Middle East Technical University

Ceng 491
Project Proposal Report

Massive Multiplayer Online Role Playing Game Project

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1   General Description

1.1   Group Information

Group name : MECAC
Project name : Massive Multiplayer Online Role Playing Game Project

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1.2   Sponsor

Assoc Prof. Dr. Veysi Isler
Modeling and Simulation Center

2   Project Description

2.1   System Description

The MMORPG (Massive Multiplayer Online Role Playing Game) project mainly serves a purpose that is introducing the worth seeing monuments all around Turkey. The player will be travelling the country in order to collect coins and gold scattered over some secret places. While visiting and learning about the invaluable historical places of Turkey to carry out the quests, the player will have more chance to gain treasure, however, the treasure has to be hidden due to being non-transportable, which makes the game more mysterious and more riveting. Each player was planned to have several attribute to make the game-play more realistic. Player needs these attributes in order to use quest system, player-class system and trade system. For instance a player might need an item in order to complete a quest, or gold to trade.

Main parts of the system consist of clients and the server. Components of the server are non-playing characters (NPCs), physics engine, network, and the database which holds the client information. Clients also have physics engine, game loop, and the communication layer. Clients and the server will communicate periodically to initiate and progress the MMORPG.

2.2   Problem Definition

The project has a basic infrastructure on 3D models and audio to be used. However, the system has already problems in database, network, artificial intelligence,and graphics based on the information we have obtained from Prof.Isler. The exact response of the database and the network layers of the system are unknown when the server is presented with large number of clients. This load-balancing problem may turn out to be one of the most challenging parts of the project. Moreover, it is equally hard problem to imitate the playing characters while controlling NPCs on the server side. What is more is that the graphics in the game should be attractive for this project to succeed. These problems may grow when the system is set up and tested.

2.3   Characteristics of Project

Although the system may seem to be a basic server-client architecture, it actually has lots of interactive components which makes the project complicated. The focus of the project group is mainly on database and network of the system. The coverage of the project may have to be extended if a problem in artificial intelligence affects the system.

A number of limitations might be confronted by the project group during the deployement of the MMORPG. Attracting massive number of clients to play the game developed is a challenge by itself. Deploying and maintaining the server infrastructure to accomodate huge crowds is another limitation. The most important problem above all is to sucessfully implement the project within the time limit. It is imperative to have good time plan for the project to cope with the time limitation. As a first step, the server and the client programs will be deployed to the computers of MODSIMMER. The server architecture will then be tested and monitored by generating large volume of network traffic. Lastly, bottlenecks of the recorded communication between server and clients will be determined and tackled. At the end of the project, a stable and fully functioning release of the game will be delivered to the end-users. The target audience of the MMORPG is people interested in monuments of Turkey.

3   Market Research & Literature Survey

There has already been open-source and MMORPG projects that has been released before. The WorldForge[1] and Endless Online[2] are the two most popular open-source MMORPGs.

The WorldForge project is producing an open source framework for massively multiplayer online role-playing games. The intent lies in creating a widely used development framework and set of libraries by motivating interested developers to improve on the original code.

Besides those two open source projects, there are many MMORPGs that can be played free of charge online such as Allegiance[3]. It provides a mix of real-time strategy and player piloted space combat gameplay. Initially developed by Microsoft Research, the game was later released under a shared source license in 2004[4] and is now maintained and developed by volunteers[5].

Although there are various open-source and free games released, a commerical MMORPGs is still dominating the market. In April 2008, World of Warcraft was estimated to hold 62 percent of the MMORPG subscription market.[6]

4   References

[1] http://worldforge.org/ Retrieved Oct. 28, 2010.

[2] http://www.endless-online.com/information.html Retrieved Nov. 1, 2010.

[3] http://en.wikipedia.org/wiki/Allegiance_(computer_game) Retrieved Nov. 2, 2010.

[4] http://www.microsoft.com/games/allegiance/home.htm, Microsoft Research Allegiance Source Code. MSR. 2004. Retrieved Nov. 2, 2010.

[5] http://au.gamespot.com/pc/sim/allegiance/news.html?sid=6087574, Colayco, Bob (2004-02-06). Microsoft pledges Allegiance to its fanbase. Gamespot. Retrieved Nov. 2, 2010.

[6] http://www.mmogchart.com/Chart7.html MMOG Subscriptions Market Share April 2008. mmogchart.com, Bruce Sterling Woodcock. 2008-04-01. Nov. 4, Retrieved 2010.