Initial Project Proposal - Group 10

3D-Adventuring Game - The Lost Empire

1 Game Description

The Lost Empire is a 3D adventuring game. It will be a treasure hunting game amidst the unknown elements of oceans and seas. The game will be seen through a first person view, stressing the player's comprehension of the 3D environment. The detailed graphics and character progression will provide a unique experience to our players. The focus of the game will be the Adventure Mode but the player can also explore random maps.

1.1 Scenario and Elements

Role: Player is a treasure hunter, attempting to explore well designed locations for personal gain.
Locations: Locations are underwater. They include but are not limited to castle, palace, pyramid, cave, dungeon, and so on. Each location is a map stored in the system.
Scenarios: For each location, the player will start out at an entrance. Their suit can only protect them from so much damage and may eventually break. They also only have so much oxygen. The completion of each location will be through a known task: to either find a story progressing item at the end, or to collect a number of items throughout the level. Not only does the player have to make it back out safely, but there are also other dangers along the way:

- Enemies can move and attack the character, and can be any imaginable water-based animal or another treasure hunter.
- Traps do not move but can still hurt or kill the player if sprung by the player.

The player can have more than a scuba suit and an oxygen tank to help them however. They can defend themselves with weapons against enemies. Weapons will either be blunt or sharp items. They can also have useful tools, including but not limited to a flashlight, a shovel, or a rope. In each location, the player can also find useful items to collect for themselves. This could include some weapons, some of the useful items, currency, or collectable items to sell. Weapons, tools, and equipment upgrades can be purchased with this currency.

1.2 Game Modes

Adventure Mode will be the focus of the game. The player will start out with one location or level to explore. The completion of levels will allow the exploration of more levels, but it will not be a linear path. Completing level 1 may open level 2, 3, 5, and 8, while completing level 3 and 5 may be required to access level 4. Completing each level will bring the player one step closer to finding Atlantis, which is expected to have the ultimate treasure. Outside of levels, the player may progress their character through weapon, tool or equipment purchases or improving their characters strength, stamina, or health.

To allow for a more wide ranging playing experience, the player will also be able to take their story character into randomly generated levels. The player can choose the size and theme of the level, and a unique level will be generated for them. Any collectable items found will stay with the character as if found through the story.

2 Domain

The Lost Empire will almost entirely take place underwater. Since the player is searching locations in the ocean, a realistic game would include proper scuba diving information. The player should feel like they are submerged in water while playing the game. They should experience ocean currents, buoyancy, and many natural obstacles including fish and coral reefs. The player is most certainly not immune to the dangers of the sea!

3 Hardware and Software Platform

The Lost Empire will be written in Java, and would ideally be compatible with any Desktop, Laptop, or Notebook with Java installed. Priority compatibility will be with the more recent versions of Windows: XP, Vista, 7, and 8. Java OpenGL will be necessary to create and display the underwater ruins.

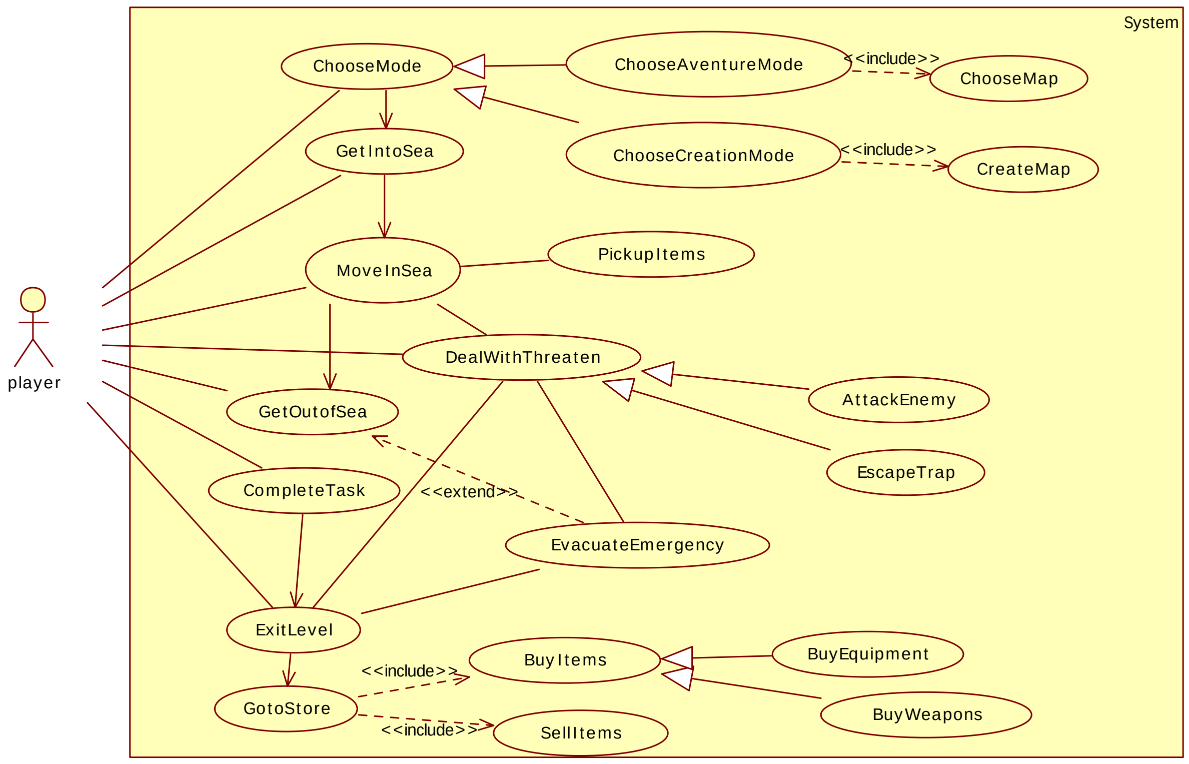
4 Clients

Electronic Arts has expressed interest in a unique adventuring game with excellent graphics and is expected to publish the game. Aside from the domain restriction itself, the game will be most appealing to EA if it can reach out to a wide variety of players. This will be more likely based on the quality of the graphics, game play features, and character progression. The realistic diving elements will also be interesting to players but it can also become frustrating given the complexity of the diving itself, and EA will want a positive experience from a majority of their customers. EA may also want an online mode but that is currently not in our own plans.

5 End-users

The Lost Empire will reach a very large audience. Character progression and adventuring and exploration appeal to many pre-existing gamers. Since the game will also take place in oceans or seas, this game will also appeal to fans of scuba diving. The expected audiences include teenagers to adults in their thirties, video game players, and scuba diving fans.

6 Use Cases and scenarios of using the product



Use case name	ChooseMode
Participating actors	Initiated by player
Flow of events	1. The player choose a kind of mode provided by system 2. The system enter the specific mode chosen by player
Entry condition	• The player has entered into the system
Exit condition	• The system switch to the mode chosen by player

Use case name	ChooseAdventureMode
Participating actors	**Inherited** from ChooseMode
Flow of events	1. The player chooses the Adventure Mode provided by system. 2. The system switch to the Adventure Mode.
Entry condition	**Inherited** from ChooseMode
Exit condition	**Inherited** from ChooseMode
Quality requirements	At any point during the flow of events, this use case should **include** the ChooseMap use case. The ChooseMap use case is initiated when the player invokes the map function. When invoked within this use case, the system loads the map for the user.

Use case name	ChooseCreationMode
Participating actors	**Inherited** from ChooseMode
Flow of events	1. The player chooses the Creation Mode provided by system. 2. The system switch to the Creation Mode.
Entry condition	**Inherited** from ChooseMode
Exit condition	**Inherited** from ChooseMode
Quality requirements	At any point during the flow of events, this use case should **include** the CreateMap use case. The CreateMap use case is initiated when the player invokes the create function. When invoked within this use case, the system loads the environment for the player to create map.

Use case name	ChooseMap
Participating actors	Initiated by player
Flow of events	1. The player chooses the available map listed by the System. 2. The System loads the data of the map.
Entry condition	• The player have chosen the Adventure Mode
Exit condition	• The chosen is successfully loaded for player, OR • The system prompt the reason why the map cannot be loaded

Use case name	CreateMap
Participating actors	Initiated by player
Flow of events	1. The player request to create a new map 2. The system create a new map file for the player 3. The player choose and setup parameter of the element given by system 4. The system create the map according to the player's requirement
Entry condition	• The player is in the Creation Mode
Exit condition	• The system saved the map file for the player, OR • The player give up this map to create a new map

Quality requirement	• The map should satisfy the restriction of the relationship between parameters

Use case name	PickupItems
Participating actors	Initiated by the player
Flow of events	1. the player choose to pick up the item found in the environment 2. The system add the item to the player
Entry condition	• The player has got into sea.
Exit condition	• The player successfully added the items, OR • The system prompt the reason why the player cannot collect the item

Use case name	DealWithThreats
Participating actors	Initiated by the player
Flow of events	1. Faced with threats in the sea, the player deal with it through escaping or attack. 2. The system calculates and shows the health status of both the player.
Entry condition	• The player’s health status is not zero
Exit condition	• The player’s health status drop to zero result in death and this level of the game is over, OR • The player’s successfully get rid of the threats

Use case name	AttactEnemy
Participating actors	Inherited from DealWithThreathen
Flow of events	1. the player use some weapon to attack the enemy 2. The system calculate and show the health status of both the player and enemy
Entry condition	Inherited from DealWithThreathen
Exit condition	• The player’s health status drop to zero and the player is dead, OR • The player’s scuba diving equipment is damaged, the player has to evacuate the emergency • The enemy is killed by the player

Use case name	EscapeTrap
Participating actors	Inherited from DealWithThreathen
Flow of events	1. The player is accidently stuck in the trap 2. The system add some move restriction on the player

	3. The player try to escape the trap 4. The system records the activity made by the player and compare with the requirement to escape the trap.
Entry condition	• Inherited from DealWithThreathen
Exit condition	• The player successful escape from the trap, OR • The health status of player drop to zero and the player is dead

Use case name	GetOutofSea
Participating actors	Initiated by the player
Flow of events	1. The player choose to get out of the sea 2. the system respond by make the player get out of the sea
Entry condition	• The player is in the sea
Exit condition	• The player is out of sea

Use case name	EvacuateEmergency
Participating actors	Initiated by the system
Flow of events	1.The system prompt the player about his dangers, suggests the player to discard all the equipment and rise rapidly to the surface of the sea 2. the player confirm to discard all the equipment 3. The system makes the player to move to the surface of the sea as fast as possible, at the same time recording and calculating the player's health status
Entry condition	This use case extends the GetOutofSea use case. When the scuba diving equipment is damaged or the volume of oxygen is low, this use case is initiated.
Exit condition	• The health status of player drops to zero and the player is dead and loses his items and exit current level, OR • The player gets out of sea and continues the game

Use case name	MoveInSea
Participating actors	Initiated by the player
Flow of events	1. The player choose the direction 2. The system get the command and change the position of the player
Entry condition	• The player is alive
Exit condition	• The position of the player is updated

Use case name	GetIntoSea
Participating actors	Initiated by the player
Flow of events	1. The player choose to get into the sea

	2. the system respond by make the player into the sea
Entry condition	• The player is on the land
Exit condition	• The player is in the sea

Use case name	CompleteTask
Participating actors	Initiated by the player
Flow of events	1. The player find the clue to achieve the ultimate purpose in this level of the game 2. the system respond by prompt the player if continue to the next level
Entry condition	• The player find the clue
Exit condition	• The system continue to the next level, OR • The progression is saved and exit the game

Use case name	ExitLevel
Participating actors	Initiated by the player
Flow of events	1. The player choose to exit this level 2. the system prompt for confirmation 3.The player confirm to exit
Entry condition	• The player is dead, OR • The player is alive
Exit condition	• The system save the progression and save the data in the database, OR • The system back to current level

Use case name	GotoStore
Participating actors	Initiated by the player
Flow of events	1. The player enter the store sell the items he or she owns in this level 2. The system adds money in the account of the player 3. The player choose the items he or she needs in the next level 4. The system reduces the money in the account of the player
Entry condition	• The player is alive and has got some items in the level
Exit condition	• The player got some items for the next level, OR • The money in the account is not enough to afford the items needed in the next level; the player goes out of the store without items.
Quality Requirements	At any point during the flow of events, this use case should include SellItem and BuyItem. The SellItem is initiated when the player chooses the items he wants to sell. When invoked in this use case, the system adds money to the account of the player according to the value of the items. The BuyItem is initiated when the player choose the items he want to buy. When invoked in this use case, the system reduces the money in the account and equips the

	player with the item he bought.

Use case name	SellItem
Participating actors	Initiated by the player
Flow of events	1. The player choose the item to be sold 2. The system added money to the player according to the value of the item
Entry condition	• The player has some item
Exit condition	• The increment of the players money

Use case name	BuyItem
Participating actors	Initiated by the player
Flow of events	1. The player choose the item to be bought 2. The system reduce the money in the account of the player
Entry condition	• The player's money is enough for the item
Exit condition	• The decrement of the players money

Use case name	BuyEquipment
Participating actors	**Inherited** from BuyItem use case
Flow of events	1. The player choose the equipment to be bought 2. The system reduce the money in the account of the player
Entry condition	**Inherited** from BuyItem use case
Exit condition	**Inherited** from BuyItem use case

Use case name	BuyWeapon
Participating actors	**Inherited** from BuyItem use case
Flow of events	1. The player choose the weapon to be bought 2. The system reduce the money in the account of the player
Entry condition	**Inherited** from BuyItem use case
Exit condition	**Inherited** from BuyItem use case

7 Responsibilities

A preliminary list of responsibilities will include:

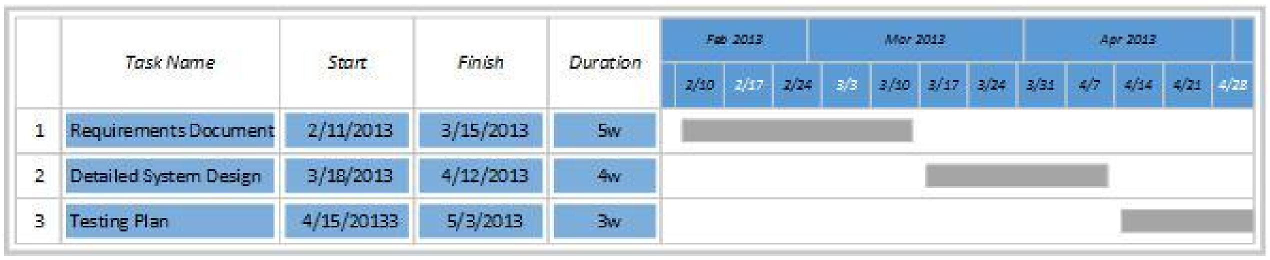
- Graphics Team to produce the underwater locations, and the movement and display of the player and the enemies.
- Game play team to work on events between the character and other objects in the environment
- User Interface team to work on menus and player controls.
- Testing team to test functionality and game balance. Could also help debug.
- Story team to develop the story of the game.

8 Domain Experts

Dr. John Bell is the president of the Underwater Archaeological Society of Chicago, and can help us understand more information about scuba diving. He can be contacted at JBell@uic.edu and can provide more than enough information about scuba diving.

9. An estimated schedule of activities

Pre-Development Tasks



	Task Name	Start	Finish	Duration
1	Requirements Document	2/11/2013	3/15/2013	5w
2	Detailed System Design	3/18/2013	4/12/2013	4w
3	Testing Plan	4/15/20133	5/3/2013	3w

We plan on having everything ready for Development by May 3rd of this year.