

Midterm Progress Report

1. Revised Objectives

This semester IPRO 329 | Edutainment, turns its complete efforts toward an educational computer gaming suite targeted at fourth-grade students and the subjects these students struggle with most in school. It is tentatively entitled *Scholars of the Lost Exhibit*. Work on this project began last semester as the team completed their award-winning game *College Pursuit*. During this remaining half of the semester, we will focus on the design, development, testing, and marketing of *Scholars of the Lost Exhibit*.

There are multiple objectives and goals the team has set forth this semester:

- Complete the high-level architecture of the development portion of Phase II
- Research the user experience for the other subject areas through testing other computer games on elementary school children. The User Experience team decided upon this method because it will help produce better results for the design team to create games.
- Have button designs, business cards, brochures, and all other deliverables three-quarters complete by the end of mid semester. This will cut down on the amount of work at the end of semester.
- Create paper prototypes of the first portion of the Museum Lobby and Science wing
- Conduct peer evaluations each month
- Log team minutes in an orderly fashion. This objective was added because it makes it easier for the Management team to put together the Final Report.
- Construct a prototype of the Science wing for IPRO day

The development of *Scholars of the Lost Exhibit* education gaming suite is the main objective for this semester, but the team can only reach this objective through integrated participation and collaborative learning. To create this educational experience, every person must remember the importance of the overall team experience besides the objectives of the project.

2. Summary of results to date

Describe the results to date including progress made in achieving goals, tasks accomplished, analyses completed, data gathered and any other measurable results that the team has produced.

Design

1. Read, reviewed, and discussed two articles on design research and effective collaboration between corporate design and programming teams.
2. Identified and observed online communities (websites, bulletin boards, etc.) of teachers, parents, and students to learn more about specific areas of difficulty in school, educational areas of

emphasis, and how these individuals talk to and about one another. This information has been used as a guide in the subject matter included in our subject-specific games, as well as dialog development in subject-specific games (tone, language level, length of instructions, etc.)

3. Developed several characters for players to choose from. We created detailed character profiles and visual interpretations (color drawings in Adobe Illustrator) of those characters.
4. We created, wrote, and implemented (in an animated version) the opening of the game. This includes the actual start of the game, the opening museum sequence, and the dialog of the game, from the bus arrival to the character's entrance in the first wing (where different, specific games are located).
5. We created and wrote dialog (conversation but also game instructions) for the start of the game – the detailed, verbal exchanges and actions that happen between characters, the instructions that are given to players on the game context and how to play the game, and so on.
6. We have created three games for one of the museum wings, the science wings. The three games are known as the Planets, Constellation, and Lunar Phase game. Each step and interaction of each game has been sketched out (flow diagrams), the instructions for the player have been written, and the game content (what the player is asked to do, correct and incorrect answers) has been written. In addition, the game screens/what each game looks like and how it behaves, visually, has been completed in prototype.
7. A test prototype for one of the games, the Planets game, is in development and will be user-tested by fourth graders on 3/31 and 4/8, for truly iterative design. The test results will be used to inform dialog level, instructions, and game content in later game development.
8. The Constellation game is currently being programmed in Flash by the programming team.

Development

1. Basic high level design of software objects and their communication

Management

1. The Project Plan was written with the help of all the teams and handed in.
2. Each week members of the management team update the individual reports for each of the other teams. These reports are updated with individual posts from the blog, which is located on the web. Furthermore, the management team files team minutes from those uploaded onto the blog, forum, or file repository.
3. At the start of the semester, the team members organized a deadline calendar for the entire IPRO team and gave each team captain a copy of it. Dr. Feinberg also received a copy.
4. Working together, the team determined the layouts and logos for the IPRO to use on all promotional material, such as business cards and brochures.

5. In order to help both the Project Manager and Faculty Advisor in assigning grades, the team developed an efficient and fair way to evaluate team members. These evaluations are given out monthly.
6. Developed and finalized all promotional materials (brochure and business cards).
7. Over the past month, the team has worked together and delegated the deliverables due this month so they are all half to three-quarters complete at this point in time (posters, abstract, Web site, and PowerPoint presentation).
8. To make it easy to search and understand files, the team developed a consistent way to name files.

User Experience

1. The team visited with Judith Lederman, a professor specializing in math and science education, twice to find schools to user test in and some information about fourth grade content.
2. The team collaborated to create a.
 - a. information packets for teachers, parents, and students
 - b. Consent Forms
 - c. Cover Letter and
 - d. IIT letterhead paper
3. They have met with the design team to discuss the information needed for the testing instruments.
4. The team applied to the IRB board to get clearance to test students regarding games they like and dislike. They were cleared through the IRB board in March.
5. They have purchased the video tapes and obtained a camera to capture their user testing experience.
6. The team attempted to send out information packets to all the schools.

3. Revised schedule of events or tasks

Team	Date	Event or Task
Design	On Task – NO CHANGE	On Task – NO CHANGE
Development	Mar 28 – Week 11	<ul style="list-style-type: none"> • Tom, Josh – Work on constellation game part • Megha – Work on constellation teaching part • Steve & Kevin – Work on museum world depth management
	Apr 4 – Week 12	<ul style="list-style-type: none"> • Tom, Josh – Work on constellation game part • Megha – Work on constellation teaching part • Kevin – Work on User Interfaces • Steve - Work on scripting and speech
	Apr 11 – Week 13	<ul style="list-style-type: none"> • Tom Josh Megha work on integrating their parts of constellation game • Steve Kevin – Work on museum world path finding, character interaction and bells & whistles
	Apr 18 – Week 14	<ul style="list-style-type: none"> • Integrate constellation game with museum world

	Apr 25 - Week 15	<ul style="list-style-type: none"> • Bug Test • Bug Test
Management	Mar 28 – Week 11	<ul style="list-style-type: none"> • Chelsea – Work on PowerPoint presentation • Chris – Finalize Abstract, convert button designs to proper format, and team minutes • Lauren – Finish Midterm Report, work on posters, finalize business card design • Mandy – Work on brochure and Web site • Entire team – Order buttons and business cards by March 31 and update team/individual reports
	Apr 4 – Week 12	<ul style="list-style-type: none"> • Chris – Put in order to get abstracts printed, submit abstract to IPRO, and keep team minutes • Chelsea – Work on peer evaluations and PowerPoint presentation • Lauren – Continue work on posters and proof read the PowerPoint presentation • Mandy – Upload pictures on Web site and start to finalize brochure
	Apr 11 – Week 13	<ul style="list-style-type: none"> • Chelsea – Work on PowerPoint presentation and gather data from peer evaluations to hand out to class • Chris – Team CD and team minutes • Lauren – Posters with help from design team • Mandy – Work on Web site and brochure • Entire Team - Have almost all deliverables 75% completed and update individual/team reports
	Apr 18 – Week 14	<ul style="list-style-type: none"> • Chelsea – PowerPoint • Chris – Team CD and team minutes • Lauren – Posters and proof all deliverables for errors • Mandy – Submit Web site and place order for brochure in Office Services
	Apr 25 - Week 15	<ul style="list-style-type: none"> • Entire Team – Update individual/team reports • Chelsea – Check PowerPoint presentation for errors • Chris – Finalize Team CD • Lauren – Proof read the PowerPoint presentation for errors • Mandy – Help proof all deliverables for errors • Entire team – Prep for IPRO Day and Presentation
User Experience	Mar 28 – Week 11	<ul style="list-style-type: none"> • Jerrell - Reschedule meetings with schools due to cancellations, which were caused by miscommunication • Entire team – Received specific tasks regarding each school and regrouped after communication problems
	Apr 4 – Week 12	<ul style="list-style-type: none"> • Entire team plus other IPRO team members – User test games and prototypes at schools
	Apr 11 – Week 13	<ul style="list-style-type: none"> • Entire team – Edit video for IPRO Day
	Apr 18 – Week 14	<ul style="list-style-type: none"> • Entire team – Edit video for IPRO Day and prepare for IPRO Day

Apr 25 - Week 15 | • Entire team – Prepare for IPRO Day

4. Updated individual assignments and team organization

Design

For the remaining portion of the semester, the design team plans to focus their efforts on creating prototypes of the games as well as finalizing the rest of the interaction for the game.

- Josh has completed and posted the following items during the first half of the semester: Opening/start of game dialog (between the scientist and dinosaur), detailed dinosaur character development, constellation game development, creation of his “kid character”, researched and submitted sites for netnography. In addition, Josh actively participates in all class discussions, communicates regularly with Stephany/team leader by email, and brings valuable content to class (information about other games, etc.)
- Hugo has: Worked (with Stephany) on the visual side of the lunar phase game, and has done an excellent job of interpreting design team members’ paper sketches and creating polished, game-ready character sketches and game interface prototypes in Adobe Illustrator. Hugo has also created two characters (kid and police). Hugo is important to the design team because he takes rough visual ideas from different team members, and—through work in Illustrator—makes characters and game interfaces look consistent and polished. This is not something that individual design team members, each working on their own, would be able to accomplish without multiple iterations and a lot more time.
- Tony has been a valuable link between this semester of IPRO and last semester, and has: Developed the scientist character in visual and dialog detail, animated the opening/start of game sequence, created two kid characters, refined and completed the planets game (visual, dialog and, most recently, helped with developing a testing prototype), contributed to game dialog and content for all three games, drawn science wing diagrams, and submitted and reviewed sites for netnography research. Tony is especially diligent about using appropriate grade-level textbook and curriculum content to inform our game content, making sure our designs are in keeping with material that is actually being taught at the grade level of our players.
- Jackie is also an important link between the two semesters of this IPRO. She has: Created and completed (with Josh) the constellation game (sketches, content), created two kid characters, completed the opening sequence/start of game, submitted and reviewed sites for the netnography, created and posted iterative flow charts for changes in game sequences, collaborated regularly with the programming team (especially on getting the programming started for the Constellation game), and assisted the management and user experience teams (with submissions to the IRB and iterative testing and prototype ideas).
- Stephany, team lead, has: Chosen and handed out articles on design processes and research, created and written lunar phase game content, created one kid character, also written (with Josh) opening game dialog, taken and posted team minutes, created the netnography assignment, worked with Dr. Feinberg on design team grading, developed the testing prototype, and worked with the user experience team on items to test for.

Development

The development team turns their attention to creating the constellation game as well as the isometric, tile-based movement. They plan to have a prototype available for IPRO Day.

Megha

For the Star Field prototype, the problems I encountered are mainly related to the fact that I was still learning Flash. The most recent prototype I have been working on is for the constellation game. It consists of a star field which simulates the movement of a telescope. The next prototype that I worked on displayed rotating planets in isometric perspective.

Josh

Early on, I built a prototype of constellation game. I also revised prototype to be more general use. Furthermore, I contributed ideas and discussions with design on constellation game

Tom

I developed a drag and drop prototype and assisted with constellation prototypes.

Kevin

I worked with Steve to set up Blogs, Forum, and OWL. I made Tile, Grid, and Wall prototypes. Furthermore, I ported the prototypes over to beta version OO classes that will be included in the actual game. With Steve, I worked on many aspects of the museum, including the difficulties of depth swapping while moving around the room.

Steve

To begin, I worked with Kevin to set up Blogs, Forum and OWL and explore our options/possibilities for grid and museum world prototyping. Once this was completed, I worked with Kevin turning prototypes into beta versions. During the semester, I have also developed custom event handling, custom queue of actions to be performed by a specific character, and custom xml scripting integration. Lastly, I worked with Kevin to develop algorithms for handling depths on the isometric plane.

Management

As the management team continues, they plan to order business cards, buttons, and print brochures as part of the marketing end of the IPRO. Furthermore, they plan to finalize and complete all the deliverables.

User Experience

All efforts for the remainder of the semester will focus toward preparing and executing the fourth-grade user tests. All group members will have equal tasks in tabulating all the data gathered during the tests. Analysis will be completed after testing has occurred and data has been recorded.

5. Barriers and Obstacles**Design**

Suffered miscommunication with user experience when trying to determine when prototypes were needed.

Development

Each team member suffered their own obstacles within this team.

Megha

- Writing code to allow for an arbitrary number of stars
- Getting objects to display correctly with an isometric perspective
- Using trigonometry necessary for the planets to rotate

- Setting the depths of objects correctly based on their position in pseudo-three-dimensional space.
- Using inverse-trigonometric functions to obtain the angle to move the stars so that they are moving in the direction opposite the mouse.

Josh

- Learning the language as we were implementing it (being resolved through more use and experience)
- Having separate classes exchange information (resolved through using event handler)
- Time issues
- Debugging issues

Tom

- Unfamiliarity with programming environment
- Some hardware problems
- Time constraints (from other classes and obligations)

Kevin

- Learning the syntax of Action Script 2.
- Finding and understanding various quirks that AS2 has.
- Getting the objects to display on the screen the way that they are supposed to.
- And most recently trying to figure out how a text field works.

Steve

- Learning flash and figuring out how to use it
- Trying to figure out the best way to architect the software
- Understanding depth on an isometric grid
- Representing world, script and saved game data

Management

The management team did not really suffer any problems during the semester.

User Experience

User Experience suffered the following obstacles during the semester:

- Parent Consent Form
 - Constructing a detailed consent form that meets the IRB standards.
 - Receiving the consent forms on time so that we could proceed with the user tests.
- Online Training
 - Completing the online training course so that all members will be certified and able to complete the user tests.
- Pending Approval from IRB, which caused delays in user testing
 - Awaiting approval from the IRB.