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Final Report for Multimedia Exhibits for the “Down the Fairway with Bobby Jones” Exhibit at the Atlanta History Center

The Atlanta History Center maintains one of the country’s largest history museums called The Atlanta History Museum. This museum contains major exhibitions on the history of Atlanta, the American Civil War, and Southern folk. The Interactive Media Technology Center at the Georgia Institute of Technology designed and programmed a multimedia computer kiosk for the new permanent exhibit at the museum entitled “Down the Fairway with Bobby Jones.”

The kiosk is used to educate the public on the history of Georgia golf and the life of Bobby Jones. Some of the information is available both as a permanent exhibit in the history center and on the Internet for use by scholars and the public. IMTC built the interactive multimedia exhibit to contain much of the Bobby Jones Research Library, material from the AHC collection, a history of past tournaments in Georgia, educational opportunities, a complete virtual tour of the East Lake golf course (including immersive imagery, topography, and course design), and an interactive module devoted to classic golf instruction.

The kiosk delivered is composed of a large 21” monitor, audio speakers, computer, trackball, selection button, and four touch sensitive graphics that allow the user to choose among Classic Golf Instruction, Tour of Eastlake Golf Club, the Bobby Jones Research Web Site, and Help. IMTC designed, digitized media, created content, programmed, and installed the multimedia kiosk at the Atlanta History Center on April 3, 1999. Corrections were made throughout April and May, 1999. The following sections elaborate on the three multimedia modules.
A - Classic Instruction
An interactive module based on Martin Davis’ book, Classic Instruction. Photographs and data were extracted from the book to create an interactive experience comparing classic golf instruction with modern teachings. Bobby Jones’ narration and film footage was provided from the film “Bobby Jones: How I Play Golf”. Martin Davis provided contemporary text and narration of Ben Crenshaw’s techniques. The photographs of Mr. Jones and Mr. Crenshaw were matted and composited into one common background (or golf scene) to further enhance the comparison of the classic and modern golf techniques. The user has the ability to choose topics illustrating: golf club grip, long irons, short irons, woods, putting, sand play, chipping, pitching, and stymie. Once a topic is chosen, the user can view the swing and hear commentary from different, progressive golf club positions. Classic film footage of Bobby Jones is available from multiple camera angles. High-speed photography videos are available for two of Ben’s swings.

B - Tour of East Lake Golf Club
An interactive history and tour of a famous golf course in Georgia. This module contains: three educational movies exploring the history, Golden Age, and rebirth of Eastlake Golf Club; a tour of the golf course that allows the user stand at over 50 discrete points on the course and look around 360 degrees; information regarding yardage, design, hazards, topography; and an opportunity to play the best hole (hole 15) against Bobby Jones. Bobby’s imagery is provided by compositing classic film footage with golf course photographs taken by IMTC. The user plays a complete hole of golf against Jones by choosing the appropriate clubs to achieve the lowest score.
C – Bobby Jones Research Web Site

The website was developed for researchers interested in exploring Bobby Jones's life and learning more about the history of golf in Georgia. The web site is organized into the following sections: an illustrated timeline of Bobby Jones's life and golfing career, a listing of articles and books written about Bobby Jones, a listing of winners of major Georgia golf events, a historical listing of most of the golf clubs and courses in Georgia, and, a listing of golf related web sites.

D – Help

Context sensitive help based on what module the user is currently viewing.

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Hardware Specifications

Computer

Dell Pentium II 450
128 MB memory
13 GB hard drive
CD-ROM
Floppy drive
Generic additional serial port
21" Sony Monitor
Sound Card

Human Interface

1 Haptic Controls 3" Trackball
1 Haptic Controls Ultimate pushbutton
1 Haptic Controls PC serial interface kit for trackball and button
1 Haptic Controls AC adapter

1 MicroTouch ThruGlass controller
4 MicroTouch Transparent PicturePads (4" square)

4 12V Halogen “hockey puck” lamps with 10W GE “white light” bulbs
1 Low-Voltage Halogen 60W 12VAC transformer
1 Custom parallel port lamp control system based on Velleman relay kit
1 12VDC AC adapter
4 Color Genisys button image inserts

1 120VAC Muffin cooling fan

Lamp control system details

The 4 halogen lamps backlight the buttons. These lamps are normally dim, but the lamp control system can cause the lamp to brighten upon request.

A 5.1 ohm 15W power resistor is in series with each lamp. These resistors limit the current to the lamp and correspondingly dim the illumination. The lamp control system can remove the limiting resistor from the circuit by energizing a relay. This increases current to the lamp and, therefore, the illumination intensity.

The computer controls the relays via the parallel port. Each lamp may be switched bright/dim by flipping a bit on the parallel port. The parallel port is configured in a unidirectional mode.
Wiring Setup

The computer interfaces to the trackball and buttons via the serial ports and controls the lamps via the parallel port.

Computer Connections

Serial Port 1 - MicroTouch ThruGlass Controller
Serial Port 2 - Haptic Controls Trackball
Parallel Port - Lamp Controller
Ethernet
Video - Monitor
Audio Out - external amplifier
Power

Directory Tree

\Golf Kiosk
\Controller
\Controls
\Clean System
\EastLake
\Hole15
\Tour QTVR
\Classic Golf
\Video
\Web
\Controls
\WWW

Kiosk root directory
Controller VB application and attract sequence Director application
Additional ActiveX controls
VB application to reboot system and clean up cache
East Lake Director application and media
Play hole 15 media
QTVR media of East Lake tour
Classic Golf Director application and media
Video media for Classic Golf
Research Web Site VB application
Additional ActiveX controls
Local copy of website

Program Settings

Controller Settings

These settings should be in the AHC Golf Kiosk Controller.ini file.

[Behavior]

KioskMode – boolean
When KioskMode is true, the attract screen will always be forced to the foreground. When false, the controller dialog is accessible for debugging.

Taskbar Visible – boolean
When Taskbar Visible is false, the taskbar is hidden.

Ping Interval – milliseconds
Ping Interval is the interval that the status of auxiliary is checked. 250 milliseconds is the default.

Debounce Interval – milliseconds
Debounce Interval is the debounce delay for the touch buttons. Once a button is touched, the controller will ignore all other touches for this length of time. 3000 milliseconds is standard.

Exit TimeOut – milliseconds
Exit TimeOut is the length of time that an auxiliary program has to terminate after being requested to do so. If the program has not terminated, it is considered hung and is forced to terminate. 5000 milliseconds is standard.

[Program0]
Name – string
This is the executable name of Program0 that is run when the first button is touched. Default is “ClassicGolf”.

Path – string
This is the path for Program0 that is run when the first button is touched.

Light Bit – integer
This is the parallel port bit that corresponds to the lamp illuminating the first button. It should be 8.

[Program1]
Name – string
This is the executable name of Program1 that is run when the second button is touched. Default is “EastLake”.

Path – string
This is the path for Program1 that is run when the second button is touched.

Light Bit – integer
This is the parallel port bit that corresponds to the lamp illuminating the second button. It should be 16.

[Program2]
Name – string
This is the executable name of Program2 that is run when the second button is touched. Default is “AHCWEB”.

Path – string
This is the path for Program2 that is run when the second button is touched.

Light Bit – integer
This is the parallel port bit that corresponds to the lamp illuminating the second button. It should be 1.

[Attract]
Name – string
This is the executable name of the attract Director projector that is run when the kiosk is in attract mode. Default is “Attract Projector”.

Path – string
This is the path for the attract Director projector that is run when the kiosk is in attract mode.

[Help]
Light Bit – integer
This is the parallel port bit that corresponds to the lamp illuminating the help button. It should be 2.
[PicturePad]

Port – integer
This is the comm port where the PicturePad controller is located. Default is 1.

Settings – string
These are the comm port settings for the PicturePad controller. Default: “9600,n,8,1”.

Web Application Settings

[Navigation]

Start Page – string
The start page for the web application. This can be a local or net reference. Default: “http://www.oip.gatech.edu/ahc/”

Show Controls – boolean
Show debugging controls. Default: False

Timeout – seconds
The timeout value. Default 300

Help Page – string
The help page for the web application. This can be a local or net reference. Default: “http://www.oip.gatech.edu/ahc/help.html”

Site File – string
The file that contains a list of allowed sites. Default: “sites.txt”