Project Sound - Dark Energy

Report 4: Beta Complete

Progress Report

For the past two weeks we have focused on finishing the code for our game, level design and developing the background story. Pings physics were optimized and ping graphics was overhauled. Additionally game interactions (such as receiving ping energy from monsters and implementation of breakable rocks) and the AI framework for all types of monsters were completed. The graphical user interface was also tweaked so as to give the user more feedback. Specifically, monster pings are now colored red, hunters are colored red when they are growling (i.e. in chasing mode), sprites fade out to white to indicate the image is that of the monster's last location (not current location) and the game will be freezed for a few seconds upon player death so as to reveal the cause of death.

In terms of level design, several intermediate levels with different playstyles were made. These were play tested by group members and changed according to feedback. We also experimented with changes in Artificial Intelligence implementation and game constants to see how they which were optimal for level design. In addition we have decided to unfold the background story of the game through voiceovers, and a script was started for this. Overall, our goals for this release were met, but more level design and code tweaking remains to be done.

Activity Breakdown

Nick

In this period, Nick was responsible for refining shader graphics and further expanding interactions between pings and other game entities.

- Group Meetings - 7 hours
- Ping graphics revisions - 6 hours
- Illumination capability implementation - 3 hours
- Simplified ping physics engine - 3 hours
- Animation graphics - 1 hour
- Documents - 4 hours
- Test cases - 1 hour

Total: 25 hours

Though Nick was unable to meet the reach goal, he did track down the bugs in the graphics code and implement an arbitrary illumination circle ability to better facilitate game script. Additionally, he has implemented the ping physics with better optimization and in a more intuitive fashion.

Elle

During this two-week period, Elle was in charge of implementing polygon walls to the level editor, and minor bug fixing.

- Polygon wall implementation - 7 hours
- Playtesting - 2 hours
- Unit testing on level editor - 1 hour
- Documents - 4 hours
- Group Meetings - 7 hours

Total: 20 hours

Elle added polygon walls to the level editor such that now the level designer can place and draw polygon shaped walls to the game. This was a good use of time as it reduces the number of rocks that need to be placed in the game levels, allowing for the designer to make levels faster and keep our game running more smoothly by having fewer entities on the game levels. The part that took time when implementing the polygon walls was that the coordinate system on the level editor differs from the one in the game, and the polygon drawer has specific rules that must be followed when creating walls. Unit testing was used to test that the walls and other objects were being correctly placed from the level editor window to the game. Elle also participated in user testing of the designed levels to make sure that the games were playable.

Rena

In this two week period, Rena's main responsibility was creating fun, playable intermediate levels that combine individual challenges (such as avoiding monsters and rationing ping energy) in interesting ways.

- Animation Implementation - 4 hours
- Level Design & User Testing- 7 hours
- Background Story - 2 hours
- Group Meetings - 7 hours
- Level Design Document - 2 hours
- Two Week Report - 2 hours
- Unit Testing - 1.5 hours

Total: 25.5 hours

Rena's tasks for this week were a valuable use of time especially the design of intermediate levels. Level design is a crucial part of this sprint since game play testing, bug fixing and code revision is largely dependent on it. Game code, especially artificial intelligence code was tweaked according to feedback from playing the intermediate levels. Level design has also made Rena more aware of how the artificial intelligence code works and how best to utilize different type monsters in a level. Preliminary user testing has also given Rena insights on how players make decisions in a game and how this is different from what the level designer had in mind. Animation implementation was also crucial as many of our characters will be using

animation. Rena could have increased her productivity by spending more time on helping with bug fixes and other lightweight coding tasks.

Natalie

For this sprint, Natalie made rough animations for all the monsters, the player, and the breakable walls. By request, she made an animated background for the menu that better matched the game's horror theme. She also redesigned the storyboards for the level design document.

- Group meetings - 7 hours
- Level design document revision - 6 hours
- Monster animation filmstrips (rough) - 8 hours
- Breakable Wall animation filmstrip - 1 hour
- Menu screen animation filmstrip - 2 hours
- Brush design and concept art - 5 hours
- Player animation code tweaks - 1 hour

Total: 30 hours

The majority of time was spent on animating the critter, hunter, camper, and player in the forward, side, and rear positions. These animations remained rough, since the art style was not yet set. Of these, only the player animation made it into the beta release, and its sketchy outline with shading variations appeared to fit the horror/survival theme quite well. A good amount of time also went to designing brushes to create shadowy background images and concept art, which can be used in the game manual, promotional material, and menu screens. The level design document revision took quite a bit of time as Natalie had to discuss the new tutorial levels with the level designer and redesign the storyboards.

Anthony

Anthony’s role during for the beta release was to finish the AI for hunters, critters, campers, and stompers, as well as the level interactions. Anthony was also to work on the game manual and other documentation.

- Group meetings - 6 hours
- Documents - 2 hours
- Pathfinding - 7.5 hours
- Critter and Monsters AI - 12 hours
- Bug-fixing - 2 hours
- Game manual - 1 hour

Total: 30 hours

Most of the time this week was spent implementing, testing and bugfixing the critter and monster AI and the time was well spent. As a result the AI framework is stable and easily customizable. The AI is not in the final state, as behavior constants such as speed must be honed.

Detian

Detian role for this sprint was to work on level elements such as avalanches, landmarks, and sound springs. He also implemented arbitrarily shaped walls, including collision and drawing with them.

- Group meetings -7 hours
- Documents - 4 hour
- GUI improvements - 2 hours
- Level elements and triggers - 5 hours
- Arbitrarily shaped walls - 4 hours
- Physics collision masks - 1 hours
- Test cases - 1 hour
- Debugging - 7 hours

Total Hours: 31 hours

Although arbitrarily shaped walls was a major feature of the game from the beginning, its implementation might have been more trouble than it was worth. Its inclusion meant that the underlying level structure and physics had to support it, which made debugging harder. This delayed other level elements which were sharing underlying drawing and physics code with it. This also delayed some of the level design as some of the elements such as landmarks and avalanches were changing.

Productivity Analysis

Overall the group made great progress. All of the major bugs have been fixed and the main parts of the game code have been finished. The only major task left is to playtest and refine level design, which is a reasonable goal for the final release. As a result task distribution has not been affected at all.

Designing fun, playable levels took more time than expected, especially with tweaking levels according to user feedback. Artificial Intelligence implementation and ping physics refinement took less time than expected. Drawing walls in the level editor took much more time than expected, this was mainly due to the fact that we required the walls to be polygon walls (i.e. walls can be in any polygon shape not just rectangular). Finalizing art assets also took more time than expected as we were experimenting with different art styles to enhance the overall survival thriller atmosphere.

Milestone Predictions

At this point the basics of our game have been completed and implemented successfully. For final release we plan on finalizing our background story and the corresponding voiceover assets. We also plan on finalizing sound assets including background music and sound effects. All levels (tutorial levels and the five intermediate levels) should also be complete. All bugs should be resolved and fixed. The overall game should be polished and tweaked according to

feedback from user testing. We will aim at designing transition images and discovered memories as bonus material if time permits.

Test for Acceptance

For the final release, playability of our levels is extremely important, hence we will be performing lots of user testing. Feedback is very important in our game since we have lots of hidden objects, so we will be asking people for opinions about the game and whether they understand what is going on when they are playing. A really important test is whether users understand and can see how they died - this has been a problem so far. Users should also be able to go through the tutorial levels and understand the mechanics of our game, and be able to eventually navigate to the exit after a few tries. Users must be able to play a level and progress through it without getting too frustrated, as that is a sign that the level is too difficult to play.

Risk Assessment

One of the major risks we face in this sprint is level design. Since our gameplay is fairly challenging with a lot of mechanics and interactions it will be hard to teach players how to master the game while maintaining their level of interest. Teaching players the concept that monster sprites represent the monster's last known location instead of current location will be especially hard. In addition, levels that are too easy will bore players while levels that are too hard could easily cause frustration (especially since players cannot see anything on the screen without pinging). Another major risk is that we have only engaged in limited user testing for beta release. This means that our current graphical user interface and feedback system could be subject to enormous changes if users are especially displeased with information presentation and if this is consistent throughout multiple users.

Activity Breakdown

Nick

During the next sprint, Nick will implement avalanches and standing by to fix any bugs in the ping or graphics code. The reach goal from last week will remain: Nick will attempt to implement a more advanced ping physics engine that does not reveal game elements behind walls.

- Group meetings - 5 hours
- Tutorials - 4 hours
- Hotfixes - 3 hours
- Documents - 2 hours
- Avalanches - 6 hours
- Ping masking - 0 to 5 hours

Total: 22 to 27 hours

Elle

Since the code for the level editor is complete and working properly, Elle will be focusing on fixing the documents, particularly the game manual. She will also assist with some of the level design and additional bug fixing.

- Group meetings -5 hours
- Documents - 7 hours
- Level Design and Playtesting - 3 hours
- Bug-fixing - 5 hours

Total: 20 hours

Anthony

Anthony will playtest to refine the AI behavior. Additionally he will be will help refine documentation.

- Group meetings - 7 hours
- Documents - 2 hours
- AI behavior - 7 hours
- Bug-fixing - 4 hours

Total: 20 hours

Rena

During the next sprint Rena will be focusing on level design and user testing. She will be implementing the tutorial levels and all of the intermediate levels and tweaking them based on feedback from user testing.

- Group meetings - 5 hours
- Level design & User Testing - 15 hours
- Debugging and helping with other tasks - 3 hours

Total: 23 hours

Natalie

Natalie will finalize the animation filmstrips, menu graphics, background images, and any graphic content needed for documents.

- Group meetings - 5 hours
- Document revisions - 8 hours
- Final animation filmstrips (final) - 10 hours
- Background images - 2 hours
- Menu/Transition graphics - 2 to 4 hours
- Ad hoc coding/scripting - 0 to 3 hours

Total: 27 to 32 hours

Detian

Detian will be debugging and working to polish the game.

- Group meetings -5 hours
- Documents - 5 hours
- Debugging - 10 hours

Total: 20 hours