1.OBJECTIVES:

IPRO 329, Edutainment, has the distinct goal of creating a simulated training program for nuclear health technicians. This program will provide an interactive environment in which to practice the skills necessary to pass the certification test. It focuses on the oral exam portion of this exam where the technician will be presented with a scenario designed to test his problem solving and reasoning skills while applying the general knowledge of radiation health standards required for his profession.

The game's design relies in a pre-existing knowledge of the terms and events presented in the game, and is therefore not intended for use by the general public. Our IPRO team will work with our advisors to create a simulation that is true enough to the real test to provide a valuable learning experience for the technician candidates while remaining entertaining enough to encourage them to play it more than once.

2. BACKGROUND

IPRO 329 has been dedicated to bringing together the pastime of videogames with educational development. Last semester IPRO 329 put together a game, *Scholars of the Lost Exhibit*, designed to teach 4^{th}-5^{th} graders basic skills in a game they would like to play more than once. With this as practice IPRO 329 has turned to a more challenging game; the development of a game to be used by graduate students to prepare them for their health physics certification.

This particular IPRO had been very successful in past semesters. For example, the team from Fall 2004 won an award from the Society of Technical

Communications (STC) for their completion of *College Pursuit*, a computer game developed to teach high school students about college financial aid. Furthermore, this IPRO also received recognition for its first game, *CreditSafe,* which was published on the Illinois Secretary of State's web site. In addition, this game garnered an award from the same STC competition. In recent semesters, the games have been brought to local grammar schools and have been very popular with the children and teachers.

IPRO 329 is pushing to create an intricate storyline that would be challenging and focus in on the parts of the certification training that people may have trouble with. Because of this aspect, the game looses versatility on who will have an interest in it, but the value of being able to market a game to prepare a person for their future career is astounding.

Overall IPRO 329 has won many awards, and is ready to make another award winning game.

3. METHODOLOGY:

To streamline the design and development process, our team decided to set up an "assembly line" approach to deliverables, where the design team creates the preliminary concepts and art for some component of the game, and then the coding team finalizes the details and implements them. This way, both groups can be actively contributing to the final product at the same time, without any significant downtown. Once the game has been coded, we will conduct usability tests to insure that the game is both playable and enjoyable. Any final revisions that need to be made can be completed once the tests are done, and the presentation can be constructed to reflect the final results of this plan.

4. EXPECTED RESULTS

The IPRO's most important result is that we achieve our goal of "Educating while entertaining". In addition to that goal, each sub-team has developed a specific task-related set of goals for this semester in order to ensure product achievement. If each group follows the aforementioned procedures, these goals should have results within these next thirteen weeks. This subdividing of the team was implemented a couple semesters ago, and it proved to be as crucial to IPRO 329's success as our methodology.

Team 1 – Programming Team

This team is responsible for programming the game. With this in mind, it is necessary for the entire team to learn Flash 8 and Action Script 2.0 before any other work is done. After this is complete, the development team has a handful of tasks to complete before the game is ready for its final release. The Development team is planning to create multiple scenarios, ranging from easy (learning the game play), to a more challenging scenario that requires more though and basic knowledge of health physics, and the hardest scenario to be equally challenging or harder than the oral exam. Next, the team plans to create a beginning and ending animation sequences for the game. Finally, the team plans to fix any problems that may arise during game play during the product testing.

Team 2 – Design Team

The Design team is responsible for the overall look, feel, and playability of the game. The design team will be continuing to develop scenarios and objects for the Programming team to implement into a game. They have set a few new tasks for themselves this semester so that the final pieces of the game can be put together. All of the members were learning basic layouts with Flash 8, in

order to give better ideas to the Programming team. The design team will be laying out multiple scenarios for the Programming team to implement into the game design. Each scenario will have a varying difficulty, which should be noticeable through the storyline.

Team 3 – Management

The management team is in place to solve the problems of constructing and submitting deliverables. The management team is responsible for making sure that everything is running smoothly and on time. In order to do that, the management team has various tools from email to calling people. The management team has to keep everything on track in order to succeed in the development and design of the final version of the game and get it ready for the IPRO DAY.

Overall IPRO

For IPRO Day, the entire IPRO would like to have a complete interactive demo for judges and others to play. IPRO 329 would also like to get testing from people who have been through the health physics certification boards. The feedback from this testing would inform the IPRO team if they had been accurate with details in the game to make it beneficial as a learning tool for those who use it in preparation for the health physics certification. Furthermore, the entire IPRO would like to see their developing product marketed through handouts, CDs, business cards, and pamphlets. In order to support their product, the team expects all of its members to know the problem at hand as well as research used to solve the problem. Lastly, we hope to gain more attention from related companies through IPRO day and our special.

5. Project Deliverables and Milestones

Design

- Sketches of Nuclear Facility with maps
- Flash renderings of the individual rooms
- Storyboards that match the goals of the simulation
- Scripts to convey the story to the user
- See DesignProjectPlan.mpp

Project Management

- Project Plan
- Midterm Report
- Final Report
- Team Minutes
- Final Presentation

Coding

- See CodeProjectPlan.mpp

6. Designation of Roles

Meeting Roles

- **Minute Taker**
    - Anthony Smith
- **Agenda Maker**
    - Keith McManus, Chris Hahn, James Aguirre
- **Time Keeper**
    - Keith McManus

Status Roles

- **Head Project Manager**
    - Keith McManus
- **Programming Project Manager**
    - James Aguirre
- **Design Project Manager**
    - Chris Hahn