

Project Plan

IPRO 329 – Edutainment

Team members:

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Advisors:

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1.0 Objectives

- Refine the training simulation created last semester into a more robust, complete product.
 - Improve the simulation's graphics into a 3D more real life model.
 - Update the navigation systems to make them more intuitive.
 - Revise the game scenario to make the game more plausible.
 - Update the in-game tools to current tools used in industry.
 - Refine the question database algorithm to make the questioning easier.
 - Provide additional question/answer entries to the game's database.
- Put together a final product including a final packaged game.

2.0 Background

- A. Include information about the customer/sponsor involved.
 - This project is aimed at satisfying the needs of those groups who oversee the training of Radiological Control Technicians. Examples include the training managers at facilities such as Argonne National Labs, Fermi Lab, etc. Also, the U.S. Department of Energy produces and distributes training material, which our product could be a part of. Our content advisor, Professor Laurence Friedman, has first hand experience with the training programs.
- B. Provide information about the user problem(s) the project is facing.
 - Currently, to become certified as a Radiological Control Technician (RCT), an individual must pass a comprehensive exam, which includes an oral exam. A scenario is relayed and the RCT must solve the problem and verbally explain his decisions. The only way to practice for this oral exam is to assemble a group of supervisors and administer a mock oral exam. Our simulation is meant to replace that mock exam.
- C. Present information about the technology or science involved or potentially involved in addressing the problem(s).
 - The simulation is programmed in Flash, which is a popular language for interactive programs. Also, it deals with many components of health physics, such as radioactive materials and their properties, and the equipment used by RCT's.
- D. Offer information on the historical success or failure of previous attempts in addressing the problem(s).
 - There are no significant programs available to assist potential RCT's with their training, aside from the mock oral exams. This lack of materials is the reason for our project. Our efforts during the Spring 2007 semester, including the testing of our prototype simulator, showed great promise, and received positive feedback from our volunteer testers. During the Fall 2007 semester our team developed a training simulation and again received promising results for the future of our product.
- E. Include any ethical, moral, cultural or scientific issues that may be involved to investigate the problem(s).

- The simulation must be as true as possible, if it will be utilized to train RCT's for their certification exam. Also, the simulation cannot place any unnecessary strain on the user, which didn't surface as a problem during our usability testing.
- F. Provide information about the business or societal costs of the problem(s).
- National laboratories such as Argonne have training programs that cost their organizations money. This training simulation would help to cut the costs that might be incurred by holding a full mock oral exam.
- G. Offer details on the proposed implementation outline for any practical solutions developed by the project team.
- The project team plans to have a CD at the end of the semester that includes the game that can be marketed to RCT's being trained. In order to have a finished product at the end of the semester, we plan to order cases and make enough copies of the game to distribute.
- H. Include research about similar solutions or literature search results.
- There are no other similar solutions on the market for those training to be RCT's. The U.S. Department of Energy distributes training material, but there is nothing to help the prospective RCT train through any real life sort of examples.

3.0 Methodology/Brainstorm/Work Breakdown Structure

- A. Define the problem(s).
- The problem we are solving this semester is the lack of effective training materials available to help potential RCT's prepare for their certification exam. This is a continuation of our addressed problem from the two previous semesters.
- B. Describe how your team will go about solving the problem(s).
- By planning, creating, and testing a flash game that effectively simulates an RCT oral exam, we will provide potential RCT's with alternates to studying written documents or attempting to organize a mock oral exam. As we completed a prototype game our first semester, and added a new scenario last semester, we are working on adding additional components, fixing the scenarios already implemented and retesting the game with trained RCT's.
- C. Explain how potential solutions will be tested.
- Potential solutions to this problem include different scenarios that could be programmed into the current game. Potential solutions can easily be made into storyboards, which can be tested by our content advisor.
- D. Describe how results of research and testing will be documented.
- The usability tests are filmed, along with written notes being taken of all feedback and comments made by the volunteers. This gathered information is compiled and organized at a later date, and analyzed for all useful comments and suggestions.
- E. Define how analysis of the test results will be conducted.

- Students who have background in focus groups will do analysis of the test results. They will analyze the results to determine the different likeability factors that are measured in the test. This information will be used to help further develop the game.
- F. Explain how the IPRO deliverable reports will be generated.
- The Project Management team will be in charge of all IPRO deliverables, and will be concerned with getting them in on time.

Additional Details about each Sub-Team:

Development Team:

The development team's goal is to deliver a high quality executable containing a robust, beautiful and operational version of the game. The development team's final delivery will be an executable that can be locally installed and distributed either through download or CD-ROM. The executable version of the game will be robust, of production quality ready to be distributed to end-users. The final version of the game to be delivered will be of professional visual quality and will contain an immersive environment through the visuals, interactivity of characters and the user interface.

Design:

The goal of this years design team is to take all the scenes from the game that were created last semester and recreate them in Blender, an open source 3D modeling program. All the scenes in the original game are 2D and look unrealistic. Using Blender, the scenes will be designed for realism and accuracy. As part of this conversion, the design team will also be adding new scenes and items to the game. A second goal of the design team is outputting or contributing to the media related to the game and IPRO, such as the game manual, a tutorial, the IPRO Day poster, and the IPRO day website.

Project Management:

The project management team's goal is to complete a plausible working scenario for the training simulation game. Following that, they will research any new items that need to be added to the game as tools. They will also work on the IPRO deliverables, and coordinate the midterm and final presentation. If they have any time to spare during the semester, they will help to develop another possible scenario for a continuing IPRO.

4.0 Expected Results

- A. Provide details on expected activities of results involved in the project.
- The result of our project will be a CD simulation that will be usable by potential RCT's in order to help them in preparation for their exams.
- B. Describe expected data of results from research or testing involved in the project
- When testing our product, we expect to receive feedback detailing whether this is a viable solution to our problem. We hope to find that it is, and hope to get positive feedback on the status of our simulation.

- C. Define potential products resulting from research and testing.
 - Our RCT training simulation is both a solution to our team's problem, and a product in itself. Hopefully the product will be an effective enough solution to keep a new simulation from being required in the near future.
- D. Define potential outputs to be produced through the execution of the assigned tasks.
 - Our work will produce a detailed scenario that can be implemented within the simulation by our team. Also, the simulation itself will reflect the needs of the user's, including graphical style and interface design. The project management team will be working to ensure that the scenario is plausible, ensuring that potential customers will be satisfied with the product.
- E. Discuss the expected results in terms of deliverables that will be produced by the project team (i.e. a working prototype).
 - Our team's primary goal this semester is to produce a working, polished game. With our prototype from last semester, and the time we have to complete our tasks, our team has confidence that we will meet this goal.
- F. Discuss whether or not the results you expect address the problem of the sponsor/customer.
 - Our content advisor assures us that if our product is developed as it has been described to him, that it will serve its purpose very effectively. Also, our usability testing at Argonne Labs last semester showed that with some improvements to the scenario, the RCT's would support the game as an effective tool.
- G. Discuss how the expected results will be incorporated into the proposed solution or solution framework.
 - With a finished product to present to those who would be interested in expanding the training programs available to potential RCT's, they will be able to see its effectiveness first hand. The solution to the problem, being an effective simulation, will be directly supported by a working game.

5.0 Project Budget

The start-up costs for this semester is due to the fact that the team members do not already have the program Flash, which has been used to develop the game up to this point. In order to continue with development, Flash is needed, therefore the 3 members of the development team need to purchase licensed copies of flash. Each copy of the Flash program is about \$200, so that would be a total of \$600.

In addition, this semester we would like to develop the physical packaging for the simulation along with any printed materials that will be included. Depending on how many we would like to make, the prices are as follows.

Kings, Movie-Sized Cases

20pack Kings: \$54 USD

20 Kings, Access to Design Templates 24 Trayliners, Insert Books + Disc Labels

40pack Kings: \$**98** USD | **SAVE \$10**

40 Kings, Access to Design Templates 48 Trayliners, Insert Books + Disc Labels

100pack Kings: \$**210** USD | **SAVE \$60**

100 Kings, Access to Design Templates 120 Trayliners, Insert Books + Disc Labels

With our packaging expenses, and any possible traveling budget that we may need for getting to and from any focus groups we may run, our IPRO does not expect to spend more than \$750.

6.0 Schedule of Tasks and Milestone Events

For a task breakdown and team member roster, please see the included files, “Task Breakdown S08.xls” and “Roster S08.xls”.

7.0 Individual Team Member Assignments

For a task breakdown and team member roster, please see the included files, “Task Breakdown S08.xls” and “Roster S08.xls”.

8.0 Designation of Roles

A. Assign Meeting Roles

- Minute Taker: Michal Kaska
- Agenda Maker: Natalie Hammer
- Time Keeper: Natalie Hammer

B. Assign Status Roles

- Weekly Timesheet Collector/Summarizer: Each Sub-Team leader is responsible for completing this task for their respective teams.
- Master Schedule Maker: Natalie Hammer
- IGroups: Natalie Hammer and Sub-Team leaders