

WebApps Group Project: Milestone Report

Group Members:
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Your group structure and how you divide up the work:

The group structure is very flexible and everyone can express one's idea freely. We divide up the work as we go because dividing the whole project in the beginning stage may encounter unpredictable problems. At each stage, we try to divide the task fairly.

Currently, Adam and Samuel are implementing interactions with server and database; Wenke and Shuang are implementing the game. We expect the game to be finished by the end of week 5 and after that, we will redistribute the task.

Your choice of implementation language(s) with a short justification of your choice(s):

Choice of implementation language: JAVA

Reason of choosing JAVA:

1. Java is the most common used industrial programming language. Although languages like Ruby is easier to implement, Java performs better when the program becomes larger. In Ruby, internal bugs may be hard to locate because some of its given structure hides complexity.
2. We hope to get a taste of how industry produces WebApp due to the first reason.
3. We are familiar with Java and MVC architecture in Java. We know more about details of Java grammar and libraries.
4. Our program is a web game, and Java Plug-in software of JRE allows applets written in the Java to run inside various browsers.
5. Java IDEs are convenient and powerful.

A short description of your program/app;

We decided to build a web game with an initialised board with one player at the centre and several randomly distributed monsters.

- Player: Player can move towards four directions [up, down, left, right] by one grid at a time.
- Monster: Each monster moves one step towards the player after player moves one step. As time goes by, the number of monsters increases, and each new monster that is born creates a seed.
- Seed: Once player reaches the grid containing a seed, player can continue emitting seeds to four directions [up, down, left, right] concurrently, and the seeds can hurt monster within short distance if there are monsters around the player.
- To win: After a certain amount of time, player wins if he is alive.
- To lose: The player loses the game if it's surrounded by four monsters in all four directions [up, down, left, right].
- Example boards: < F: seed, M: monster, P: player >

A possible begin board:

| | | | | |
|--|---|---|---|---|
| | F | | | |
| | | M | | |
| | M | P | M | F |
| | | M | | |
| | | | | |

A possible lose board:

| | | | | |
|--|---|---|--|---|
| | F | | | |
| | M | | | |
| | | P | | F |
| | | | | M |
| | | | | |

The game has different difficulty levels. In each difficulty level, there are different number of monsters and seeds respectively. Also, more monsters are produced in given time when difficulty increases.

A brief summary of the user interactions in your program:

First, users need to register a unique account for the game so that progress of the game is saved and can be read when next time login, and your record will be saved to the ranking list.

User controls the player, and use five keys on the keyboard to control the movements of player. User presses **up/down/left/right** arrow to move one grid towards that direction, and presses **space** to emit seeds to hit monster.