Phase 4 Report Group 1

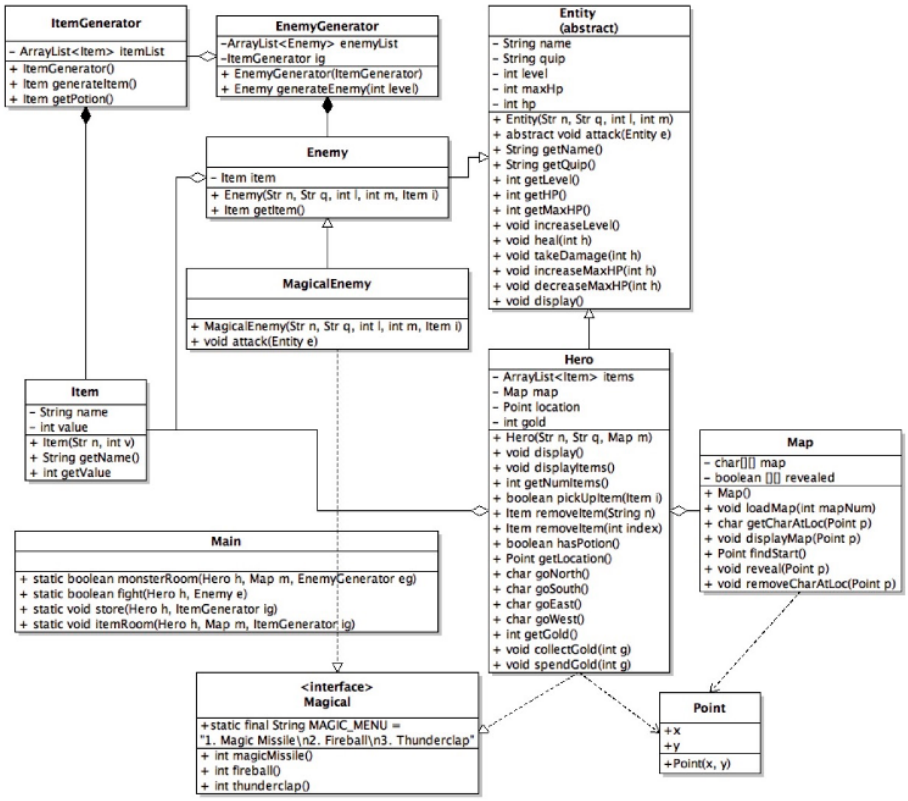
Game Design:

- When our group first met, we decided to base the design of the game off of a Netflix series that was popular at the time, All of Us are Dead.
- This show gave us a perfect theme for a maze game like this, zombies in a school.
- Rescuing students for normal rewards.
- Having a weapon to kill the zombies as a special reward.
- Wooden flooring as pathway and desks as walls to make our player walk through.

Software Design and Architecture:

- When we first started talking about software design in Phase 1, just like the rest of the class, we developed a UML diagram based on what we expected the game to look like.
- Throughout phase 2, we found that the actual software structure would be a lot different than we expected. In our production code there was a lot more emphasis placed on the architectural classes, such as for handling input and output of the game. Whereas in our initial class diagram we nearly forgot to include these.

Initial UML:



Project and Team Management:

- To manage the project, in each phase we tried to separate the project into smaller chunks and divide these among the group members.
- People that completed work more quickly could come back and help others with their section of the project once they were finished.
- Allowed the group to work concurrently rather than have to wait for a previous person to complete their portion of work.

Biggest Challenges:

- One of our biggest challenges in this project was made very obvious during the testing phase.

- Problem: When trying to unit test many of our methods, they were just very hard or impossible to test. We had many void methods with no inputs, or inputs that were very hard to recreate synthetically such as graphics2D or keyevent objects.
- Solution: This made us realize that we needed to refactor the production code to be more open to testing. This was a constant process during phase 3 as we moved through our classes but in the end it resulted in much more polished code.

Lessons Learned:

- A funny thing we learned during the project was to push often, and pull VERY often when working together. Merge conflicts are honestly no fun to deal with even with the tools modern IDEs provide.
- On a bit of a broader scale, we definitely learned how difficult it can be to define adequate tests for our system. When first writing our game we did some intermittent ad hoc testing and thought the game had very few bugs. However, once we moved onto the testing phase of the project we found that many of our methods had small bugs that never surfaced in regular gameplay. The testing process allowed us to fix these issues.

Video Demo of Our Game:

Group 1 Game Video

https://drive.google.com/file/d/1ZPVjt6JyYAyxPk0_qV4NdkBPYOXd3f59/view