A blurred photograph of a construction site. In the foreground, a paved road is lined with several red traffic cones. A yellow and red striped caution tape stretches across the middle ground. In the background, there are green trees and a blue sky. The entire image has a radial blur effect, making the lines converge towards the center.

IRPO 329: HEALTH PHYSICS

May 2nd, 2008

Health Physics

- **Health physics** is a field of science concerned with the evaluation and control of health hazards and is focused on the safe use of radiation



images' source: <http://www.ansto.gov.au/>

Problem

- How do we train a health physics professional?
- Self-administering a practice oral exam requires an entire board to carefully prepare and deliver a scenario
 - This is time-consuming and difficult

IPRO 329's Solution

- Develop an innovative health physics training simulation for Radiological Control Technicians (RCT)



Priorities

- Priorities for Spring 2008:
 - Modernize existing Graphical Display
 - Enhance realism of scenario
 - Ensure usability of the simulation
 - Produce a shippable product

Team Structure

- **Project Management**
 - Natalie Hammer, Electrical Engineering
 - James Runge, Physics
 - Mickal Kaska, Mechanical Engineering
- **Design**
 - Shubhi Sharma, Biomedical Engineering
 - Asad Akram, Electrical Engineering
 - Joel Huish, Electrical Engineering
 - Jeff Rebacz, Computer Engineering
 - Heajin Lee, Professional and Technical Communication
 - Ippei Iwata, Architecture/Structural Engineering
- **Development**
 - Joseph Lloyd, Computer Science
 - Mikhail Zaturenskiy, Computer Science
 - Daniel Rutherford, Computer Science

Project Management

- Information and task management
- IPRO deliverables
- Design/Development supervision
- RCT scenario

IPRO *It takes a team*
INTERPROFESSIONAL
PROJECTS PROGRAM

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 - Contact List
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 - Time Reporting
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- Fall 2006

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IPRO 329

Your Folders:

- Your Files
 - Board Images
 - Design
 - Development
 - IPRO Deliverables
 - Past Versions
 - Trash Bin
 - IPRO Office Files
 - Secure Dropbox

Contents of Your Files:

Upload File	Update File	Create Folder	Move Rename Delete
Board Images			<input type="checkbox"/>
Design	models, pictures, textures, etc		<input type="checkbox"/>
Development	Files, databases, algorithms for development		<input type="checkbox"/>
IPRO Deliverables	Deliverables due to IPRO office		<input type="checkbox"/>
Argonne Test Results as .txt file		Laura Batson	02/14/2008 <input type="checkbox"/>
Movement Documentation	Written at the end of Fall 2007 describing how click between rooms works	Natalie Hammer	01/29/2008 <input type="checkbox"/>
Objectives/Intro - v2	New set of game objectives and intro	James Runge	02/26/2008 <input type="checkbox"/>
RCT Suggestions	Suggestions from User Testing at Argonne	Natalie Hammer	01/29/2008 <input type="checkbox"/>
rct.swf		Ippei Iwata	02/28/2008 <input type="checkbox"/>
Scenario v1.0	Step-by-Step walkthrough of main scenario	James Runge	02/06/2008 <input type="checkbox"/>
Spring 08	Course Syllabus V1	Shital C. Patel	01/30/2008 <input type="checkbox"/>

Design

- Scenes

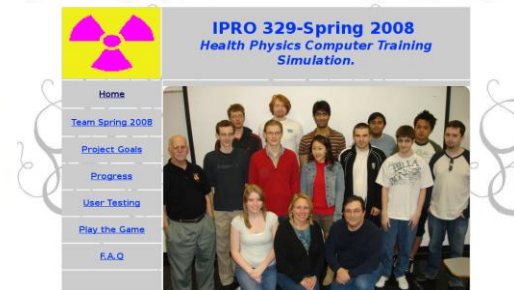


- Inventory items



- IPRO 329 Website

<http://www.iit.edu/~ipro329s08/>



Design

- A total of 21 scenes were created



Before

Construction site scene created last semester

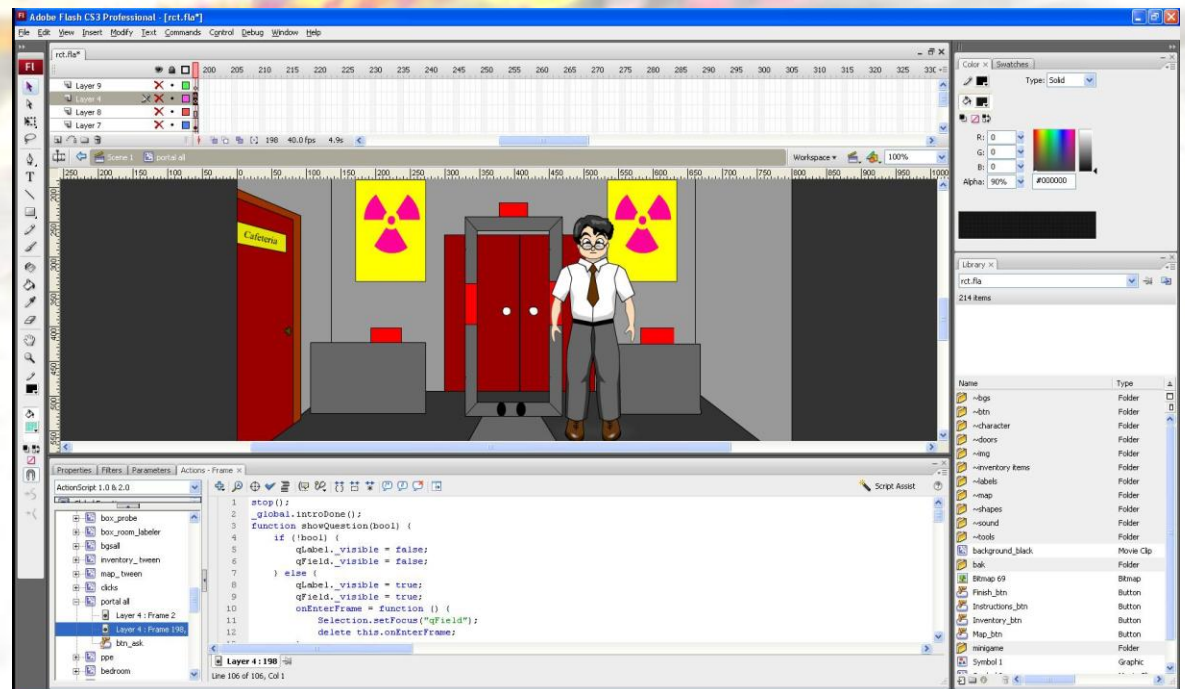


After

Construction site scene created this semester using Blender

Development

- User interface
- Item functionality
- Worker AI



Usability

- Usability testing was conducted at Argonne National Laboratory on April 11th
- 6 Health Physics Professionals reviewed the work to date
- Data was gathered and analyzed
- Product enhancements were made based on gathered data

The Product

- **The RCT Training Simulation** is a deliverable product based on the progress of IPRO 329 for Spring 2008

Product Demonstration



Questions?

IPRO 329 Team

- Natalie Hammer, Electrical Engineering
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- Joseph Lloyd, Computer Science
- Mikhail Zaturenskiy, Computer Science
- Daniel Rutherford, Computer Science

Advisors

- Laura Batson
- Laurence Friedman
- Anthony Mcfadden
- Greg Pulliam

