COMP-361 Systems Development Project

Project Descriptions and Deliverable

Description

Students must implement Naval Battle, a turn-based strategy game, as part of their requirement for the course. The project must be completed in teams of 3,4 or 5 students. No larger or smaller groups will be allowed. Students are free to use the technology of their choice to implement the game, although only the Minueto (Java) development environment will be officially supported. They are four deliverables for this course: a design document, a project demo, an acceptance test and a final hand in.

Design Document

Shortly after the teams are formed students, will be asked to hand in a short and simple design document. The document should not be more than 3 or 4 pages and should include the following:

- The name of the team members and how work will be tentatively broken down.
- An initial timetable with the team's objective
- A simple UML diagram describing the main data structures of the game.
- Two drawings illustrating what Phase 1 and Phase 3 of the game might look like.

Project Demo

Towards the middle of the term (tentatively towards the beginning of March), Your demo version of the game should have the following minimum functionalities:

- Connect minimally to one other player.
- Chose ships in fleet (Phase 1)
- Place ships in on the map (Phase 2)
- Move ships around map (and the movement is registered on the other computer)
- Fire shell attack (and the damage is registered on the other computer)
- Radar allows me to see around my ships (fog of war works)

A more complete and up to date version of these requirements will be released on the course website shortly before the demo presentation. Successfully demonstrating the game with the strict minimum features and without any crashes will earn you an A- grade. To get the full A grade, you need to push pass the minimum functionalities and impress the graders.

Maintenance Phase

Shortly after the demo, there will be some changes to the game rules. This simulates "real-life" software development, in which the application requirements are often subject to change during the development of an application. In order to prepare for this phase, try to write structured, modular, extensible code.

Acceptance Test

In the last week of classes, your application will have to pass the “acceptance test”. During the test, the group of graders (i.e. my TA, myself, ...) will play your game, looking for bugs/glitches and violations

of the game rules. During this evaluation, only the graders are allowed to touch the game computers. During the acceptance test, the graders will be looking for the following functionalities:

- Ability to play with at least 4 players.
- Setup and placement of fleet functions correctly for all players (Phase 1 and Phase 2)
- Battle rules with all ships, radars and weapon system is correctly implemented.
- Maintenance Phase changes were successfully applied.

A very detailed and up to date version of these requirements will be released on the course website shortly before. Successfully implementing the game with the strict minimum features and without any crashes will earn you an A- grade. To get the full A grade, you need to "Go the extra mile" and implement a few additional features.

Going the extra mile

As previously mentioned, achieving a perfect grade in the project requires students to implement additional features in the game. Additional features also have the advantage to compensating for some bugs that might occur during the Acceptance Test. These features should be discussed with the course supervisor during the weekly meeting. Ideas of possible additional features are as follows:

- Multi-player Meeting Room (Game Lobby, like BattleNet)
- Different game modes (i.e. Scenarios, Capture the flag, etc)
- New units, radar and weapon systems
- Useful tool support

Final hand in

At the end of the term, students will be asked to hand in a copy of their code, a compiled version of their game and an instruction manual. The preferred method of handing in this deliverable is in a standard size DVD case, with the code and the game on the optical media (CD or DVD) and the instruction manual inserted into the sleeve of the case. More information about this deliverable will be given towards the end of the term.

Changes for Teams of 4 and 5 Students

As previously mentioned, Comp-361 project must be completed in teams of 3, 4 or 5 students. Most of the game requirements are the same regardless of the size of the team. However, to reflect the additional manpower available in teams of 4 and 5, the following changes apply:

- A team of 3 students must allow for a multi player game of up to 4 players. Teams of 4 students and 5 students must allow for games of 6 and 8 players respectively.
- A team of 5 students is ***required*** implement the Multi-player Meeting Room expansion idea.