Executive Summary of Requirements Document

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The Lost Empire is a 3D adventuring game, based almost entirely underwater. The goal is to make the Player feel like they are actually diving underwater themselves, with realistic diving elements and a first person view of the environment. The Player will have a limited gas supply sufficient, to their choosing, to explore each level, but they are very vulnerable to the dangers of diving underwater. This including drowning, breathing poisonous Oxygen, and improperly rising back to the surface. But there is also a high reward for this exploration, as the Player can collect various items that are worth money on the surface. But they do have to make it out alive.

The game is eventually expected to be published by Electronic Arts. The expected game player of The Lost Empire is between a teenager and someone in their mid thirties. Scuba diving fans may also appreciate the game, regardless of their previous gaming experience. Professor Bell and Michael Angelo Gagliardi have both agreed as Scuba Diving experts to provide knowledge about Scuba Diving as needed. The game is expected to be a 3D thinking game, and to force this the navigation will be 3D based.

The functional requirements of The Lost Empire originated mostly from the use cases that were developed during the proposal. There were also meetings with Scuba Diving experts to help narrow the vision of the game and make it more realistic. Some of the requirements were added or changed solely to improve the quality of the game. A brief, summarized list of these requirements follows:

1. The system will allow the Player to load and save up to five adventure modes.
2. The system will allow the Player to select and unlock extra adventure levels, as well as explore randomly generated levels with their adventure Character.
3. The system will allow the Player to collect money, as well as spend that money in a store.
4. The system will allow the Player to make choices before the enter a level, including what equipment to bring, whether to perform decompression stops for a bonus, how much gas (volume) they bring, and how deep they dive.
5. The system will display the exploration in first person view, with the capability of showing a third person view with no performable actions.
6. The system will allow the Player can swim forward, push or pull themselves in any direction, control their buoyancy, and reposition their body, placing constraints only on possible human moves and not on unintelligent moves.
7. The system will allow the Player to be affected by system controlled entities or various traps, translating this as stress to increase the breathing rate.
8. The system will allow items to be collected in levels by the Player.
9. The system will allow the Player to use tools that they brought into the level.
10. The system will force the death of entities if the Player does enough damage, and the system will also force the death of the Player if they run out of gas or suffer from Oxygen Toxicity or Decompression Sickness.

The Non-Functional Requirements cover a wide variety of topics, which are also summarized below.

Appearance Requirement: 1) The appearance of the operation interface should be sports-oriented, dynamic and shows movement. The user interface could integrate the dynamic lines, pictures and shape for every bar, button and background. The dominant hue should be blue which is the main color the divers would see when they are diving.
2) As for this game is named "the Lost Empire ", the appearance should should show some mysterious atmosphere.
3) The style of the software should be authentic, professional and accurate. It should not have much cartoon or animation element in the design.
Speed and Latency Requirements: The response shall be fast enough to avoid making users feel latency of the game and user should have the feeling of the fluency of the game.
Safe-Critical Requirements: 1) For this game is plan to be sold internationally, the product should follow the safety standards of the intended market different country.
2) For China market, the game should embed the avoiding-game-addiction-system into the system.
Usability: The game controls should be similar to or based off of current PC games. Divers who are familiar with computer games should need a limited amount of time to adjust to the game play. Players who were unfamiliar with diving information would learn enough to play the game through the game tutorials.
Reliability: Software crashes shall not corrupt previously saved data, and the crash will be reported to a maintenance department for further development.
Performance: The system shall adjust the graphic display optimally based on the hardware. The response time shall be consistent during game play.
Supportability: The development company (we) must be able to add extra levels or modes of game play in addition to the original game.
Release Requirement: The development department will give maintenance releases every two month if necessary.The users could easily install the fix package of the game with the help of instruction and it would not affect or change the customization or progress records of user in the system.
Implementation: The game shall be written in Java and Java OpenGL, and primarily compatible with recent versions of windows (XP to 8) and Unix-like system.
Production Requirement: The software shall be distributed as compressed file be able to installed by an untrained user without the help of other instructions.
The product should be released as both DVD and online download, activated by activation key bought.
Legal: Player must know game play is not formal scuba diving training and that the developers have no liability for damages, injury, or death from game play.
    A small team of developers could accomplish many of the aspects of the game except the third person view and detailed graphical levels. A simple, wide open underwater area could be implemented in place of detailed graphical levels. Limits could be placed on the complexity of tools and items to simplify development.