amp; Users</th>
</tr>
</thead>
</table>
| Specialized Innovation and Entrepreneur Learning Network (Primary Colombia service) | o Innovation  
  o Entrepreneurship  
  o Startup Acceleration | o Students  
  o Entrepreneurs  
  o Community investors  
  o GT E² Partnership |
| Workforce Development                             | o Short-term training courses  
  o Certificates  
  o Micro/Nano-Masters  
  o Online Degrees | o GT Alumni  
  o Local companies |
| ESL Programming                                   | o English training modules  
  o Grammar/Writing  
  o Speaking/Listening  
  o Reading  
  o Intensive English Program | o Prospective Students  
  o Community Members |
| Community Integration Component                   | o Local community value add for two-way learning / global learning  
  o Advisement for prospective college students | o Local colleges/universities |
| ECHO Network for Service Amplification            | o Development of a 'hub-and-spoke' knowledge-sharing network  
  o Creation of a practitioner network  
  o Development of a system for measuring outcomes and updating practitioner training | o Expert/novice practitioners |
| GTatrium App                                      | o Personalized Services Gateway for atria  
  o Recommender function  
  o Professional network development  
  o Nexus for Atrium communications  
  o Interfaces with external partners | o Web app developers  
  o UX/UI researchers |

### Sample User Journey

An abbreviated version of the journey map, shown below, explains the flow of a user’s experience with a GTatrium. However, this abbreviated user journey can be further refined to reflect journeys of specific user groups and Colombia-specific GTatrium services. The general experience could be broken down into three key components.

1. **Pre-visit:** During this stage, users will mostly be interacting with the GTatrium through a mobile app or desktop to find and sign up for upcoming events, learn more about the services available at the atrium, plan for their visit, etc. Additionally, they will be able to check out event logistics and the list of attendees to initiate any beneficial connections.

2. **At the GTatrium:** This stage reflects the actual visit to a GTatrium that may involve attending an event but also exploring the other services such as the tools and resources available at that specific atrium, information about any upcoming events, logistics about the physical space, networking with people.

3. **Post-visit:** This part of the journey will involve facilitating the transfer of in-person experiences to home, which can be done as a general follow-up survey, sharing media from the event, delivering merchandise, recommending similar upcoming events through a GTatrium app, etc.
Individual user narratives can be used to classify overarching user groups who would each have a different role and journey as related to the GTatrium:

- **Education Providers**
  - Director of Industry Partnerships
  - Academicians
  - Training course instructor/mentor (could be GT faculty/alumni or Colombian educators)

- **Businesses**
  - Employers (managers, GT alumni, seeking reskilling programs for employees)
  - Employee (Mid-career professional seeking to upskill)
  - Key program partners for GTatrium services
  - Entrepreneurs

- **GTatrium Faculty and Staff**
- **GTatrium Users**
  - Students and community members in Medellin, Colombia
  - International visitors
  - GT Students
  - GT alumni
  - GT partners

**Future Steps - Preparation for Launch of a Standalone GTatrium**

Future steps encompass the completion of the prototype, productization, and launch of a standalone GTatrium outside the United States. Specific steps include the following items:

- Market Analysis and business development
- Service design
- Site selection and acquisition
- Facilities design and construction
- Staffing and operations Planning
- Branding, marketing, and communications campaign design
### INITIAL PERSONAS

#### GTechnical User Group: ALUMNI

**ALUMNI**

- Alumni represent different levels of GT alumni. They can be graduates, former Georgia Tech professors, faculty, or staff. They are often asked and work closely with students.

**GOALS**

- Engage with GT to help students or to find partnership opportunities with the institute (independent research, startup engagements, etc.).
- Use AT’s (Galan, alums) network for partnerships.
- To stay connected to AT and maintain relationships.
- To continue learning and exploring new technologies and skills at AT.
- To network with other AT community members.
- To help new alumni into the AT community.

**PAIN POINTS**

- **Physically separated from Georgia Tech and is far removed from Georgia Tech culture and experience.**
- **Attention deficit from various sources which lead to feeling fragmented:**
  - Research at various institutions.
  - Work-related issues at various institutions.
  - Other work-related issues at various institutions.
- Feel like they are not at Georgia Tech and do not feel a part of the Georgia Tech community.

**BIG QUESTIONS**

- Need to better understand and learn from universities.
- How do I get better connected and learn from universities?

#### GTechnical User Group: BUSINESS PARTNERS

**BUSINESS PARTNERS**

- Business partnerships are a vital component for the growth and success of the institute. They bring new opportunities and unique experiences to the organization.

**GOALS**

- Engage with GT to help GT students.
- Grow marketing opportunities.
- ”Boost and expand opportunities with the institute for the institute to be more attractive to students and others.”
- To build a new relationship with AT and network with other AT community members.
- To network and expand opportunities and unique experiences to the organization.

**PAIN POINTS**

- Needs to know about the next level.
- Needs to continue to grow.
- Needs to know how to build.
- Needs to understand how do I get to Georgia Tech and its impact.
- Needs to feel like they are “Georgia Teching”.

**BIG QUESTIONS**

- Need to better understand and learn from universities.
- Where do I get better connected and learn from universities?

#### GTechnical User Group: MAVERICKS

**MAVERICKS**

- Maverick is a GTechnical group where users are high-level entrepreneurs, inventors, and leaders. They are the top innovators and leaders in their respective fields and act as role models for the institute.

**GOALS**

- **Work alongside and collaborate with peers.**
- **Fees with peers.**
- **Learn to grow in a better way.**
- **Grow and develop.**
- **Help each other advance in their career.**
- **Fees with resources to help achieve goals.**
- **Fees with resources to help advance goals.**
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- **Fees with resources to help advance goals.**

**PAIN POINTS**

- **Physically separated from Georgia Tech and is far removed from Georgia Tech culture and experience.**
- **Ses with colleagues.**
- **Help each other advance in their career.**
- **Fees with resources to help advance goals.**
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**BIG QUESTIONS**

- “What other activities can I engage in? What else can I do?”
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Appendix

SERVICE BLUEPRINTS
Appendix

SERVICE BLUEPRINTS
## STAKEHOLDERS ENGAGED WITH THE PROJECT

<table>
<thead>
<tr>
<th>Expert Type</th>
<th># of Conversations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Managing Directors of International Development (2)</td>
<td>4 total</td>
</tr>
<tr>
<td>2 GTatrium Users (3)</td>
<td>3 total</td>
</tr>
<tr>
<td>3 GT Stakeholders (4)</td>
<td>3 total</td>
</tr>
<tr>
<td>4 External SME (2)</td>
<td>2 total</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11 SME engagement</strong></td>
</tr>
</tbody>
</table>

* this excludes meetings with the C21U team (Jonna Lee, Brittany Aiello, Steve Harmon) and E1Z GRA Sarah Harris
The Business Model Canvas

Key Partners
- Who are our key partners?
- Who are our key suppliers?
- Which key resources are we acquiring from partners?
- Which key activities do partners perform?

Key Activities
- What key activities do our value propositions require?
- Our distribution channels?
- Customer relationships?
- Revenue streams?

Key Resources
- What key resources do our value propositions require?
- Our distribution channels?
- Customer relationships?
- Revenue streams?

Value Propositions
- What value do we deliver to the customer?
- Which one of our customers’ problems are we helping to solve?
- What bundles of products and services are we offering to each customer segment?
- Which customer needs are we satisfying?

Customer Relationships
- What type of relationship does each of our customer segments expect us to establish and maintain with them?
- Which ones have we established?
- How are they integrated with the rest of our business model?
- How costly are they?

Customer Segments
- For whom are we creating value?
- Who are our most important customers?

Channels
- Through which channels do our customer segments want to be reached?
- How are we reaching them now?
- How are our channels integrated?
- Which ones work best?
- Which ones are cost-efficient?
- How are we integrating them with customer routines?

Cost Structure
- What are the most important costs inherent in our business model?
- Which key resources are most expensive?
- Which key activities are most expensive?

Revenue Streams
- For what value are our customers really willing to pay?
- For what do they currently pay?
- How are they currently paying?
- How much would they prefer to pay?
- How much does each revenue stream contribute to overall revenues?