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Quest

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WORCESTER POLYTECHNIC INSTITUTE

Quest

Development of a Multi-Character Role Playing Game

A Major Qualifying Project Report submitted to the Faculty
of the Worcester Polytechnic Institute in partial fulfillment
of the requirements of the Degree of Bachelor of Science

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Abstract

Quest is a role-playing game that encourages players to utilize the different abilities of three controllable characters to overcome 18 unique levels. Using libGDX, a Java-based framework, *Quest* uses complex artificial intelligence to challenge players as they progress through the adventure. Players have the opportunity to apply a variety of strategies to overcome an increasingly challenging assortment of enemies.

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1 Introduction

Our project was to create a role-playing game (RPG) called *Quest*. *Quest* takes place in a fantasy setting with swords, magic, and potions. It is very similar to retro RPGs like the original *Final Fantasy* and *Legend of Zelda* games. The player moves through a set of unique levels defeating enemies along the way. A unique feature is the ability to control a party of three characters by switching between them at any time during gameplay.

The focus our project was to make *Quest* well-balanced and challenging, but simple. Each character has a different set of three abilities, falling into the categories of attack, defend, and special. The warrior is focused on absorbing damage from enemies. The mage provides support by healing allies and using an area of effect attack. The rogue is a ranged unit who can deal damage from a distance. The enemies all share similar archetypes and abilities.

The player views the levels from an aerial perspective, but still sees objects and characters from a side on perspective. This is called a top down view and is used in such games as the early *Legend of Zelda* and *Final Fantasy* games. The characters and enemies are easily recognized by their colors. Enemies are usually red and friendly characters are shown in bright, distinguishable hues. Each character and enemy has a large number of animations created by our main artist. Our secondary artist created a large number of background and set piece objects to add detail to our levels. He also produced most of the HUD elements. The character portraits in the HUD were created by our primary artist.

We used a game development framework called libGDX (Zechner, 2013) to help build the tech for our game. The main technical feature of our game was AI for the computer-

controlled characters. Each autonomous character has a set of goals it wishes to accomplish. The character seeks whichever goal has the highest priority at the given moment. This is called goal driven behavior. Characters also use a state machine and path finding to move about the screen and perform actions.

The process of development was split into four terms of seven weeks each. We spent the first term on a combination of planning and prototyping. During this time, we also explored the nuances of our development tools. Our second term was used to build a strong foundation for our game, which included all of the basic features, except the AI. The AI became the focus of our third term, in order to create a fully playable game. The final term was spent debugging, testing, and balancing. The artist's work was split between the four terms, with the goal of creating two or three characters with a full set of animations each term. Unfortunately, with this schedule, there was not enough time left for the artist to create the HUD and background elements. We were required to enlist outside help.

We had two rounds of play-testing: informal and formal. During our informal testing, we asked testers basic verbal questions to get an idea of what problems they encountered and what they did and did not enjoy. The notes we took during this phase informed a lot of changes we made to better balance the game and fix bugs. Our formal play-testing was run similarly, but included a written questionnaire. We used this to get demographic information and more structured data, which we could use to develop statistics about our game.

Although we faced many challenges, our team overcame them through effective communication and intelligent management of the scope of our project. Some difficulties we

faced were learning how to properly use an unfamiliar framework and scheduling for such a long-term process. Creating our game was definitely a valuable learning experience.

2 Process

In order to keep the team organized, we created a workflow of weekly iterations. We also made sure to keep detailed documentation on everything we did throughout the process. A variety of tools came in useful for this task. See Appendix E for a full schedule.

2.1 Team

The team, League of Awesomeness, consisted of four programmers and one artist, though another artist was brought in for a single term to help finish. Emily Miller was one of the programmers and the producer of the group. Her roles included setting up meetings, scheduling, and keeping documents up to date. She also assisted with many of the tech components in a pair-programming environment, and added the sounds to the game. Jordan Vishniac was the lead programmer for the project. He was in charge of many of the larger tech components such as the artificial intelligence, the state machine, pathfinding, and collisions. He also implemented some of the character abilities. Kevin Mann was also one of the programmers. He assisted with many of the tech components as well. He worked on the conversations and dialogue, and created some of the abilities. He also worked on the asset integration, getting the assets and animations into the game. He took the levels that were created by the team, and built them in the game. Eyleen Graedler was also a programmer. Her focus was on the menus, heads-up display (HUD), pausing, and quest journal. She worked on potions, and in-game conversations. Samantha Stadlander was the artist for the project. She was in charge of creating all the character art and animations. Sean McCarthy worked for a term on the background and set-piece objects and on the HUD and menu art.

2.2 Workflow

The most important aspect about working in a team is keeping good lines of communication. Our main form of communication between team members was through email. We created a group email account, so everyone could be involved in group conversations. It was also very helpful that four members of our team lived within close proximity of each other. Two of the group members were roommates and two more lived in the same apartment next door. Finally, we also had frequent meetings that all group members were expected to attend.

To this end, we designed our workflow around weekly iterations. We had several scheduled meetings per week. Each week would end with an hour-long meeting with our advisors, Professors Dean O'Donnell and Mark Claypool. We had another hour-long meeting the day before, in which we went over what we accomplished, what we did not accomplish, and what we had to show the next day. Interspersed throughout the week before then were two 2-3 hour meetings. These meetings were used to work on the project together in an intimate setting. This was where most of our project work was accomplished. There was also a supplementary meeting between our producer, secondary artist Sean McCarthy, and our IMGD advisor Dean O'Donnell. This was to discuss the art direction for backgrounds, environments, and the general theme of the game.

2.3 Documentation

In order to keep track of our goals and our progress, we had a system of online documentation that any member of the team could access and edit. In order to keep our workflow, we had to make sure our schedules were written down where everyone could find

them. We kept high-level schedules of our plan for the entire year and lower level schedules of what we wanted to accomplish during each term and week.

All of the goals came from our core vision for the game. In order to make sure that this was set and agreed upon, we kept documentation on the game design. The main document was the design document, which contained all of the details of the game and its mechanics. We also kept supplementary documentation about things like dialogue scripts, technical design, and general notes.

We also kept a detailed list of all of our game assets. This was used for documenting every animation and static image that we needed. This also kept track of who was responsible for each asset, whether or not it was completed, and if it was not completed, when it was due by.

While creating our game, we often came across bugs and general defects. In order to document these, we created a spreadsheet that contained all information pertaining to the bug. We made sure to include a detailed description of the bug, the date the bug was found, and the current status of the bug. If the bug's status was set to 'fixed', we included that date as well.

2.4 Tools

We used a large set of tools to develop *Quest*. For documentation we used Google Docs. This was a great way of creating and sharing online documents. We also kept a blog on BlogSpot, documenting our progress throughout the year. Towards the end of our project, we created a website using Weebly, <http://questgame-mqp.weebly.com>, to advertise our game.

As shown in Figure 2-1, the website includes a gameplay trailer, a page about the designers, a link from which anyone can download our game, and a form that can be used to contact the group.

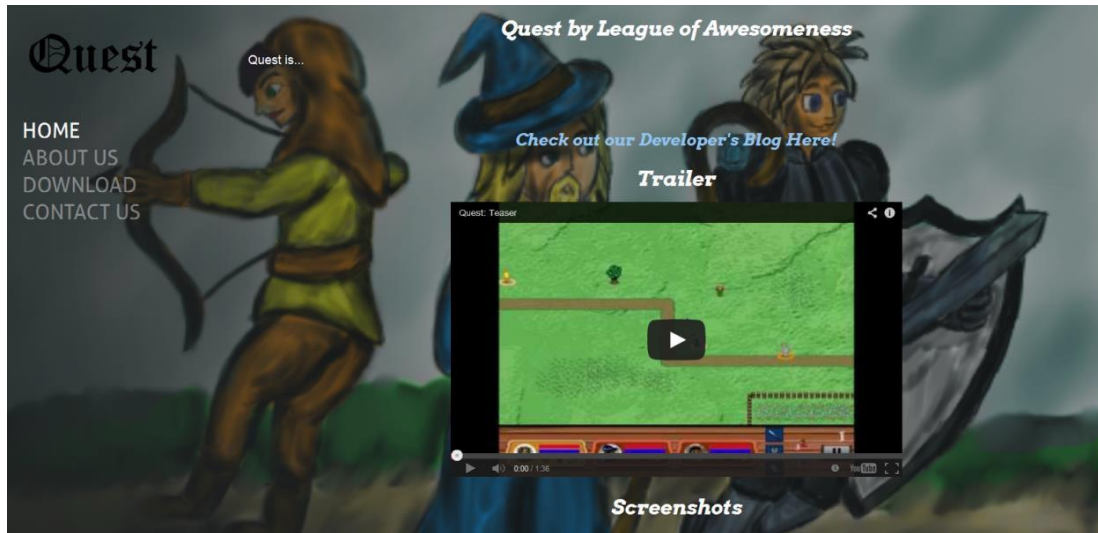


Figure 2-1: The Home Page for our Website

In order to create art for the game, our artists used two major programs. MS Paint was used for the character art. Photoshop was used for the background art and set pieces. Our programmers also made use of GIMP in order to create temporary assets and apply final modifications to other assets.

For developing the code for our game, we used Eclipse for our integrated development environment (IDE). Eclipse is a multi-language IDE that we used to write in Java. We also used a game development framework called libGDX, which provided helpful libraries. In order to make sure we were all working from the same code base, we used source control with Subversion. Subversion allowed us to access a code repository hosted on TeamForge, a WPI website.

Our final set of tools was used to create our presentation. We used PowerPoint to create a set of slides about our game. We used Camtasia to create gameplay videos demonstrating the games features. These videos were then embedded into the PowerPoint as well as our website.

3 Design

Quest is a role-playing game where the player controls three separate characters. The objective is to defeat enemies in increasingly challenging levels by using the different abilities of the warrior, mage, and rogue. The player views the game from an aerial perspective but objects are still viewed from the side. This is referred to as an orthogonal, or top-down, view. Each character has three unique abilities, falling in the categories attack, defend and special. Characters have health and stamina, and can replenish these using potions. Enemies share the same abilities as the party members.

3.1 Mechanics

The core elements of *Quest* is the combat. *Quest* emphasizes the importance of utilizing all three characters in the party. Each of the characters has three abilities that fall under the categories of attack, defense, and special. The purpose of the attack ability is to cause damage to enemies. Defend is used to prevent damage to the character. The special ability functions differently for each character. Although the abilities fall in those three categories, their differences in range and strength suit their character's class. These abilities are shown in Figure 3-1. Each row shows the respective character's ability for attack, defend, and special. Figure 3-2 expands on the attack abilities to show their range (how far away it can hit an enemy), the amount of damage it does, and how many enemies the ability can effect.

	Attack	Defend	Special
Warrior	Sword Slash	Shield	Shout
Mage	Fireball	Protection Spell	Heal
Rogue	Bow and Arrow	Hide	Poison Cloud

Figure 3-1: Table of Character Abilities

	Range	Damage	Effect
Sword Slash	Adjacent	High	Single Target
Fireball	Medium	Low	Area of Effect
Bow and Arrow	Long	Medium	Single Target

Figure 3-2: Table of Attacks

The warrior's abilities are based on his classification as a tank. He is able to take more damage than the other classes. His attack ability is a sword slash, which can only hit adjacent enemies. It is able to deal a large amount of damage. This allows him to easily dispatch any nearby enemies. His support ability, shout, draws enemies toward him and away from his allies. By calling the enemies to him, the warrior does not need to move far to use his attack ability. If the warrior is overwhelmed by his enemies, he can use his defend ability to prevent damage.

The mage's abilities work at range upon either allies or enemies. The mage's attack is an explosion, which can be cast nearly anywhere on the map. Any enemy caught in the blast radius takes a small amount of damage. The mage's special ability is to heal, which restores health to any ally who is within a short range of the mage. The mage's defend ability creates a protection spell around himself.

Like the mage, the rogue is better suited for ranged than close combat. Her attack ability is her bow and arrows, which can shoot across the map. The arrows are able to fly over shorter terrain elements, including fences and bushes. Her special ability is a poison cloud that encompasses a small area around her. Any enemies within the cloud take damage as long

as they are inside of it. Her defend ability is to hide. She throws a smoke bomb at the ground and turns invisible to the enemies, preventing them from targeting her.

Each character's movement ability and speed are the same, allowing characters to make their way to a position that is most beneficial to them.

In addition to abilities, the player has a limited amount of potions that are shared by the entire party. These potions can increase the health or stamina of the currently selected player. The number of potions available to the player are displayed on the HUD and can be used through either button press or clicking the icon on the HUD.



Figure 3-3: The HUD

3.2 Story

The story of our game starts with the formation of the party. Before the game begins, the mage had been training his apprentice, even delving into the illegal schools of magic. When the mage's apprentice goes missing, he is determined to find his pupil, suspecting that an enemy may have kidnapped him.

The warrior has been part of the town guard for years, but has not had the best performance record. Although he means well, he is overzealous in his attempts to enforce justice and is on his last chance to prove himself. As the leader of the town, the mage is urged to take a large portion of the town guard with him. When the mage refuses, the guard's

captain suggests that the warrior join the quest. The warrior may be able to prove himself useful in this mission, but at the very least it will get him out of town for some time. The mage accepts this proposal.

The rogue is rather ineffective at stealth due to her garb, though she still attempts to make her living through thievery. She breaks into the mage's house where she learns that he has been studying and practicing illegal magic, information that could ruin the mage's reputation. As she is about to escape, she is caught by the mage and is ordered to join the party. She knows that the mage will not let her refuse and so agrees in order to hopefully find forgiveness from him. The mage hopes that something will happen to her, so she will not be able to share her knowledge with anyone.

The party begins adventuring through the forest, where they hear that the apprentice has been spotted. The apprentice was being brought to the nearby caves, and so the party sets out toward the caves. Along the way, they must fight through various enemies and find the gatekeeper who can help them gain entrance to the caves.

Unfortunately, due to time constraints, we were unable to fully incorporate the story into the game.

4 Artistic Methodology

The art for *Quest* is designed around basic 2-dimensional sprites and backgrounds. The style is simple, bright, and colorful. This helps to create an appealing and inviting game environment.

4.1 Art Inspiration



Figure 4-1: Dungeons of Dredmor Sprite Sheet

When coming up with the art style for *Quest*, the artist decided to draw inspiration from older video games. The early *Final Fantasy* (Square Enix, 1987), *Dungeons of Dredmor* (Gaslamp Games, 2011), and *Legend of Zelda* (Nintendo, 1986) were the main inspiration for the art style. While *Dungeons of Dredmor* is not a particularly old game, its style is reminiscent of one. The world in *Quest* is navigated as a series of scenes, similar to the *Zelda* games, which helped to determine how the assets would be created. The scene based structure led to all the images being separate tiles that can be layered on top of each other to create unique scenes.

The animation style of the characters was drawn from *Dungeons of Dredmor* sprite sheet, shown in Figure 4-1, while the view of the world was taken from all three. *Quest* is in a 2.5D perspective, which means it has a top-down view of the background and an angled aerial view of the characters and enemies.

4.2 Character Art

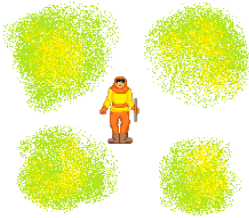


Figure 4-2: Rogue



Figure 4-3: Mage



Figure 4-4: Warrior

The warrior was the first character designed and the mage and rogue were based around the sprite sheet made for the warrior. The color schemes of the characters were designed so that the player could easily determine who is an ally and who is an enemy. The warrior, bearing his shield and sword, is colored to represent the typical armored knight. The mage is wearing long robes, and a matching blue hat. The rogue is, as per the story, not very good at being a sneaky rogue, so her garb is very bright and noticeable. She wields a bow, and has a sickly green poison attack.



Figure 4-5: Enemy Mage



Figure 4-6: Enemy Rogue



Figure 4-7: Enemy Warrior



Figure 4-8: Necromancer



Figure 4-9: Wolf

The enemies on the other hand, are wearing some amount of red, with the exception of the end boss and the wolves. The wolves are black with white tails, in order to better distinguish the direction they are facing. The end boss, who is a necromancer, has his own original sprite to make it clear that he is unique. His minions, the fighters, thieves, and wizards, have the same abilities as the player characters, with some re-coloring to allow the player to differentiate between allies and enemies. The necromancer, as the end boss, has a few extra re-colors, such as his explosion, which is black and purple instead of the red, yellow and orange of the mage.



Figure 4-10: NPCs

The non-player characters (NPC's) were styled to be wearing medieval peasant garb as shown in Figure 4-10. The NPC's are dressed in neutral shades to almost blend in with the scenery, but still be noticed. They also lack any sort of weapons.

4.3 Character Animation

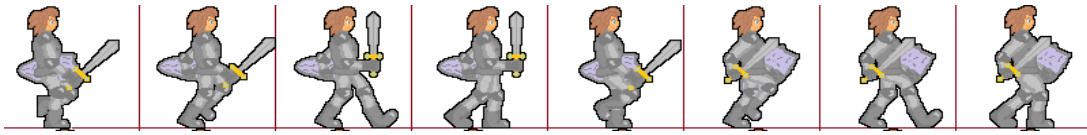


Figure 4-11: Warrior Walk Cycle

The style of the walk cycles for the characters was drawn from a *Dungeons of Dredmor* sprite sheet, with the warrior being the closest to the original walk cycle. Every other character was taken from our warrior and edited or tweaked to vary their appearance. The actual animating is done in game by cycling through a set of images. For example, each character has a walk cycle of eight frames. These frames are originally all drawn in the same image, to make things easier when drawing the other animations, using MS Paint, and then importing the images into GIMP to create the transparent backgrounds. MS Paint was chosen because the sprites were drawn using pixel art, and the artist felt most comfortable using it. Then each frame is cut out from the original document and saved as its own image. Each character has anywhere from 100-150 individual frames for all their animations in around 50 animations each. An example of one animation can be seen in Figure 4-11: Warrior Walk Cycle.

4.4 Sound Design

Sound in the game was kept minimal to allow players to focus on gameplay. The objective was not to provide full immersion in the story or setting, but instead to provide immediate feedback to the actions that the player has taken. The sound effects are simple and distinct. For instance, each ability has its own separate sound effect so when an ability is activated, even if by an enemy, the player is aware.

5 Technical Features

Creating our game involved building many different technical features. In order to accomplish this, we used a game development framework called libGDX. We used this to provide a basic foundation for further development. In particular, we designed our own AI as well as a system of menus and scenes.

5.1 Engine choice

To make our game, we chose to a free, Java-based framework for game development called libGDX. libGDX is not a true engine. It provides a set of numerous libraries that can be used to build upon, but it leaves much of the core programming to be done by the programmer using it. We chose it for a few different reasons.

Reasons for choosing libGDX:

- Free
- Cross-platform for development (Mac, Windows, Linux)
- Cross-platform for release (Mac, Windows, Linux, iOS, WebGL)
- Supports 2D game development
- Good online documentation
- Active online community
- A large gallery of games
- Java-based

Setting up libGDX was very easy. It provides an application that automatically builds a project for each platform the user may want to release to. Each of these projects uses the same code base, stored in a separate Java Eclipse project. Once that project was created, we looked to some of the open-source example games libGDX provides. These gave us an idea of where to start and how to achieve certain goals. In the end, there were a few features of libGDX that we found particularly useful.

libGDX features we used:

- Screen class and transition methods
- File I/O
- Image rendering
- Input Manager

These features were provided through a variety of Java classes and interfaces. One of these was an interface called Screen. We created our own class called GameScreen that implements Screen. We were then able to use provided methods to display Screens, transition between Screens, and dispose of Screens. This provided a foundation for our game levels.

libGDX also has its own way of handling file input and output (I/O) for loading assets. We used this to import assets, such as textures, sprites, sounds, and text files, into the game. We used text files to initialize Screens. By reading in specially formatted text files, our GameScreens would know what objects to place in the level, and where to place them. We

used the file output to store the level that the player was on and to create save files that the player could later load.

We also used the provided `spriteBatch` to render our sprites and textures. `libGDX` has a full graphics manager that is able to draw, rotate, translate, and animate images as necessary.

The final piece that we made extensive use of was input. `libGDX` provides an input manager that can receive input from the mouse, keyboard, and even touch-screens. We used this to allow the player to control the characters and interact with the Heads Up Display and menus.

There were also multiple features we had to build on top of `libGDX` ourselves.

Features we made:

- `GameObject` class and subclasses
- Collision Detection
- Input use
- Artificial Intelligence
- Menus
- Heads Up Display

GameObject contains an image to draw and a location. Its subclasses, of which there are many, contain data relevant to the subtype of object. This allows us to create environmental features, like bushes and trees, as well as objects with behavior, like characters and enemies.

Collision detection uses square bounding boxes around objects. libGDX provides a class called `Rectangle`. To detect collisions we simply check to see if two objects' bounding rectangles are intersecting. `CollisionManager` is a singleton class we built that tells objects when they have collided with something. Objects subscribe themselves to the `CollisionManager`, which will run through all the objects on the screen checking for collisions between their bounding boxes. When it finds one, it alerts the relevant objects.

The remaining features will be explored in more detail in the following subsections.

5.2 Controls/Input

Quest uses a keyboard and mouse layout to minimize the distance that the player must move to access input options, shown in Figure 5-1. The WSAD keys are used for movement, while abilities are triggered by the left mouse button (for attack), the E key (for defend) or the F key (for special). To switch between characters, players use the [TAB] key. Potions, shown on the heads up display (HUD), can be used with the 1 or 2 keys to replenish health or stamina, respectively. While in conversations, players can use the [SPACEBAR] to advance the dialogue, rather than having to wait through a conversation they may have seen on a previous play through of the game. The game can be paused or un-paused with either the P key or the escape key.

Key	Action
W	Move Up
S	Move Down
A	Move Left
D	Move Right
Tab	Switch players
Left Mouse	Attack Ability
E	Defend Ability
F	Special Ability
1, HUD Health Button	Health Potion
2, HUD Stamina Button	Stamina Potion
Spacebar	Advance Dialogue
P, escape key, HUD Pause Button	Pause/Un-pause game

Figure 5-1: Input Options

The input for the player-controlled character is handled in PartyMember. On each update, PartyMember checks for input using the libDGX's input manager, which can recognize mouse and keyboard input. PartyMember then sets the booleans of its superclass in the checkforInput method in order to indicate what the character should be doing. The Booleans and relevant methods can be seen in Figure 5-2: Class Diagram of how Character and its subclass PartyMember check for input. Two party members who are not player controlled will check their current strategy and set the booleans accordingly. The booleans are then passed back to the Character class to be interpreted.

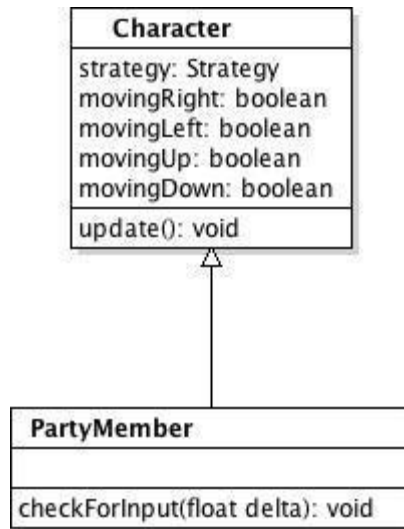


Figure 5-2: Class Diagram of how Character and its subclass PartyMember check for input

The pause screen and HUD also use the libGDX input manager by overwriting the keyUp, keyTyped, and touchUp methods. When keyUp or keyTyped events are triggered, the keystroke is compared to the valid key inputs of the HUD and action is taken accordingly. The method touchUp is triggered on mouse click when the position and type of mouse click is compared to the HUD's areas of interest and acted upon.

In addition, players are able to interact with the HUD by clicking on either potion button to make the player controlled character drink the corresponding type of potion. Clicking on the pause button will also pause the game.

5.3 AI

In order for the player to have an enjoyable experience with the game's combat system, the enemies needed to have intelligent behavior. We wanted the combat to be strategic, such

that autonomous agents responded to each other as well as to the player's actions. There are three main parts to the game's artificial intelligence system: goal driven behavior, state machines, and path finding.

5.3.1 Goal Driven Behavior

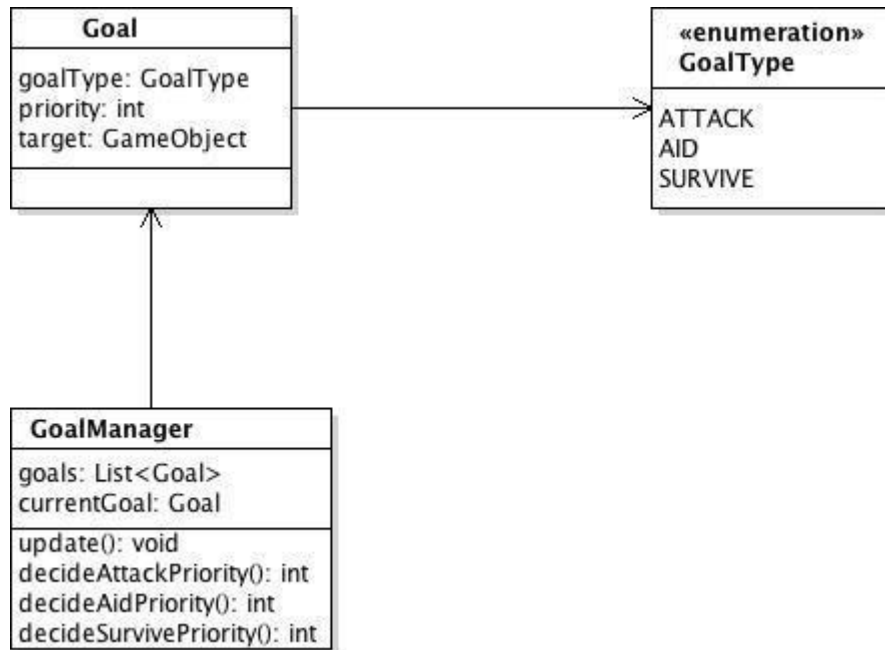


Figure 5-3: Class diagram of GoalManager and related classes

Goal driven behavior is when an intelligent agent has a set of goals it wants to accomplish, and chooses to seek the goal with the highest priority at the moment. In *Quest*, there are three types of goals: attack, aid, and survive, as seen in the Figure 5-3. Each intelligent agent contains a goal manager. When the character is created, a goal manager is created at the same time, which initializes itself with a set of goals. For each opponent in the scene (opponent in this case could be a player-controlled character if the agent is an enemy), the goal manager

creates an attack goal associated with that opponent. For each ally in the scene, an aid goal is created. Each character also gets a survive goal for itself. Attack goals are also created for destructible objects, such as dead trees.

Each goal has a priority value. Every game update, the goal manager runs through each of its goals and reassesses their priority based upon a heuristic function. The value the function returns for the goal can depend on a number of different criteria. For example, in the current version of the game, warriors and rogues have no aid goals. The priority of the aid goal for the mage goes up as the associated ally's health goes down. Eventually that goal becomes the highest priority goal, at which point the mage seeks out the ally in order to heal them.

The various character classes seek out enemies based upon different criteria. Warriors tend to attack opponents that are closer. Mages tend to seek out opponents with higher health. Rogues will attack whoever is weakest, i.e. has the least health. Their heuristic for their survival goal is also different. Warriors worry more about their survival as their health decreases. Rogues and mages take this into account as well, but also keep track of how many enemies are attacking them at the moment. Because they have less total health than warriors, and also prefer to attack at range, they are much more concerned for their own safety. When any character's survival priority becomes highest, they will seek out places they consider safe in the scene. This is usually wherever is farthest from enemies.



Figure 5-4: Wolves attacking nearest target



Figure 5-5: Warrior shouts, attracting wolves

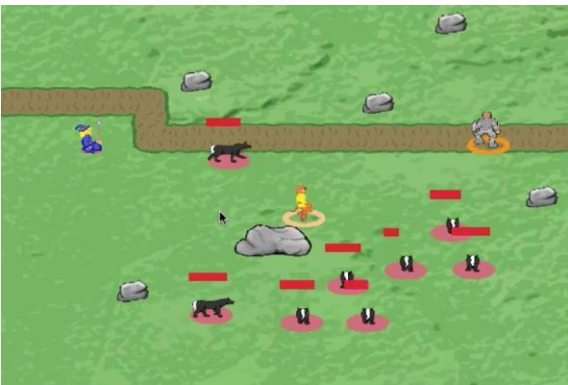


Figure 5-6: The goal of the wolves is now to attack the warrior

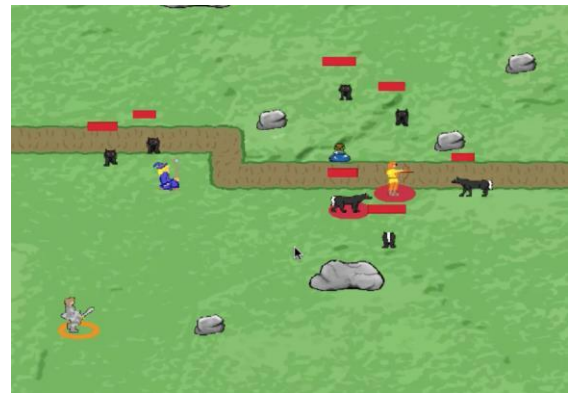


Figure 5-7: Shout ends, the wolves attack the nearest target

An example of target switching can be seen in this sequence of figures, starting with Figure 5-4. It shows a group of wolves attacking the player's party. At the start of the level, the goal of each wolf is to attack whichever target is nearest. Here, the nearest target is the mage (in blue).

In Figure 5-5, the player controls the warrior (at the bottom left) and decides to use the shout ability. This causes a change in the priorities of the wolves. Now the warrior has a much higher priority than any other target. They begin to chase him instead of chasing the rogue (in yellow and orange), who is technically a closer target.

The shout ability is on a timer. As long as the ability is still active, the wolves will continue to chase the warrior around the screen, ignoring all other targets, as seen in Figure 5-6

However, once the timer runs out, the wolves will return to their normal priorities. In this case, most of the wolves now begin to attack the rogue because she is closer, as seen in Figure 5-7.

5.3.2 State Machines

Although the goal driven behavior provides characters with decision-making abilities, the decisions are on a very high level. Once a character knows its goal, it needs a way to achieve that goal. That is where the state machine comes in. Each goal-type has an associated state machine with states that will facilitate achieving the goal. Whenever the goal changes, the state machine the character uses to decide its physical actions changes as well. The specific target will be passed into the state machine upon its creation.

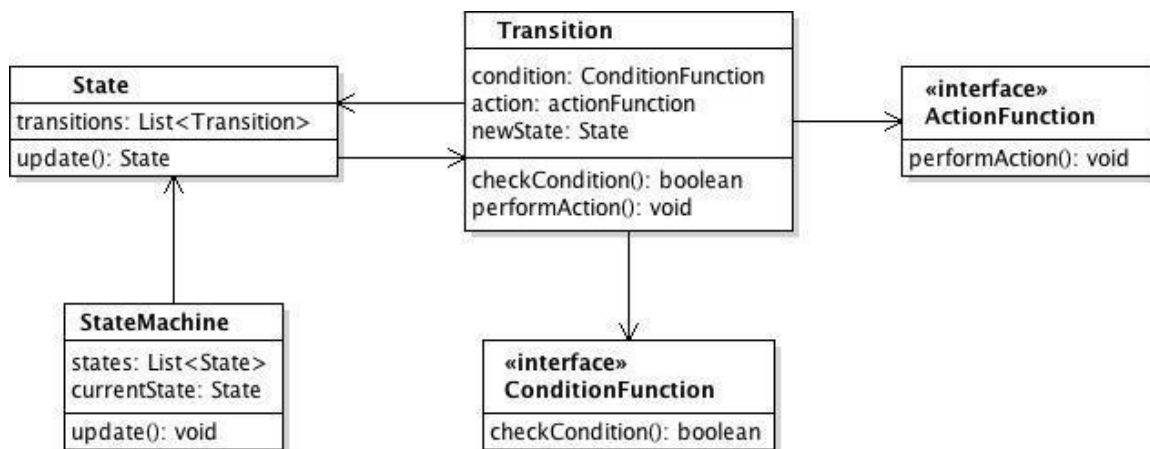


Figure 5-8: Class diagram of StateMachine and related classes

The state machine consists of states and transitions, as seen in Figure 5-8. States contain a list of transitions they are supposed to check. Transitions contain an action to be performed, a condition to be checked, and a state to transition to after checking the condition. The starting state of the state machine is specified when it is made. The current state checks each of its transitions to see if any of their conditions return as true. If it does, the action associated with the transition is performed, after which the associated state becomes the new current state. If none of the transitions return true, the current state transitions to itself. The process continues indefinitely, allowing the character to perform actions and make decisions on a finer level than the goal-driven behavior allows.

Most of the state machines follow a basic, two-state format: seek and idle. The starting state is idle. If the character is outside of a certain range of the target, it will transition to seek. If the character is within range, it will remain in idle. The same is true of the seek state. If the character comes within range, it will transition to idle, otherwise it will remain in seek. The difference between the state machines is in the transition actions. When the character is transitioning to seek, it moves in the direction of the target. When it is transitioning to idle, it performs an appropriate action for the target. If the target is an enemy, the appropriate action is to attack. If the target is an ally, the action (in the case of the mage) is to use the heal ability.

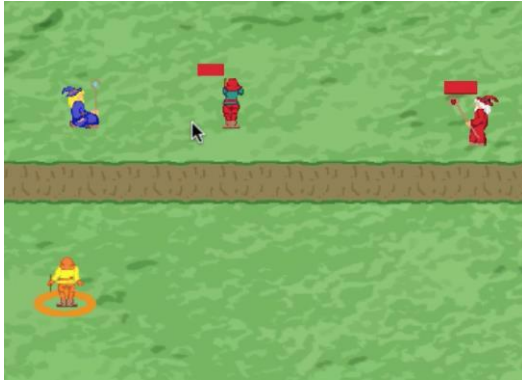


Figure 5-9: Enemy rogue is low on health



Figure 5-10: Enemy mage heals the enemy rogue

An example of this can be seen in Figure 5-9. The enemy rogue (in red and green) is low on health. As such, the priority of the enemy mage (in red and white) is to heal the rogue. When the enemy mage comes within a certain distance of the enemy rogue, he transitions from the seek state to the idle state.

When he makes the transition, he performs an action. In Figure 5-10, the action in this case is to heal the enemy rogue. He casts the spell and provides the enemy rogue with more health. This action could cause his goal to change if the rogue's increased health causes the priority of the goal to drop. This would provide the mage with a new target and a new state machine. Or the rogue might still need help, in which case the mage will remain with the rogue to continue providing aid.

5.3.3 Path Finding

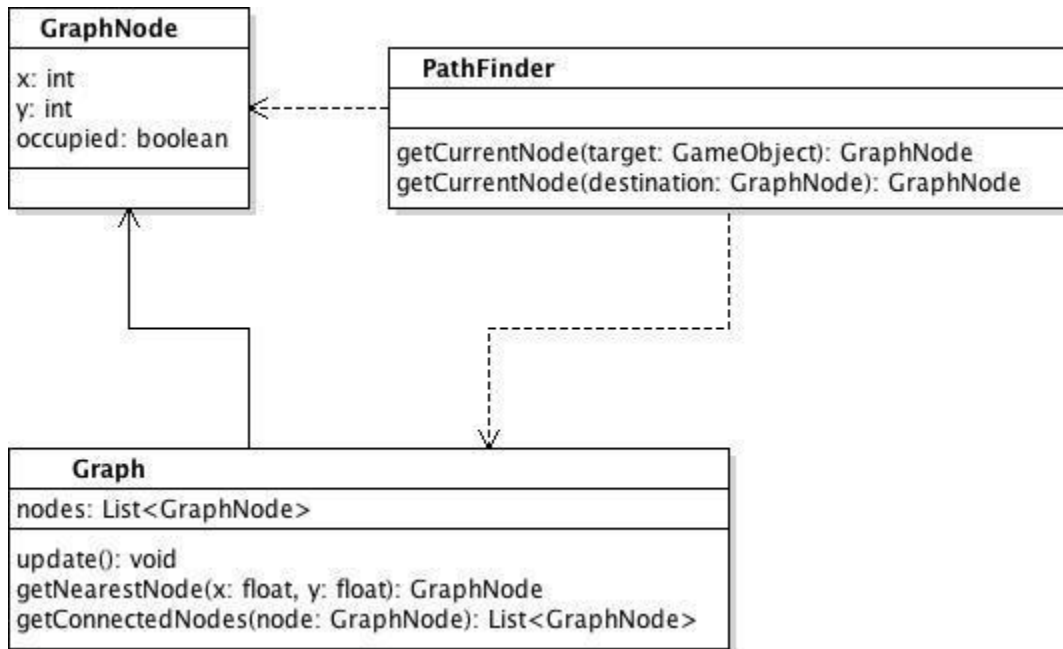


Figure 5-11: Class diagram of Pathfinder and related classes

In order to seek out its target, a character needs to be able to find its target. In order to do this, each scene has an underlying graph of nodes. The graph is invisible to the player, but the characters are all aware of it. It consists of a two-dimensional grid of equidistant nodes. Each node is a single point, and each node is marked as being occupied or not. If the node lies within the bounding box of an object, it is considered occupied. This allows characters to know which nodes are available and which are not. When the scene is first made, it checks every node against every object. Afterwards it ignores static objects and nodes occupied by static objects, since these will not move or change. Each game update afterwards, the graph will check the remaining nodes against all the moving objects on screen in order to update node-occupation.

To perform the actual path finding, we use a simple best-first method. We did not use a more complex algorithm like A* for a couple reasons. First, we were concerned that because of the prevalence of moving objects and a frequently changing graph, that we would need to rerun the algorithm too often. This would be expensive in terms of time. We also felt that since the maps are fairly open, that the best-first method would still allow the characters to navigate around other objects.

In order to seek out a target, a character first finds the nearest node to itself. Once it does, it gets a list of unoccupied adjacent nodes. It then compares the nodes against each other using a heuristic. Whichever node is the shortest distance away from the target location is considered to be the best node. The character then uses the seek behavior in the state machine to move towards the best node. Eventually, that node becomes the nearest node to the character, and the process starts again. Using this method, the character makes its way across the map, eventually reaching its target.

5.4 Menu System

Quest's menus all share a code base (`MenuScreen.java`) and certain general characteristics, including use of libGDX's Input Processor Interface, a spritebatch for drawing images to the screen, and various camera and display settings. The abstract class `MenuScreen` serves as a base class for the menus as well as a net for catching unneeded methods required by the Input Processor interface. The main commonality `MenuScreen` provides is the ability to turn a menu on and off through a simple method call. Turning a menu off simply means its draw method is skipped.

5.4.1 Main Menu Screens



Figure 5-12: The Main Menu

The main menu screens are the menus that exist wholly outside the playable parts of the game, bookending it in a way. These screens include the main menu itself, which acts as a portal to the game world, and the game over and game end screens, which provide closure to the gaming experience.

5.4.1.1 Main Menu

This is where the game starts. *Quest's* main menu screen gives the player the option to start a new game, open the level select screen, or quit the game, respectively from left to right in the Figure 5-12.

From a technical viewpoint, the new game button triggers the creation of the Game Screen object for the first level, the HUD, and various other handlers needed by the game. The load button activates the Load Menu Screen and passes input control on to it. The quit game button activates a confirmation dialogue, shown in Figure 5-13. If the player confirms their choice, the requested action is performed (in this case, the application terminates itself). If the choice is rejected the dialogue returns the player and input control to the previous menu.



Figure 5-13: The confirmation dialogue for exiting the game

5.4.1.2 Game Over



Figure 5-14: The Game Over Screen

Figure 5-14 appears when all of the player's characters have died. Like the main menu screen, the game over screen also has a background, a banner image, and three buttons. The new game button is replaced with a retry button, which, when clicked reloads the level the player died on. The load and quit game button function exactly like they do on the main menu.

5.4.1.3 End Game Screens



Figure 5-15: The "You Win!" or Victory Screen



Figure 5-16: The Credits Screen

Figure 5-15 and Figure 5-16 make their appearance after the player has beaten the final boss, and therefore, the game. The Victory Screen, seen in Figure 5-15, is displayed first. After five second and any input, the Victory Screen makes way for the Credits Screen, seen in Figure 5-16. The Credits Screen's options mirror those of the Main Menu; start a new game, load a specific level, or quit the game.

5.4.2 Level Select



Figure 5-17: The Level Select Screen

Quest has a total of eighteen levels. These are displayed in two three-by-three grids. The grids can be swapped out using the two arrows on the right and left edges of the screen. The grid shown above is the first of the two. Moving to the previous grid is therefore impossible, so

the arrow pointing left is grayed out, while the one pointing right is its normal color. If the second grid were displayed, the arrows' coloration would be reversed.

The contents of the grid are the visual representation of both the levels they present and the state of that level's cell. If a level's icon is grayed out, that level is locked and cannot be chosen by the player. To unlock a level, the player must beat it. A purple (or inverted color) level icon indicates that it has been selected by the player and will load when the player clicks the load button. The load button ignores input if no level has been selected. A green (or normal color) level icon indicates an available, but unselected level.

5.4.3 Pause Menu



Figure 5-18: The Pause Menu overlaid over the first level

Opened with either the 'p' or escape keys, the pause menu stops the game and offers the player the standard options seen in other parts of this section as well as a few ones unique to this menu. This can be seen in Figure 5-18.

The most prominent part of the pause menu is the progress journal. As the player advances through the game, the progress journal updates itself to show the player's current and all of the former and completed objectives. The progress journal is designed to work like an actual handwritten journal that one of the characters is keeping during their adventure. As such, the player can leaf through the journal up to the page on the current objective (written in red; completed objectives are written in black). As more and more objectives are completed, the number of pages in the journal increases.

Arrayed in two columns under the progress journal are four buttons. The load button functions as it does in previous mentions. The main menu button returns the player to the main menu and destroys any progress made since the start of the level. The restart button resets the level. Finally, the resume button deactivates the pause menu and un-pauses the game (the same effect can be achieved by pressing the escape or 'p' keys).

5.5 Scene Creation

The game screen presented to the player by *Quest* is made from a combination of a background and many different types of objects. When a scene is first created, it uses a text file to initialize itself. The text file is formatted in a particular way that the scene can read it, and know what assets to use and where to place them.

The level text files specify the background image file to use for the level by stating the file's internal path. After the background, the position and type of every art asset preset in the level is listed; this includes nonmoving objects like trees, fences, and flower beds and movable objects like the player and enemy characters. When it comes to the movable game objects, their location changes throughout the level; the location set by the text document is merely the starting location in these cases.

The format of the lines pertaining to the placement of objects lists a descriptor of the type of object to be placed and the x/y coordinates of said object's starting position. These coordinates are based in a four-quadrant coordinate system, where the origin is the center of the screen and the edges are denoted as either 0.5 or -0.5. The values are scaled to stretch across the screen, no matter its pixel size.

The levels were prone to frequent changes, so hard coding content would create large amounts of overhead and make the game more difficult to expand. This is avoided by creating methods to parse and interpret text.

5.6 The HUD and Menu Systems

The back-end of scene building involves hard coding the values for asset type and placement. At first, this might seem slightly questionable, however, menu compensation rarely changes once defined, so creating the architecture to read in menu set-ups would actually be less cost effective than straight up hard coding asset placement, appearance, and size.

The appearance of a menu is dependent on various internal variables, which decide whether or not certain assets are drawn, where they are drawn, and the amount of space they occupy. By doing this, menus can be created and loaded once, at the beginning of the game and

then turned on and off as needed. If a menu is active, further manipulation of variables can change which images are displayed. For example, the progress journal has arrows on its left and right which allow the player to turn its pages. Each of these arrows has two versions; a normal, colored one and a grayscale one, shown in Figure 5-19.



Figure 5-19: Two arrows which the game can swap out

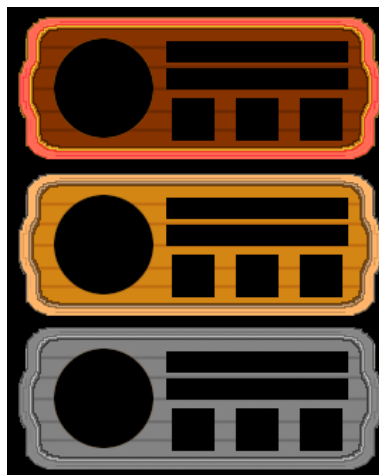


Figure 5-20: Different versions of the character frame. From top to bottom: alive, player-controlled, and dead

Figure 5-20 shows the different character frames. The frame itself changes color depending on the status of its character. When a character dies or is switched in or away from player control, the frame images displayed are switched out to reflect said state.

Figure 5-21 shows how the menus are created by stacking images one on top of the other. LibGDX's 2D graphics renderer works is that it draws images given to it in the order that they are received and if one image overlaps another, the older image will be obscured.



Figure 5-21: A demonstration of the layering of the character frame

6 Play-Testing

Play-testing and balancing can often be the most time-consuming part of developing a game. We started informal play-testing early in the process. This allowed us to get general feedback about major issues with our game. Later on we began doing more formal play-testing, where we gave our play testers a questionnaire to fill out.

6.1 Informal Play-Testing

Informal play-testing began after we implemented enemy behavior. We found testers through connections with a group on campus. The testers were mostly acquaintances of certain members of our team. Most of the testers were not gamers, but a few were. In total, we had eight individuals who tested our game during this part of the process.

The play-tests were held in the apartment of our producer. Upon arrival, the testers were sat down in front of the game and given instructions on how to play. This included a general description of the game, the game's controls, and a directive to play until they completed all of the existing levels or decided to quit. While they played, we observed their play and looked for any obvious bugs or problems. After they had finished playing, we asked them what they liked about the game and what they did not.

Although we found multiple bugs during this play-testing, we had difficulty replicating them on the computers of the rest of our team. Some improvements that came out of this were fixes for the rogue's artificial intelligence, additional health for the warrior, and the ability to skip through conversations.

6.2 Formal-Play-Testing

We decided that we would need a more formal method of testing our game. Our producer put out a call for testers on Facebook and received a number of replies. The majority of testers were not gamers, but two of them were. In total, we had five people respond during this phase of testing.

Two of the testers happened to be on campus and were able to play the game at the same location as our informal testers. The others were given a link to access a playable version of the game online. The ones that were on campus were given verbal instructions on how to play and directly observed while playing. The ones that were away were given written instructions instead. In both instances the producer was readily available and all testers were encouraged to ask questions if confused. Following their play-through, they were given a questionnaire to fill out. See Appendix A and B for instructions and the full questionnaire.

6.2.1 Statistics

The questionnaire held 12 questions. Of the 12, 10 were relevant data. We included question 11 in hopes that we would find a pattern in the games enjoyed by testers that rated our game similarly, but we were unable to collect enough data to make any valid conclusions. The last question was to document any bugs that the player encountered.

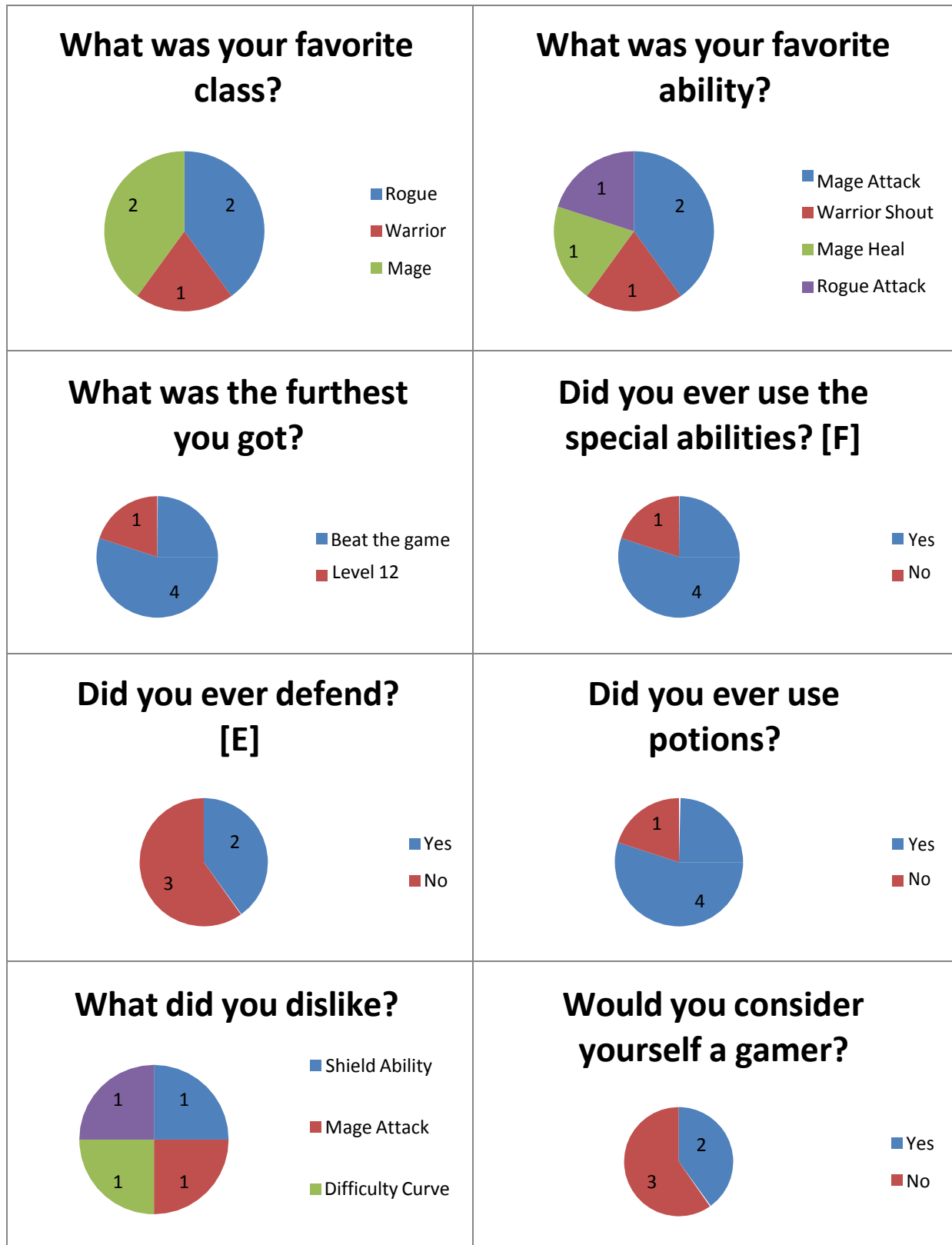


Figure 6-1: Graphical Representation of Player Feedback

6.3 Analysis

Although such a small sample is not statically meaningful, we found that the people who liked the game more were those who did not consider themselves gamers. These were the three that rated the game with 4 and 5 of 6. The gamers rated the game at 2 and 3 of 6. We also determined that most of the players were not using the defend abilities. We did conclude that we had a fairly balanced team of three, without any character as the obvious favorite, which was one of the goals for our game. We also determined that of the abilities, the rogue's smoke bomb, the warrior's attack, and all three defend abilities were not popular. Unfortunately, we ran out of time before we could find a way to get the players to take advantage of these abilities more. Some of the players did use the abilities, but we never forced them into a situation where they had to. If we had the time, perhaps we could have created levels where the goal is not to defeat all the enemies, but instead to survive for a certain period of time. Maybe in a situation such as that, the players would have used the defend ability more. The warrior's attack was a balancing problem that we tried to overcome. We tweaked it a few times, but it was hard to find the balance for such a short range without it doing too much damage. We did not want his attack to be a one-hit kill, but every time we changed it, we either made it too powerful or too weak. We didn't have the time to find a balance in this as well.

7 Post-Mortem

We overcame many challenges while developing *Quest*. Although the process was often difficult, the results have been rewarding and we have learned some valuable lessons along the way.

7.1 What Went Right

Overall, our team communicated quite well. Four of the team members lived next door to one another, so when problems arose another team member was easily available to offer help. On top of that, we had plenty of time during the week scheduled to work on the project. These weekly meetings were held in an environment conducive to working. The benefit of this was that we could be more disciplined and it kept us away from distractions.

We began the project with a large scope, but quickly realized that it would not be practical to complete in the time allotted with a team of five. We started cutting unnecessary elements very early in the process, and continued to do this throughout the project. We were careful not to cut things that would severely alter the core concept of our game, which was decided early on.

Although libGDX took some getting used to, it provided the freedom to develop the game our own way. Because libGDX was more of a framework than a true engine, it did not restrict us as much as some true engines might. It also provided community support and documentation that we could take advantage of when we ran into issues.

We chose to use a Subversion plugin for Eclipse for our version control. Our repository was hosted on TeamForge, a WPI project hosting website. Although version control can often become problematic, we never encountered any serious issues. Any small issues we encountered were easy to overcome. It was reliable, and given the choice we would definitely use it again.

7.2 Challenges Overcome

One major challenge we overcame was learning the proper discipline to maintain self-imposed deadlines. It took us longer than it should have to find a good workflow to stay on schedule. If we were to do a project like this again, we would come up with a clearly defined plan much earlier in the process and enforce it. One of the biggest problems we had was that there were no clear consequences of falling behind our schedule. Self-motivation is important to a project such as this and is something that we should have fostered in ourselves earlier on. It was already late by the time we recognized this, but we were still able to complete the project to a satisfying level of quality in time.

Although libGDX did provide us with a lot of freedom, it also meant we had to implement a lot of basic features that could have been provided for us with another engine. This took up a large amount of our time early on in the process, leaving us less time to implement the more important features of our project. We also had to learn the nuances of a completely new framework before we could begin adding features to the game.

7.3 Lessons Learned

The first lesson we learned was to plan the project early. It is very important to make sure the plan is clear, and everyone understands it. It is also important to choose development tools wisely. A development team should make sure everyone knows how to use them before they begin building anything. The summer is very useful for finalizing plans and getting to know the tools. Managing the project's scope is also essential. It is okay to cut features, so long as there is still an enjoyable product left at the end.

8 Conclusion

Our work over the past year has resulted in a game that is a unique combination of strategy and action. *Quest* is an easy-to-learn, simple-to-play 2D role-playing game. There are a total of 18 unique levels, and despite the simple controls and interface, each one requires tactical thinking to progress. It also has replay value, since there can be multiple effective strategies and play styles. Each of the three characters has a set of unique abilities. The player is able to switch between the warrior, mage, and rogue to take advantage of their different qualities to defeat enemies.

A significant number of artistic assets and technical features were made by the team. The game contains approximately 300 animations and a large number of static images. We created an entire system of artificial intelligence consisting of goal driven behavior and state machines, as well as an entire menu system and complex Heads Up Display. Testing helped us to greatly improve these design and technical features.

Quest can be played on any personal computer, whether it is running a Windows, Macintosh, or Linux operating system. It can be downloaded from our website questgame-mqp.weebly.com. All it requires is a keyboard and a mouse or touchpad in order to play and enjoy.

Building an entire game in the course of a year is quite an accomplishment. Although we made mistakes and faced challenges along the way, our team came together and created a product to be proud of.

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Appendix A - Instructions on how to play:

[WASD] to move the character.

[1] to use health potion

[2] to use stamina potion

[F] to use the character's special ability

[E] to defend

[Tab] to switch characters

Left click to attack.

Appendix B - Questionnaire

Name:

1. What was your favorite class?
2. Favorite Ability?
3. What was the furthest you got?
4. Did you ever use special abilities? (F)
5. Did you ever defend? (E)
6. Did you use potions?
7. On a scale of 1-6, how much did you enjoy the game?
8. What did you like about the game?
9. What did you dislike?
10. Would you consider yourself a gamer?
11. If so, what types of games do you play?
12. What problems did you encounter?

Appendix C- Asset List

File Name	Image Size (pixels)	Category	Frame X of Y	Artist
CreditsBG.png	512 x 512	Background	1 of 1	Sam
League of Awesomeness.png	1024 x 128	Display	1 of 1	Sam
Quest.png	256 x 128	Display	1 of 1	Sam
TitleScreen.png	512 x 512	Game Screen	1 of 1	Sam
VictoryScreen.png	512 x 512	Game Screen	1 of 1	Sam
Mage.png	256 x 256	HUD	1 of 1	Sam
Rogue.png	256 x 256	HUD	1 of 1	Sam
Warrior.png	256 x 256	HUD	1 of 1	Sam
explosion_01.png	128 x 128	Character	1 of 7	Sam
explosion_02.png	128 x 128	Character	2 of 7	Sam
explosion_03.png	128 x 128	Character	3 of 7	Sam
explosion_04.png	128 x 128	Character	4 of 7	Sam
explosion_05.png	128 x 128	Character	5 of 7	Sam
explosion_06.png	128 x 128	Character	6 of 7	Sam
explosion_07.png	128 x 128	Character	7 of 7	Sam
heal_01.png	64 x 64	Character	1 of 5	Sam
heal_02.png	64 x 64	Character	2 of 5	Sam
heal_03.png	64 x 64	Character	3 of 5	Sam
heal_04.png	64 x 64	Character	4 of 5	Sam
heal_05.png	64 x 64	Character	5 of 5	Sam
mage_back_01.png	64 x 64	Character	1 of 8	Sam
mage_back_02.png	64 x 64	Character	2 of 8	Sam
mage_back_03.png	64 x 64	Character	3 of 8	Sam
mage_back_04.png	64 x 64	Character	4 of 8	Sam
mage_back_05.png	64 x 64	Character	5 of 8	Sam
mage_back_06.png	64 x 64	Character	6 of 8	Sam
mage_back_07.png	64 x 64	Character	7 of 8	Sam
mage_back_08.png	64 x 64	Character	8 of 8	Sam
mage_back_attack_01.png	64 x 64	Character	1 of 3	Sam
mage_back_attack_02.png	64 x 64	Character	2 of 3	Sam
mage_back_attack_03.png	64 x 64	Character	3 of 3	Sam
mage_back_dead.png	64 x 64	Character	1 of 1	Sam
mage_back_dying_01.png	64 x 64	Character	1 of 2	Sam
mage_back_dying_02.png	64 x 64	Character	2 of 2	Sam
mage_back_heal_01.png	64 x 64	Character	1 of 5	Sam

mage_back_heal_02.png	64 x 64	Character	2 of 5	Sam
mage_back_heal_03.png	64 x 64	Character	3 of 5	Sam
mage_back_heal_04.png	64 x 64	Character	4 of 5	Sam
mage_back_heal_05.png	64 x 64	Character	5 of 5	Sam
mage_back_pain.png	64 x 64	Character	1 of 1	Sam
mage_back_potion_01.png	64 x 64	Character	1 of 3	Sam
mage_back_potion_02.png	64 x 64	Character	2 of 3	Sam
mage_back_potion_03.png	64 x 64	Character	3 of 3	Sam
mage_back_revive_01.png	64 x 64	Character	1 of 2	Sam
mage_back_revive_02.png	64 x 64	Character	2 of 2	Sam
mage_back_shield_01.png	64 x 64	Character	1 of 7	Sam
mage_back_shield_02.png	64 x 64	Character	2 of 7	Sam
mage_back_shield_03.png	64 x 64	Character	3 of 7	Sam
mage_back_shield_04.png	64 x 64	Character	4 of 7	Sam
mage_back_shield_05.png	64 x 64	Character	5 of 7	Sam
mage_back_shield_06.png	64 x 64	Character	6 of 7	Sam
mage_back_shield_07.png	64 x 64	Character	7 of 7	Sam
mage_back_stand_01.png	64 x 64	Character	1 of 2	Sam
mage_back_stand_02.png	64 x 64	Character	2 of 2	Sam
mage_front_01.png	64 x 64	Character	1 of 8	Sam
mage_front_02.png	64 x 64	Character	2 of 8	Sam
mage_front_03.png	64 x 64	Character	3 of 8	Sam
mage_front_04.png	64 x 64	Character	4 of 8	Sam
mage_front_05.png	64 x 64	Character	5 of 8	Sam
mage_front_06.png	64 x 64	Character	6 of 8	Sam
mage_front_07.png	64 x 64	Character	7 of 8	Sam
mage_front_08.png	64 x 64	Character	8 of 8	Sam
mage_front_attack_01.png	64 x 64	Character	1 of 3	Sam
mage_front_attack_02.png	64 x 64	Character	2 of 3	Sam
mage_front_attack_03.png	64 x 64	Character	3 of 3	Sam
mage_front_dead.png	64 x 64	Character	1 of 1	Sam
mage_front_dying_01.png	64 x 64	Character	1 of 2	Sam
mage_front_dying_02.png	64 x 64	Character	2 of 2	Sam
mage_front_heal_01.png	64 x 64	Character	1 of 5	Sam
mage_front_heal_02.png	64 x 64	Character	2 of 5	Sam
mage_front_heal_03.png	64 x 64	Character	3 of 5	Sam
mage_front_heal_04.png	64 x 64	Character	4 of 5	Sam
mage_front_heal_05.png	64 x 64	Character	5 of 5	Sam
mage_front_pain.png	64 x 64	Character	1 of 1	Sam
mage_front_potion_01.png	64 x 64	Character	1 of 3	Sam
mage_front_potion_02.png	64 x 64	Character	2 of 3	Sam
mage_front_potion_03.png	64 x 64	Character	3 of 3	Sam
mage_front_revive_01.png	64 x 64	Character	1 of 2	Sam
mage_front_revive_02.png	64 x 64	Character	2 of 2	Sam
mage_front_shield_01.png	64 x 64	Character	1 of 7	Sam
mage_front_shield_02.png	64 x 64	Character	2 of 7	Sam
mage_front_shield_03.png	64 x 64	Character	3 of 7	Sam

mage_front_shield_04.png	64 x 64	Character	4 of 7	Sam
mage_front_shield_05.png	64 x 64	Character	5 of 7	Sam
mage_front_shield_06.png	64 x 64	Character	6 of 7	Sam
mage_front_shield_07.png	64 x 64	Character	7 of 7	Sam
mage_front_stand_01.png	64 x 64	Character	1 of 2	Sam
mage_front_stand_02.png	64 x 64	Character	2 of 2	Sam
mage_left_01.png	64 x 64	Character	1 of 8	Sam
mage_left_02.png	64 x 64	Character	2 of 8	Sam
mage_left_03.png	64 x 64	Character	3 of 8	Sam
mage_left_04.png	64 x 64	Character	4 of 8	Sam
mage_left_05.png	64 x 64	Character	5 of 8	Sam
mage_left_06.png	64 x 64	Character	6 of 8	Sam
mage_left_07.png	64 x 64	Character	7 of 8	Sam
mage_left_08.png	64 x 64	Character	8 of 8	Sam
mage_left_attack_01.png	64 x 64	Character	1 of 3	Sam
mage_left_attack_02.png	64 x 64	Character	2 of 3	Sam
mage_left_attack_03.png	64 x 64	Character	3 of 3	Sam
mage_left_dead.png	64 x 64	Character	1 of 1	Sam
mage_left_dying_01.png	64 x 64	Character	1 of 2	Sam
mage_left_dying_02.png	64 x 64	Character	2 of 2	Sam
mage_left_heal_01.png	64 x 64	Character	1 of 5	Sam
mage_left_heal_02.png	64 x 64	Character	2 of 5	Sam
mage_left_heal_03.png	64 x 64	Character	3 of 5	Sam
mage_left_heal_04.png	64 x 64	Character	4 of 5	Sam
mage_left_heal_05.png	64 x 64	Character	5 of 5	Sam
mage_left_pain.png	64 x 64	Character	1 of 1	Sam
mage_left_potion_01.png	64 x 64	Character	1 of 3	Sam
mage_left_potion_02.png	64 x 64	Character	2 of 3	Sam
mage_left_potion_03.png	64 x 64	Character	3 of 3	Sam
mage_left_revive_01.png	64 x 64	Character	1 of 2	Sam
mage_left_revive_02.png	64 x 64	Character	2 of 2	Sam
mage_left_shield_01.png	64 x 64	Character	1 of 7	Sam
mage_left_shield_02.png	64 x 64	Character	2 of 7	Sam
mage_left_shield_03.png	64 x 64	Character	3 of 7	Sam
mage_left_shield_04.png	64 x 64	Character	4 of 7	Sam
mage_left_shield_05.png	64 x 64	Character	5 of 7	Sam
mage_left_shield_06.png	64 x 64	Character	6 of 7	Sam
mage_left_shield_07.png	64 x 64	Character	7 of 7	Sam
mage_left_stand_01.png	64 x 64	Character	1 of 2	Sam
mage_left_stand_02.png	64 x 64	Character	2 of 2	Sam
mage_right_01.png	64 x 64	Character	1 of 8	Sam
mage_right_02.png	64 x 64	Character	2 of 8	Sam
mage_right_03.png	64 x 64	Character	3 of 8	Sam
mage_right_04.png	64 x 64	Character	4 of 8	Sam
mage_right_05.png	64 x 64	Character	5 of 8	Sam
mage_right_06.png	64 x 64	Character	6 of 8	Sam
mage_right_07.png	64 x 64	Character	7 of 8	Sam
mage_right_08.png	64 x 64	Character	8 of 8	Sam

mage_right_attack_01.png	64 x 64	Character	1 of 3	Sam
mage_right_attack_02.png	64 x 64	Character	2 of 3	Sam
mage_right_attack_03.png	64 x 64	Character	3 of 3	Sam
mage_right_dead.png	64 x 64	Character	1 of 1	Sam
mage_right_dying_01.png	64 x 64	Character	1 of 2	Sam
mage_right_dying_02.png	64 x 64	Character	2 of 2	Sam
mage_right_heal_01.png	64 x 64	Character	1 of 5	Sam
mage_right_heal_02.png	64 x 64	Character	2 of 5	Sam
mage_right_heal_03.png	64 x 64	Character	3 of 5	Sam
mage_right_heal_04.png	64 x 64	Character	4 of 5	Sam
mage_right_heal_05.png	64 x 64	Character	5 of 5	Sam
mage_right_pain.png	64 x 64	Character	1 of 1	Sam
mage_right_potion_01.png	64 x 64	Character	1 of 3	Sam
mage_right_potion_02.png	64 x 64	Character	2 of 3	Sam
mage_right_potion_03.png	64 x 64	Character	3 of 3	Sam
mage_right_revive_01.png	64 x 64	Character	1 of 2	Sam
mage_right_revive_02.png	64 x 64	Character	2 of 2	Sam
mage_right_shield_01.png	64 x 64	Character	1 of 7	Sam
mage_right_shield_02.png	64 x 64	Character	2 of 7	Sam
mage_right_shield_03.png	64 x 64	Character	3 of 7	Sam
mage_right_shield_04.png	64 x 64	Character	4 of 7	Sam
mage_right_shield_05.png	64 x 64	Character	5 of 7	Sam
mage_right_shield_06.png	64 x 64	Character	6 of 7	Sam
mage_right_shield_07.png	64 x 64	Character	7 of 7	Sam
mage_right_stand_01.png	64 x 64	Character	1 of 2	Sam
mage_right_stand_02.png	64 x 64	Character	2 of 2	Sam
Arrow.png	64 x 16	Character	1 of 1	Sam
poison_cloud_01.png	256 x 256	Character	1 of 6	Sam
poison_cloud_02.png	256 x 256	Character	2 of 6	Sam
poison_cloud_03.png	256 x 256	Character	3 of 6	Sam
poison_cloud_04.png	256 x 256	Character	4 of 6	Sam
poison_cloud_05.png	256 x 256	Character	5 of 6	Sam
poison_cloud_06.png	256 x 256	Character	6 of 6	Sam
rogue_back_01.png	64 x 64	Character	1 of 8	Sam
rogue_back_02.png	64 x 64	Character	2 of 8	Sam
rogue_back_03.png	64 x 64	Character	3 of 8	Sam
rogue_back_04.png	64 x 64	Character	4 of 8	Sam
rogue_back_05.png	64 x 64	Character	5 of 8	Sam
rogue_back_06.png	64 x 64	Character	6 of 8	Sam
rogue_back_07.png	64 x 64	Character	7 of 8	Sam
rogue_back_08.png	64 x 64	Character	8 of 8	Sam
rogue_back_attack_01.png	64 x 64	Character	1 of 3	Sam
rogue_back_attack_02.png	64 x 64	Character	2 of 3	Sam
rogue_back_attack_03.png	64 x 64	Character	3 of 3	Sam
rogue_back_cloaked.png	64 x 64	Character	1 of 1	Sam
rogue_back_cloaking_01.png	64 x 64	Character	1 of 4	Sam
rogue_back_cloaking_02.png	64 x 64	Character	2 of 4	Sam
rogue_back_cloaking_03.png	64 x 64	Character	3 of 4	Sam

rogue_back_cloaking_04.png	64 x 64	Character	4 of 4	Sam
rogue_back_dead.png	64 x 64	Character	1 of 1	Sam
rogue_back_dying_01.png	64 x 64	Character	1 of 3	Sam
rogue_back_dying_02.png	64 x 64	Character	2 of 3	Sam
rogue_back_dying_03.png	64 x 64	Character	3 of 3	Sam
rogue_back_pain.png	64 x 64	Character	1 of 1	Sam
rogue_back_potion_01.png	64 x 64	Character	1 of 2	Sam
rogue_back_potion_02.png	64 x 64	Character	2 of 2	Sam
rogue_back_reviving_01.png	64 x 64	Character	1 of 3	Sam
rogue_back_reviving_02.png	64 x 64	Character	2 of 3	Sam
rogue_back_reviving_03.png	64 x 64	Character	3 of 3	Sam
rogue_back_special_01.png	64 x 64	Character	1 of 3	Sam
rogue_back_special_02.png	64 x 64	Character	2 of 3	Sam
rogue_back_special_03.png	64 x 64	Character	3 of 3	Sam
rogue_back_stand_01.png	64 x 64	Character	1 of 2	Sam
rogue_back_stand_02.png	64 x 64	Character	2 of 2	Sam
rogue_front_01.png	64 x 64	Character	1 of 8	Sam
rogue_front_02.png	64 x 64	Character	2 of 8	Sam
rogue_front_03.png	64 x 64	Character	3 of 8	Sam
rogue_front_04.png	64 x 64	Character	4 of 8	Sam
rogue_front_05.png	64 x 64	Character	5 of 8	Sam
rogue_front_06.png	64 x 64	Character	6 of 8	Sam
rogue_front_07.png	64 x 64	Character	7 of 8	Sam
rogue_front_08.png	64 x 64	Character	8 of 8	Sam
rogue_front_attack_01.png	64 x 64	Character	1 of 3	Sam
rogue_front_attack_02.png	64 x 64	Character	2 of 3	Sam
rogue_front_attack_03.png	64 x 64	Character	3 of 3	Sam
rogue_front_cloaked.png	64 x 64	Character	1 of 1	Sam
rogue_front_cloaking_01.png	64 x 64	Character	1 of 4	Sam
rogue_front_cloaking_02.png	64 x 64	Character	2 of 4	Sam
rogue_front_cloaking_03.png	64 x 64	Character	3 of 4	Sam
rogue_front_cloaking_04.png	64 x 64	Character	4 of 4	Sam
rogue_front_dead.png	64 x 64	Character	1 of 1	Sam
rogue_front_dying_01.png	64 x 64	Character	1 of 3	Sam
rogue_front_dying_02.png	64 x 64	Character	2 of 3	Sam
rogue_front_dying_03.png	64 x 64	Character	3 of 3	Sam
rogue_front_pain.png	64 x 64	Character	1 of 1	Sam
rogue_front_potion_01.png	64 x 64	Character	1 of 2	Sam
rogue_front_potion_02.png	64 x 64	Character	2 of 2	Sam
rogue_front_reviving_01.png	64 x 64	Character	1 of 3	Sam
rogue_front_reviving_02.png	64 x 64	Character	2 of 3	Sam
rogue_front_reviving_03.png	64 x 64	Character	3 of 3	Sam
rogue_front_special_01.png	64 x 64	Character	1 of 3	Sam
rogue_front_special_02.png	64 x 64	Character	2 of 3	Sam
rogue_front_special_03.png	64 x 64	Character	3 of 3	Sam
rogue_front_stand_01.png	64 x 64	Character	1 of 2	Sam
rogue_front_stand_02.png	64 x 64	Character	2 of 2	Sam
rogue_left_01.png	64 x 64	Character	1 of 8	Sam

rogue_left_02.png	64 x 64	Character	2 of 8	Sam
rogue_left_03.png	64 x 64	Character	3 of 8	Sam
rogue_left_04.png	64 x 64	Character	4 of 8	Sam
rogue_left_05.png	64 x 64	Character	5 of 8	Sam
rogue_left_06.png	64 x 64	Character	6 of 8	Sam
rogue_left_07.png	64 x 64	Character	7 of 8	Sam
rogue_left_08.png	64 x 64	Character	8 of 8	Sam
rogue_left_attack_01.png	64 x 64	Character	1 of 3	Sam
rogue_left_attack_02.png	64 x 64	Character	2 of 3	Sam
rogue_left_attack_03.png	64 x 64	Character	3 of 3	Sam
rogue_left_cloaked.png	64 x 64	Character	1 of 1	Sam
rogue_left_cloaking_01.png	64 x 64	Character	1 of 4	Sam
rogue_left_cloaking_02.png	64 x 64	Character	2 of 4	Sam
rogue_left_cloaking_03.png	64 x 64	Character	3 of 4	Sam
rogue_left_cloaking_04.png	64 x 64	Character	4 of 4	Sam
rogue_left_dead.png	64 x 64	Character	1 of 1	Sam
rogue_left_dying_01.png	64 x 64	Character	1 of 3	Sam
rogue_left_dying_02.png	64 x 64	Character	2 of 3	Sam
rogue_left_dying_03.png	64 x 64	Character	3 of 3	Sam
rogue_left_pain.png	64 x 64	Character	1 of 1	Sam
rogue_left_potion_01.png	64 x 64	Character	1 of 2	Sam
rogue_left_potion_02.png	64 x 64	Character	2 of 2	Sam
rogue_left_reviving_01.png	64 x 64	Character	1 of 3	Sam
rogue_left_reviving_02.png	64 x 64	Character	2 of 3	Sam
rogue_left_reviving_03.png	64 x 64	Character	3 of 3	Sam
rogue_left_special_01.png	64 x 64	Character	1 of 3	Sam
rogue_left_special_02.png	64 x 64	Character	2 of 3	Sam
rogue_left_special_03.png	64 x 64	Character	3 of 3	Sam
rogue_left_stand_01.png	64 x 64	Character	1 of 2	Sam
rogue_left_stand_02.png	64 x 64	Character	2 of 2	Sam
rogue_right_01.png	64 x 64	Character	1 of 8	Sam
rogue_right_02.png	64 x 64	Character	2 of 8	Sam
rogue_right_03.png	64 x 64	Character	3 of 8	Sam
rogue_right_04.png	64 x 64	Character	4 of 8	Sam
rogue_right_05.png	64 x 64	Character	5 of 8	Sam
rogue_right_06.png	64 x 64	Character	6 of 8	Sam
rogue_right_07.png	64 x 64	Character	7 of 8	Sam
rogue_right_08.png	64 x 64	Character	8 of 8	Sam
rogue_right_attack_01.png	64 x 64	Character	1 of 3	Sam
rogue_right_attack_02.png	64 x 64	Character	2 of 3	Sam
rogue_right_attack_03.png	64 x 64	Character	3 of 3	Sam
rogue_right_cloaked.png	64 x 64	Character	1 of 1	Sam
rogue_right_cloaking_01.png	64 x 64	Character	1 of 4	Sam
rogue_right_cloaking_02.png	64 x 64	Character	2 of 4	Sam
rogue_right_cloaking_03.png	64 x 64	Character	3 of 4	Sam
rogue_right_cloaking_04.png	64 x 64	Character	4 of 4	Sam
rogue_right_dead.png	64 x 64	Character	1 of 1	Sam
rogue_right_dying_01.png	64 x 64	Character	1 of 3	Sam

rogue_right_dying_02.png	64 x 64	Character	2 of 3	Sam
rogue_right_dying_03.png	64 x 64	Character	3 of 3	Sam
rogue_right_pain.png	64 x 64	Character	1 of 1	Sam
rogue_right_potion_01.png	64 x 64	Character	1 of 2	Sam
rogue_right_potion_02.png	64 x 64	Character	2 of 2	Sam
rogue_right_reviving_01.png	64 x 64	Character	1 of 3	Sam
rogue_right_reviving_02.png	64 x 64	Character	2 of 3	Sam
rogue_right_reviving_03.png	64 x 64	Character	3 of 3	Sam
rogue_right_special_01.png	64 x 64	Character	1 of 3	Sam
rogue_right_special_02.png	64 x 64	Character	2 of 3	Sam
rogue_right_special_03.png	64 x 64	Character	3 of 3	Sam
rogue_right_stand_01.png	64 x 64	Character	1 of 2	Sam
rogue_right_stand_02.png	64 x 64	Character	2 of 2	Sam
warrior_back_01.png	64 x 64	Character	1 of 8	Sam
warrior_back_02.png	64 x 64	Character	2 of 8	Sam
warrior_back_03.png	64 x 64	Character	3 of 8	Sam
warrior_back_04.png	64 x 64	Character	4 of 8	Sam
warrior_back_05.png	64 x 64	Character	5 of 8	Sam
warrior_back_06.png	64 x 64	Character	6 of 8	Sam
warrior_back_07.png	64 x 64	Character	7 of 8	Sam
warrior_back_08.png	64 x 64	Character	8 of 8	Sam
warrior_back_attack_01.png	64 x 64	Character	1 of 2	Sam
warrior_back_attack_02.png	64 x 64	Character	2 of 2	Sam
warrior_back_block_01.png	64 x 64	Character	1 of 2	Sam
warrior_back_block_02.png	64 x 64	Character	2 of 2	Sam
warrior_back_dead.png	64 x 64	Character	1 of 1	Sam
warrior_back_dying_01.png	64 x 64	Character	1 of 3	Sam
warrior_back_dying_02.png	64 x 64	Character	2 of 3	Sam
warrior_back_dying_03.png	64 x 64	Character	3 of 3	Sam
warrior_back_idle_01.png	64 x 64	Character	1 of 2	Sam
warrior_back_idle_02.png	64 x 64	Character	2 of 2	Sam
warrior_back_pain.png	64 x 64	Character	1 of 1	Sam
warrior_back_potion_01.png	64 x 64	Character	1 of 2	Sam
warrior_back_potion_02.png	64 x 64	Character	2 of 2	Sam
warrior_back_revive_01.png	64 x 64	Character	1 of 3	Sam
warrior_back_revive_02.png	64 x 64	Character	2 of 3	Sam
warrior_back_revive_03.png	64 x 64	Character	3 of 3	Sam
warrior_back_yell_01.png	64 x 64	Character	1 of 2	Sam
warrior_back_yell_02.png	64 x 64	Character	2 of 2	Sam
warrior_front_01.png	64 x 64	Character	1 of 8	Sam
warrior_front_02.png	64 x 64	Character	2 of 8	Sam
warrior_front_03.png	64 x 64	Character	3 of 8	Sam
warrior_front_04.png	64 x 64	Character	4 of 8	Sam
warrior_front_05.png	64 x 64	Character	5 of 8	Sam
warrior_front_06.png	64 x 64	Character	6 of 8	Sam
warrior_front_07.png	64 x 64	Character	7 of 8	Sam
warrior_front_08.png	64 x 64	Character	8 of 8	Sam
warrior_front_attack_01.png	64 x 64	Character	1 of 2	Sam

warrior_front_attack_02.png	64 x 64	Character	2 of 2	Sam
warrior_front_block_01.png	64 x 64	Character	1 of 2	Sam
warrior_front_block_02.png	64 x 64	Character	2 of 2	Sam
warrior_front_dead.png	64 x 64	Character	1 of 1	Sam
warrior_front_dying_01.png	64 x 64	Character	1 of 3	Sam
warrior_front_dying_02.png	64 x 64	Character	2 of 3	Sam
warrior_front_dying_03.png	64 x 64	Character	3 of 3	Sam
warrior_front_idle_01.png	64 x 64	Character	1 of 2	Sam
warrior_front_idle_02.png	64 x 64	Character	2 of 2	Sam
warrior_front_pain.png	64 x 64	Character	1 of 1	Sam
warrior_front_potion_01.png	64 x 64	Character	1 of 2	Sam
warrior_front_potion_02.png	64 x 64	Character	2 of 2	Sam
warrior_front_revive_01.png	64 x 64	Character	1 of 3	Sam
warrior_front_revive_02.png	64 x 64	Character	2 of 3	Sam
warrior_front_revive_03.png	64 x 64	Character	3 of 3	Sam
warrior_front_yell_01.png	64 x 64	Character	1 of 2	Sam
warrior_front_yell_02.png	64 x 64	Character	2 of 2	Sam
warrior_left_01.png	64 x 64	Character	1 of 8	Sam
warrior_left_02.png	64 x 64	Character	2 of 8	Sam
warrior_left_03.png	64 x 64	Character	3 of 8	Sam
warrior_left_04.png	64 x 64	Character	4 of 8	Sam
warrior_left_05.png	64 x 64	Character	5 of 8	Sam
warrior_left_06.png	64 x 64	Character	6 of 8	Sam
warrior_left_07.png	64 x 64	Character	7 of 8	Sam
warrior_left_08.png	64 x 64	Character	8 of 8	Sam
warrior_left_attack_01.png	64 x 64	Character	1 of 2	Sam
warrior_left_attack_02.png	64 x 64	Character	2 of 2	Sam
warrior_left_block_01.png	64 x 64	Character	1 of 2	Sam
warrior_left_block_02.png	64 x 64	Character	2 of 2	Sam
warrior_left_dead.png	64 x 64	Character	1 of 1	Sam
warrior_left_dying_01.png	64 x 64	Character	1 of 3	Sam
warrior_left_dying_02.png	64 x 64	Character	2 of 3	Sam
warrior_left_dying_03.png	64 x 64	Character	3 of 3	Sam
warrior_left_idle_01.png	64 x 64	Character	1 of 2	Sam
warrior_left_idle_02.png	64 x 64	Character	2 of 2	Sam
warrior_left_pain.png	64 x 64	Character	1 of 1	Sam
warrior_left_potion_01.png	64 x 64	Character	1 of 2	Sam
warrior_left_potion_02.png	64 x 64	Character	2 of 2	Sam
warrior_left_revive_01.png	64 x 64	Character	1 of 3	Sam
warrior_left_revive_02.png	64 x 64	Character	2 of 3	Sam
warrior_left_revive_03.png	64 x 64	Character	3 of 3	Sam
warrior_left_yell_01.png	64 x 64	Character	1 of 2	Sam
warrior_left_yell_02.png	64 x 64	Character	2 of 2	Sam
warrior_right_01.png	64 x 64	Character	1 of 8	Sam
warrior_right_02.png	64 x 64	Character	2 of 8	Sam
warrior_right_03.png	64 x 64	Character	3 of 8	Sam
warrior_right_04.png	64 x 64	Character	4 of 8	Sam
warrior_right_05.png	64 x 64	Character	5 of 8	Sam

warrior_right_06.png	64 x 64	Character	6 of 8	Sam
warrior_right_07.png	64 x 64	Character	7 of 8	Sam
warrior_right_08.png	64 x 64	Character	8 of 8	Sam
warrior_right_attack_01.png	64 x 64	Character	1 of 2	Sam
warrior_right_attack_02.png	64 x 64	Character	2 of 2	Sam
warrior_right_block_01.png	64 x 64	Character	1 of 2	Sam
warrior_right_block_02.png	64 x 64	Character	2 of 2	Sam
warrior_right_dead.png	64 x 64	Character	1 of 1	Sam
warrior_right_dying_01.png	64 x 64	Character	1 of 3	Sam
warrior_right_dying_02.png	64 x 64	Character	2 of 3	Sam
warrior_right_dying_03.png	64 x 64	Character	3 of 3	Sam
warrior_right_idle_01.png	64 x 64	Character	1 of 2	Sam
warrior_right_idle_02.png	64 x 64	Character	2 of 2	Sam
warrior_right_pain.png	64 x 64	Character	1 of 1	Sam
warrior_right_potion_01.png	64 x 64	Character	1 of 2	Sam
warrior_right_potion_02.png	64 x 64	Character	2 of 2	Sam
warrior_right_revive_01.png	64 x 64	Character	1 of 3	Sam
warrior_right_revive_02.png	64 x 64	Character	2 of 3	Sam
warrior_right_revive_03.png	64 x 64	Character	3 of 3	Sam
warrior_right_yell_01.png	64 x 64	Character	1 of 2	Sam
warrior_right_yell_02.png	64 x 64	Character	2 of 2	Sam
dire_wolf_back_01.png	64 x 64	Enemy	1 of 10	Sam
dire_wolf_back_02.png	64 x 64	Enemy	2 of 10	Sam
dire_wolf_back_03.png	64 x 64	Enemy	3 of 10	Sam
dire_wolf_back_04.png	64 x 64	Enemy	4 of 10	Sam
dire_wolf_back_05.png	64 x 64	Enemy	5 of 10	Sam
dire_wolf_back_06.png	64 x 64	Enemy	6 of 10	Sam
dire_wolf_back_07.png	64 x 64	Enemy	7 of 10	Sam
dire_wolf_back_08.png	64 x 64	Enemy	8 of 10	Sam
dire_wolf_back_09.png	64 x 64	Enemy	9 of 10	Sam
dire_wolf_back_10.png	64 x 64	Enemy	10 of 10	Sam
dire_wolf_back_attack_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_back_attack_02.png	64 x 64	Enemy	2 of 2	Sam
dire_wolf_back_dead.png	64 x 64	Enemy	1 of 1	Sam
dire_wolf_back_dying_01.png	64 x 64	Enemy	1 of 4	Sam
dire_wolf_back_dying_02.png	64 x 64	Enemy	2 of 4	Sam
dire_wolf_back_dying_03.png	64 x 64	Enemy	3 of 4	Sam
dire_wolf_back_dying_04.png	64 x 64	Enemy	4 of 4	Sam
dire_wolf_back_idle_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_back_idle_02.png	64 x 64	Enemy	2 of 2	Sam
dire_wolf_back_pain.png	64 x 64	Enemy	1 of 1	Sam
dire_wolf_front_01.png	64 x 64	Enemy	1 of 10	Sam
dire_wolf_front_02.png	64 x 64	Enemy	2 of 10	Sam
dire_wolf_front_03.png	64 x 64	Enemy	3 of 10	Sam
dire_wolf_front_04.png	64 x 64	Enemy	4 of 10	Sam
dire_wolf_front_05.png	64 x 64	Enemy	5 of 10	Sam
dire_wolf_front_06.png	64 x 64	Enemy	6 of 10	Sam
dire_wolf_front_07.png	64 x 64	Enemy	7 of 10	Sam

dire_wolf_front_08.png	64 x 64	Enemy	8 of 10	Sam
dire_wolf_front_09.png	64 x 64	Enemy	9 of 10	Sam
dire_wolf_front_10.png	64 x 64	Enemy	10 of 10	Sam
dire_wolf_front_attack_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_front_attack_02.png	64 x 64	Enemy	2 of 2	Sam
dire_wolf_front_dead.png	64 x 64	Enemy	1 of 1	Sam
dire_wolf_front_dying_01.png	64 x 64	Enemy	1 of 4	Sam
dire_wolf_front_dying_02.png	64 x 64	Enemy	2 of 4	Sam
dire_wolf_front_dying_03.png	64 x 64	Enemy	3 of 4	Sam
dire_wolf_front_dying_04.png	64 x 64	Enemy	4 of 4	Sam
dire_wolf_front_idle_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_front_idle_02.png	64 x 64	Enemy	2 of 2	Sam
dire_wolf_front_pain.png	64 x 64	Enemy	1 of 1	Sam
dire_wolf_left_01.png	64 x 64	Enemy	1 of 10	Sam
dire_wolf_left_02.png	64 x 64	Enemy	2 of 10	Sam
dire_wolf_left_03.png	64 x 64	Enemy	3 of 10	Sam
dire_wolf_left_04.png	64 x 64	Enemy	4 of 10	Sam
dire_wolf_left_05.png	64 x 64	Enemy	5 of 10	Sam
dire_wolf_left_06.png	64 x 64	Enemy	6 of 10	Sam
dire_wolf_left_07.png	64 x 64	Enemy	7 of 10	Sam
dire_wolf_left_08.png	64 x 64	Enemy	8 of 10	Sam
dire_wolf_left_09.png	64 x 64	Enemy	9 of 10	Sam
dire_wolf_left_10.png	64 x 64	Enemy	10 of 10	Sam
dire_wolf_left_attack_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_left_attack_02g	64 x 64	Enemy	2 of 2	Sam
dire_wolf_left_dead.png	64 x 64	Enemy	1 of 1	Sam
dire_wolf_left_dying_01.png	64 x 64	Enemy	1 of 4	Sam
dire_wolf_left_dying_02.png	64 x 64	Enemy	2 of 4	Sam
dire_wolf_left_dying_03.png	64 x 64	Enemy	3 of 4	Sam
dire_wolf_left_dying_04.png	64 x 64	Enemy	4 of 4	Sam
dire_wolf_left_idle_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_left_idle_02.png	64 x 64	Enemy	2 of 2	Sam
dire_wolf_left_pain.png	64 x 64	Enemy	1 of 1	Sam
dire_wolf_right_01.png	64 x 64	Enemy	1 of 10	Sam
dire_wolf_right_02.png	64 x 64	Enemy	2 of 10	Sam
dire_wolf_right_03.png	64 x 64	Enemy	3 of 10	Sam
dire_wolf_right_04.png	64 x 64	Enemy	4 of 10	Sam
dire_wolf_right_05.png	64 x 64	Enemy	5 of 10	Sam
dire_wolf_right_06.png	64 x 64	Enemy	6 of 10	Sam
dire_wolf_right_07.png	64 x 64	Enemy	7 of 10	Sam
dire_wolf_right_08.png	64 x 64	Enemy	8 of 10	Sam
dire_wolf_right_09.png	64 x 64	Enemy	9 of 10	Sam
dire_wolf_right_10.png	64 x 64	Enemy	10 of 10	Sam
dire_wolf_right_attack_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_right_attack_02.png	64 x 64	Enemy	2 of 2	Sam
dire_wolf_right_dead.png	64 x 64	Enemy	1 of 1	Sam
dire_wolf_right_dying_01.png	64 x 64	Enemy	1 of 4	Sam
dire_wolf_right_dying_02.png	64 x 64	Enemy	2 of 4	Sam

dire_wolf_right_dying_03.png	64 x 64	Enemy	3 of 4	Sam
dire_wolf_right_dying_04.png	64 x 64	Enemy	4 of 4	Sam
dire_wolf_right_idle_01.png	64 x 64	Enemy	1 of 2	Sam
dire_wolf_right_idle_02.png	64 x 64	Enemy	2 of 2	Sam
dire_wolf_right_pain.png	64 x 64	Enemy	1 of 1	Sam
fighter_back_01.png	64 x 64	Enemy	1 of 8	Sam
fighter_back_02.png	64 x 64	Enemy	2 of 8	Sam
fighter_back_03.png	64 x 64	Enemy	3 of 8	Sam
fighter_back_04.png	64 x 64	Enemy	4 of 8	Sam
fighter_back_05.png	64 x 64	Enemy	5 of 8	Sam
fighter_back_06.png	64 x 64	Enemy	6 of 8	Sam
fighter_back_07.png	64 x 64	Enemy	7 of 8	Sam
fighter_back_08.png	64 x 64	Enemy	8 of 8	Sam
fighter_back_attack_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_back_attack_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_back_dead.png	64 x 64	Enemy	1 of 1	Sam
fighter_back_dying_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_back_dying_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_back_dying_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_back_idle_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_back_idle_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_back_potion_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_back_potion_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_back_revive_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_back_revive_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_back_revive_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_back_shield_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_back_shield_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_back_yell_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_back_yell_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_front_01.png	64 x 64	Enemy	1 of 8	Sam
fighter_front_02.png	64 x 64	Enemy	2 of 8	Sam
fighter_front_03.png	64 x 64	Enemy	3 of 8	Sam
fighter_front_04.png	64 x 64	Enemy	4 of 8	Sam
fighter_front_05.png	64 x 64	Enemy	5 of 8	Sam
fighter_front_06.png	64 x 64	Enemy	6 of 8	Sam
fighter_front_07.png	64 x 64	Enemy	7 of 8	Sam
fighter_front_08.png	64 x 64	Enemy	8 of 8	Sam
fighter_front_attack_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_front_attack_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_front_dead.png	64 x 64	Enemy	1 of 1	Sam
fighter_front_dying_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_front_dying_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_front_dying_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_front_idle_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_front_idle_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_front_potion_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_front_potion_02.png	64 x 64	Enemy	2 of 2	Sam

fighter_front_revive_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_front_revive_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_front_revive_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_front_shield_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_front_shield_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_front_yell_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_front_yell_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_left_01.png	64 x 64	Enemy	1 of 8	Sam
fighter_left_02.png	64 x 64	Enemy	2 of 8	Sam
fighter_left_03.png	64 x 64	Enemy	3 of 8	Sam
fighter_left_04.png	64 x 64	Enemy	4 of 8	Sam
fighter_left_05.png	64 x 64	Enemy	5 of 8	Sam
fighter_left_06.png	64 x 64	Enemy	6 of 8	Sam
fighter_left_07.png	64 x 64	Enemy	7 of 8	Sam
fighter_left_08.png	64 x 64	Enemy	8 of 8	Sam
fighter_left_attack_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_left_attack_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_left_dead.png	64 x 64	Enemy	1 of 1	Sam
fighter_left_dying_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_left_dying_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_left_dying_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_left_idle_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_left_idle_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_left_potion_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_left_potion_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_left_revive_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_left_revive_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_left_revive_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_left_shield_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_left_shield_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_left_yell_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_left_yell_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_right_01.png	64 x 64	Enemy	1 of 8	Sam
fighter_right_02.png	64 x 64	Enemy	2 of 8	Sam
fighter_right_03.png	64 x 64	Enemy	3 of 8	Sam
fighter_right_04.png	64 x 64	Enemy	4 of 8	Sam
fighter_right_05.png	64 x 64	Enemy	5 of 8	Sam
fighter_right_06.png	64 x 64	Enemy	6 of 8	Sam
fighter_right_07.png	64 x 64	Enemy	7 of 8	Sam
fighter_right_08.png	64 x 64	Enemy	8 of 8	Sam
fighter_right_attack_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_right_attack_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_right_dead.png	64 x 64	Enemy	1 of 1	Sam
fighter_right_dying_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_right_dying_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_right_dying_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_right_idle_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_right_idle_02.png	64 x 64	Enemy	2 of 2	Sam

fighter_right_potion_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_right_potion_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_right_revive_01.png	64 x 64	Enemy	1 of 3	Sam
fighter_right_revive_02.png	64 x 64	Enemy	2 of 3	Sam
fighter_right_revive_03.png	64 x 64	Enemy	3 of 3	Sam
fighter_right_shield_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_right_shield_02.png	64 x 64	Enemy	2 of 2	Sam
fighter_right_yell_01.png	64 x 64	Enemy	1 of 2	Sam
fighter_right_yell_02.png	64 x 64	Enemy	2 of 2	Sam
necro_explosion_01.png	128 x 128	Enemy	1 of 7	Sam
necro_explosion_02.png	128 x 128	Enemy	2 of 7	Sam
necro_explosion_03.png	128 x 128	Enemy	3 of 7	Sam
necro_explosion_04.png	128 x 128	Enemy	4 of 7	Sam
necro_explosion_05.png	128 x 128	Enemy	5 of 7	Sam
necro_explosion_06.png	128 x 128	Enemy	6 of 7	Sam
necro_explosion_07.png	128 x 128	Enemy	7 of 7	Sam
necro_back_01.png	64 x 64	Enemy	1 of 8	Sam
necro_back_02.png	64 x 64	Enemy	2 of 8	Sam
necro_back_03.png	64 x 64	Enemy	3 of 8	Sam
necro_back_04.png	64 x 64	Enemy	4 of 8	Sam
necro_back_05.png	64 x 64	Enemy	5 of 8	Sam
necro_back_06.png	64 x 64	Enemy	6 of 8	Sam
necro_back_07.png	64 x 64	Enemy	7 of 8	Sam
necro_back_08.png	64 x 64	Enemy	8 of 8	Sam
necro_back_attack_01.png	64 x 64	Enemy	1 of 3	Sam
necro_back_attack_02.png	64 x 64	Enemy	2 of 3	Sam
necro_back_attack_03.png	64 x 64	Enemy	3 of 3	Sam
necro_back_dead.png	64 x 64	Enemy	1 of 1	Sam
necro_back_dying_01.png	64 x 64	Enemy	1 of 3	Sam
necro_back_dying_02.png	64 x 64	Enemy	2 of 3	Sam
necro_back_dying_03.png	64 x 64	Enemy	3 of 3	Sam
necro_back_idle_01.png	64 x 64	Enemy	1 of 2	Sam
necro_back_idle_02.png	64 x 64	Enemy	2 of 2	Sam
necro_back_pain.png	64 x 64	Enemy	1 of 1	Sam
necro_back_revive_01.png	64 x 64	Enemy	1 of 3	Sam
necro_back_revive_02.png	64 x 64	Enemy	2 of 3	Sam
necro_back_revive_03.png	64 x 64	Enemy	3 of 3	Sam
necro_back_shield_01.png	64 x 64	Enemy	1 of 3	Sam
necro_back_shield_02.png	64 x 64	Enemy	2 of 3	Sam
necro_back_shield_03.png	64 x 64	Enemy	3 of 3	Sam
necro_front_01.png	64 x 64	Enemy	1 of 8	Sam
necro_front_02.png	64 x 64	Enemy	2 of 8	Sam
necro_front_03.png	64 x 64	Enemy	3 of 8	Sam
necro_front_04.png	64 x 64	Enemy	4 of 8	Sam
necro_front_05.png	64 x 64	Enemy	5 of 8	Sam
necro_front_06.png	64 x 64	Enemy	6 of 8	Sam
necro_front_07.png	64 x 64	Enemy	7 of 8	Sam
necro_front_08.png	64 x 64	Enemy	8 of 8	Sam

necro_front_attack_01.png	64 x 64	Enemy	1 of 3	Sam
necro_front_attack_02.png	64 x 64	Enemy	2 of 3	Sam
necro_front_attack_03.png	64 x 64	Enemy	3 of 3	Sam
necro_front_dead.png	64 x 64	Enemy	1 of 1	Sam
necro_front_dying_01.png	64 x 64	Enemy	1 of 3	Sam
necro_front_dying_02.png	64 x 64	Enemy	2 of 3	Sam
necro_front_dying_03.png	64 x 64	Enemy	3 of 3	Sam
necro_front_idle_01.png	64 x 64	Enemy	1 of 2	Sam
necro_front_idle_02.png	64 x 64	Enemy	2 of 2	Sam
necro_front_pain.png	64 x 64	Enemy	1 of 1	Sam
necro_front_revive_01.png	64 x 64	Enemy	1 of 3	Sam
necro_front_revive_02.png	64 x 64	Enemy	2 of 3	Sam
necro_front_revive_03.png	64 x 64	Enemy	3 of 3	Sam
necro_front_shield_01.png	64 x 64	Enemy	1 of 3	Sam
necro_front_shield_02.png	64 x 64	Enemy	2 of 3	Sam
necro_front_shield_03.png	64 x 64	Enemy	3 of 3	Sam
necro_left_01.png	64 x 64	Enemy	1 of 8	Sam
necro_left_02.png	64 x 64	Enemy	2 of 8	Sam
necro_left_03.png	64 x 64	Enemy	3 of 8	Sam
necro_left_04.png	64 x 64	Enemy	4 of 8	Sam
necro_left_05.png	64 x 64	Enemy	5 of 8	Sam
necro_left_06.png	64 x 64	Enemy	6 of 8	Sam
necro_left_07.png	64 x 64	Enemy	7 of 8	Sam
necro_left_08.png	64 x 64	Enemy	8 of 8	Sam
necro_left_attack_01.png	64 x 64	Enemy	1 of 3	Sam
necro_left_attack_02.png	64 x 64	Enemy	2 of 3	Sam
necro_left_attack_03.png	64 x 64	Enemy	3 of 3	Sam
necro_left_dead.png	64 x 64	Enemy	1 of 1	Sam
necro_left_dying_01.png	64 x 64	Enemy	1 of 3	Sam
necro_left_dying_02.png	64 x 64	Enemy	2 of 3	Sam
necro_left_dying_03.png	64 x 64	Enemy	3 of 3	Sam
necro_left_idle_01.png	64 x 64	Enemy	1 of 2	Sam
necro_left_idle_02.png	64 x 64	Enemy	2 of 2	Sam
necro_left_pain.png	64 x 64	Enemy	1 of 1	Sam
necro_left_revive_01.png	64 x 64	Enemy	1 of 3	Sam
necro_left_revive_02.png	64 x 64	Enemy	2 of 3	Sam
necro_left_revive_03.png	64 x 64	Enemy	3 of 3	Sam
necro_left_shield_01.png	64 x 64	Enemy	1 of 3	Sam
necro_left_shield_02.png	64 x 64	Enemy	2 of 3	Sam
necro_left_shield_03.png	64 x 64	Enemy	3 of 3	Sam
necro_right_01.png	64 x 64	Enemy	1 of 8	Sam
necro_right_02.png	64 x 64	Enemy	2 of 8	Sam
necro_right_03.png	64 x 64	Enemy	3 of 8	Sam
necro_right_04.png	64 x 64	Enemy	4 of 8	Sam
necro_right_05.png	64 x 64	Enemy	5 of 8	Sam
necro_right_06.png	64 x 64	Enemy	6 of 8	Sam
necro_right_07.png	64 x 64	Enemy	7 of 8	Sam
necro_right_08.png	64 x 64	Enemy	8 of 8	Sam

necro_right_attack_01.png	64 x 64	Enemy	1 of 3	Sam
necro_right_attack_02.png	64 x 64	Enemy	2 of 3	Sam
necro_right_attack_03.png	64 x 64	Enemy	3 of 3	Sam
necro_right_dead.png	64 x 64	Enemy	1 of 1	Sam
necro_right_dying_01.png	64 x 64	Enemy	1 of 3	Sam
necro_right_dying_02.png	64 x 64	Enemy	2 of 3	Sam
necro_right_dying_03.png	64 x 64	Enemy	3 of 3	Sam
necro_right_idle_01.png	64 x 64	Enemy	1 of 2	Sam
necro_right_idle_02.png	64 x 64	Enemy	2 of 2	Sam
necro_right_pain.png	64 x 64	Enemy	1 of 1	Sam
necro_right_revive_01.png	64 x 64	Enemy	1 of 3	Sam
necro_right_revive_02.png	64 x 64	Enemy	2 of 3	Sam
necro_right_revive_03.png	64 x 64	Enemy	3 of 3	Sam
necro_right_shield_01.png	64 x 64	Enemy	1 of 3	Sam
necro_right_shield_02.png	64 x 64	Enemy	2 of 3	Sam
necro_right_shield_03.png	64 x 64	Enemy	3 of 3	Sam
necro_life_drain_01.png	64 x 64	Enemy	1 of 5	Sam
necro_life_drain_02.png	64 x 64	Enemy	2 of 5	Sam
necro_life_drain_03.png	64 x 64	Enemy	3 of 5	Sam
necro_life_drain_04.png	64 x 64	Enemy	4 of 5	Sam
necro_life_drain_05.png	64 x 64	Enemy	5 of 5	Sam
thief_back_01.png	64 x 64	Enemy	1 of 8	Sam
thief_back_02.png	64 x 64	Enemy	2 of 8	Sam
thief_back_03.png	64 x 64	Enemy	3 of 8	Sam
thief_back_04.png	64 x 64	Enemy	4 of 8	Sam
thief_back_05.png	64 x 64	Enemy	5 of 8	Sam
thief_back_06.png	64 x 64	Enemy	6 of 8	Sam
thief_back_07.png	64 x 64	Enemy	7 of 8	Sam
thief_back_08.png	64 x 64	Enemy	8 of 8	Sam
thief_back_attack_01.png	64 x 64	Enemy	1 of 3	Sam
thief_back_attack_02.png	64 x 64	Enemy	2 of 3	Sam
thief_back_attack_03.png	64 x 64	Enemy	3 of 3	Sam
thief_back_cloaked.png	64 x 64	Enemy	1 of 1	Sam
thief_back_cloaking_01.png	64 x 64	Enemy	1 of 4	Sam
thief_back_cloaking_02.png	64 x 64	Enemy	2 of 4	Sam
thief_back_cloaking_03.png	64 x 64	Enemy	3 of 4	Sam
thief_back_cloaking_04.png	64 x 64	Enemy	4 of 4	Sam
thief_back_dead.png	64 x 64	Enemy	1 of 1	Sam
thief_back_dying_01.png	64 x 64	Enemy	1 of 3	Sam
thief_back_dying_02.png	64 x 64	Enemy	2 of 3	Sam
thief_back_dying_03.png	64 x 64	Enemy	3 of 3	Sam
thief_back_idle_01.png	64 x 64	Enemy	1 of 2	Sam
thief_back_idle_02.png	64 x 64	Enemy	2 of 2	Sam
thief_back_pain.png	64 x 64	Enemy	1 of 1	Sam
thief_back_potion_01.png	64 x 64	Enemy	1 of 3	Sam
thief_back_potion_02.png	64 x 64	Enemy	2 of 3	Sam
thief_back_potion_03.png	64 x 64	Enemy	3 of 3	Sam
thief_back_revive_01.png	64 x 64	Enemy	1 of 3	Sam

thief_back_revive_02.png	64 x 64	Enemy	2 of 3	Sam
thief_back_revive_03.png	64 x 64	Enemy	3 of 3	Sam
thief_back_special_01.png	64 x 64	Enemy	1 of 1	Sam
thief_back_stand.png	64 x 64	Enemy	1 of 1	Sam
thief_front_01.png	64 x 64	Enemy	1 of 8	Sam
thief_front_02.png	64 x 64	Enemy	2 of 8	Sam
thief_front_03.png	64 x 64	Enemy	3 of 8	Sam
thief_front_04.png	64 x 64	Enemy	4 of 8	Sam
thief_front_05.png	64 x 64	Enemy	5 of 8	Sam
thief_front_06.png	64 x 64	Enemy	6 of 8	Sam
thief_front_07.png	64 x 64	Enemy	7 of 8	Sam
thief_front_08.png	64 x 64	Enemy	8 of 8	Sam
thief_front_attack_01.png	64 x 64	Enemy	1 of 3	Sam
thief_front_attack_02.png	64 x 64	Enemy	2 of 3	Sam
thief_front_attack_03.png	64 x 64	Enemy	3 of 3	Sam
thief_front_cloaked.png	64 x 64	Enemy	1 of 1	Sam
thief_front_cloaking_01.png	64 x 64	Enemy	1 of 4	Sam
thief_front_cloaking_02.png	64 x 64	Enemy	2 of 4	Sam
thief_front_cloaking_03.png	64 x 64	Enemy	3 of 4	Sam
thief_front_cloaking_04.png	64 x 64	Enemy	4 of 4	Sam
thief_front_dead.png	64 x 64	Enemy	1 of 1	Sam
thief_front_dying_01.png	64 x 64	Enemy	1 of 3	Sam
thief_front_dying_02.png	64 x 64	Enemy	2 of 3	Sam
thief_front_dying_03.png	64 x 64	Enemy	3 of 3	Sam
thief_front_idle_01.png	64 x 64	Enemy	1 of 2	Sam
thief_front_idle_02.png	64 x 64	Enemy	2 of 2	Sam
thief_front_pain.png	64 x 64	Enemy	1 of 1	Sam
thief_front_potion_01.png	64 x 64	Enemy	1 of 3	Sam
thief_front_potion_02.png	64 x 64	Enemy	2 of 3	Sam
thief_front_potion_03.png	64 x 64	Enemy	3 of 3	Sam
thief_front_revive_01.png	64 x 64	Enemy	1 of 3	Sam
thief_front_revive_02.png	64 x 64	Enemy	2 of 3	Sam
thief_front_revive_03.png	64 x 64	Enemy	3 of 3	Sam
thief_front_special_01.png	64 x 64	Enemy	1 of 1	Sam
thief_front_stand.png	64 x 64	Enemy	1 of 1	Sam
thief_left_01.png	64 x 64	Enemy	1 of 8	Sam
thief_left_02.png	64 x 64	Enemy	2 of 8	Sam
thief_left_03.png	64 x 64	Enemy	3 of 8	Sam
thief_left_04.png	64 x 64	Enemy	4 of 8	Sam
thief_left_05.png	64 x 64	Enemy	5 of 8	Sam
thief_left_06.png	64 x 64	Enemy	6 of 8	Sam
thief_left_07.png	64 x 64	Enemy	7 of 8	Sam
thief_left_08.png	64 x 64	Enemy	8 of 8	Sam
thief_left_attack_01.png	64 x 64	Enemy	1 of 3	Sam
thief_left_attack_02.png	64 x 64	Enemy	2 of 3	Sam
thief_left_attack_03.png	64 x 64	Enemy	3 of 3	Sam
thief_left_cloaked.png	64 x 64	Enemy	1 of 1	Sam
thief_left_cloaking_01.png	64 x 64	Enemy	1 of 4	Sam

thief_left_cloaking_02.png	64 x 64	Enemy	2 of 4	Sam
thief_left_cloaking_03.png	64 x 64	Enemy	3 of 4	Sam
thief_left_cloaking_04.png	64 x 64	Enemy	4 of 4	Sam
thief_left_dead.png	64 x 64	Enemy	1 of 1	Sam
thief_left_dying_01.png	64 x 64	Enemy	1 of 3	Sam
thief_left_dying_02.png	64 x 64	Enemy	2 of 3	Sam
thief_left_dying_03.png	64 x 64	Enemy	3 of 3	Sam
thief_left_idle_01.png	64 x 64	Enemy	1 of 2	Sam
thief_left_idle_02.png	64 x 64	Enemy	2 of 2	Sam
thief_left_pain.png	64 x 64	Enemy	1 of 1	Sam
thief_left_potion_01.png	64 x 64	Enemy	1 of 3	Sam
thief_left_potion_02.png	64 x 64	Enemy	2 of 3	Sam
thief_left_potion_03.png	64 x 64	Enemy	3 of 3	Sam
thief_left_revive_01.png	64 x 64	Enemy	1 of 3	Sam
thief_left_revive_02.png	64 x 64	Enemy	2 of 3	Sam
thief_left_revive_03.png	64 x 64	Enemy	3 of 3	Sam
thief_left_special_01.png	64 x 64	Enemy	1 of 1	Sam
thief_left_stand.png	64 x 64	Enemy	1 of 1	Sam
thief_right_01.png	64 x 64	Enemy	1 of 8	Sam
thief_right_02.png	64 x 64	Enemy	2 of 8	Sam
thief_right_03.png	64 x 64	Enemy	3 of 8	Sam
thief_right_04.png	64 x 64	Enemy	4 of 8	Sam
thief_right_05.png	64 x 64	Enemy	5 of 8	Sam
thief_right_06.png	64 x 64	Enemy	6 of 8	Sam
thief_right_07.png	64 x 64	Enemy	7 of 8	Sam
thief_right_08.png	64 x 64	Enemy	8 of 8	Sam
thief_right_attack_01.png	64 x 64	Enemy	1 of 3	Sam
thief_right_attack_02.png	64 x 64	Enemy	2 of 3	Sam
thief_right_attack_03.png	64 x 64	Enemy	3 of 3	Sam
thief_right_cloaked.png	64 x 64	Enemy	1 of 1	Sam
thief_right_cloaking_01.png	64 x 64	Enemy	1 of 4	Sam
thief_right_cloaking_02.png	64 x 64	Enemy	2 of 4	Sam
thief_right_cloaking_03.png	64 x 64	Enemy	3 of 4	Sam
thief_right_cloaking_04.png	64 x 64	Enemy	4 of 4	Sam
thief_right_dead.png	64 x 64	Enemy	1 of 1	Sam
thief_right_dying_01.png	64 x 64	Enemy	1 of 3	Sam
thief_right_dying_02.png	64 x 64	Enemy	2 of 3	Sam
thief_right_dying_03.png	64 x 64	Enemy	3 of 3	Sam
thief_right_idle_01.png	64 x 64	Enemy	1 of 2	Sam
thief_right_idle_02.png	64 x 64	Enemy	2 of 2	Sam
thief_right_pain.png	64 x 64	Enemy	1 of 1	Sam
thief_right_potion_01.png	64 x 64	Enemy	1 of 3	Sam
thief_right_potion_02.png	64 x 64	Enemy	2 of 3	Sam
thief_right_potion_03.png	64 x 64	Enemy	3 of 3	Sam
thief_right_revive_01.png	64 x 64	Enemy	1 of 3	Sam
thief_right_revive_02.png	64 x 64	Enemy	2 of 3	Sam
thief_right_revive_03.png	64 x 64	Enemy	3 of 3	Sam
thief_right_special_01.png	64 x 64	Enemy	1 of 1	Sam

thief_right_stand.png	64 x 64	Enemy	1 of 1	Sam
wizard_back_01.png	64 x 64	Enemy	1 of 8	Sam
wizard_back_02.png	64 x 64	Enemy	2 of 8	Sam
wizard_back_03.png	64 x 64	Enemy	3 of 8	Sam
wizard_back_04.png	64 x 64	Enemy	4 of 8	Sam
wizard_back_05.png	64 x 64	Enemy	5 of 8	Sam
wizard_back_06.png	64 x 64	Enemy	6 of 8	Sam
wizard_back_07.png	64 x 64	Enemy	7 of 8	Sam
wizard_back_08.png	64 x 64	Enemy	8 of 8	Sam
wizard_back_attack_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_back_attack_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_back_attack_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_back_dead.png	64 x 64	Enemy	1 of 1	Sam
wizard_back_dying_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_back_dying_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_back_dying_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_back_heal_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_back_heal_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_back_heal_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_back_idle_01.png	64 x 64	Enemy	1 of 2	Sam
wizard_back_idle_02.png	64 x 64	Enemy	2 of 2	Sam
wizard_back_pain.png	64 x 64	Enemy	1 of 1	Sam
wizard_back_potion_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_back_potion_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_back_potion_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_back_revive_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_back_revive_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_back_revive_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_back_shield_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_back_shield_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_back_shield_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_front_01.png	64 x 64	Enemy	1 of 8	Sam
wizard_front_02.png	64 x 64	Enemy	2 of 8	Sam
wizard_front_03.png	64 x 64	Enemy	3 of 8	Sam
wizard_front_04.png	64 x 64	Enemy	4 of 8	Sam
wizard_front_05.png	64 x 64	Enemy	5 of 8	Sam
wizard_front_06.png	64 x 64	Enemy	6 of 8	Sam
wizard_front_07.png	64 x 64	Enemy	7 of 8	Sam
wizard_front_08.png	64 x 64	Enemy	8 of 8	Sam
wizard_front_attack_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_front_attack_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_front_attack_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_front_dead.png	64 x 64	Enemy	1 of 1	Sam
wizard_front_dying_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_front_dying_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_front_dying_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_front_heal_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_front_heal_02.png	64 x 64	Enemy	2 of 3	Sam

wizard_front_heal_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_front_idle_01.png	64 x 64	Enemy	1 of 2	Sam
wizard_front_idle_02.png	64 x 64	Enemy	2 of 2	Sam
wizard_front_pain.png	64 x 64	Enemy	1 of 1	Sam
wizard_front_potion_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_front_potion_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_front_potion_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_front_revive_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_front_revive_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_front_revive_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_front_shield_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_front_shield_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_front_shield_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_left_01.png	64 x 64	Enemy	1 of 8	Sam
wizard_left_02.png	64 x 64	Enemy	2 of 8	Sam
wizard_left_03.png	64 x 64	Enemy	3 of 8	Sam
wizard_left_04.png	64 x 64	Enemy	4 of 8	Sam
wizard_left_05.png	64 x 64	Enemy	5 of 8	Sam
wizard_left_06.png	64 x 64	Enemy	6 of 8	Sam
wizard_left_07.png	64 x 64	Enemy	7 of 8	Sam
wizard_left_08.png	64 x 64	Enemy	8 of 8	Sam
wizard_left_attack_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_left_attack_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_left_attack_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_left_dead.png	64 x 64	Enemy	1 of 1	Sam
wizard_left_dying_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_left_dying_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_left_dying_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_left_heal_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_left_heal_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_left_heal_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_left_idle_01.png	64 x 64	Enemy	1 of 2	Sam
wizard_left_idle_02.png	64 x 64	Enemy	2 of 2	Sam
wizard_left_pain.png	64 x 64	Enemy	1 of 1	Sam
wizard_left_potion_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_left_potion_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_left_potion_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_left_revive_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_left_revive_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_left_revive_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_left_shield_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_left_shield_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_left_shield_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_right_01.png	64 x 64	Enemy	1 of 8	Sam
wizard_right_02.png	64 x 64	Enemy	2 of 8	Sam
wizard_right_03.png	64 x 64	Enemy	3 of 8	Sam
wizard_right_04.png	64 x 64	Enemy	4 of 8	Sam
wizard_right_05.png	64 x 64	Enemy	5 of 8	Sam

wizard_right_06.png	64 x 64	Enemy	6 of 8	Sam
wizard_right_07.png	64 x 64	Enemy	7 of 8	Sam
wizard_right_08.png	64 x 64	Enemy	8 of 8	Sam
wizard_right_attack_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_right_attack_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_right_attack_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_right_dead.png	64 x 64	Enemy	1 of 1	Sam
wizard_right_dying_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_right_dying_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_right_dying_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_right_heal_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_right_heal_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_right_heal_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_right_idle_01.png	64 x 64	Enemy	1 of 2	Sam
wizard_right_idle_02.png	64 x 64	Enemy	2 of 2	Sam
wizard_right_pain.png	64 x 64	Enemy	1 of 1	Sam
wizard_right_potion_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_right_potion_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_right_potion_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_right_revive_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_right_revive_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_right_revive_03.png	64 x 64	Enemy	3 of 3	Sam
wizard_right_shield_01.png	64 x 64	Enemy	1 of 3	Sam
wizard_right_shield_02.png	64 x 64	Enemy	2 of 3	Sam
wizard_right_shield_03.png	64 x 64	Enemy	3 of 3	Sam
npc_female_back_01.png	64 x 64	NPC	1 of 8	Sam
npc_female_back_02.png	64 x 64	NPC	2 of 8	Sam
npc_female_back_03.png	64 x 64	NPC	3 of 8	Sam
npc_female_back_04.png	64 x 64	NPC	4 of 8	Sam
npc_female_back_05.png	64 x 64	NPC	5 of 8	Sam
npc_female_back_06.png	64 x 64	NPC	6 of 8	Sam
npc_female_back_07.png	64 x 64	NPC	7 of 8	Sam
npc_female_back_08.png	64 x 64	NPC	8 of 8	Sam
npc_female_back_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_female_back_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_female_back_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_female_front_01.png	64 x 64	NPC	1 of 8	Sam
npc_female_front_02.png	64 x 64	NPC	2 of 8	Sam
npc_female_front_03.png	64 x 64	NPC	3 of 8	Sam
npc_female_front_04.png	64 x 64	NPC	4 of 8	Sam
npc_female_front_05.png	64 x 64	NPC	5 of 8	Sam
npc_female_front_06.png	64 x 64	NPC	6 of 8	Sam
npc_female_front_07.png	64 x 64	NPC	7 of 8	Sam
npc_female_front_08.png	64 x 64	NPC	8 of 8	Sam
npc_female_front_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_female_front_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_female_front_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_female_left_01.png	64 x 64	NPC	1 of 8	Sam

npc_female_left_02.png	64 x 64	NPC	2 of 8	Sam
npc_female_left_03.png	64 x 64	NPC	3 of 8	Sam
npc_female_left_04.png	64 x 64	NPC	4 of 8	Sam
npc_female_left_05.png	64 x 64	NPC	5 of 8	Sam
npc_female_left_06.png	64 x 64	NPC	6 of 8	Sam
npc_female_left_07.png	64 x 64	NPC	7 of 8	Sam
npc_female_left_08.png	64 x 64	NPC	8 of 8	Sam
npc_female_left_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_female_left_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_female_left_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_female_right_01.png	64 x 64	NPC	1 of 8	Sam
npc_female_right_02.png	64 x 64	NPC	2 of 8	Sam
npc_female_right_03.png	64 x 64	NPC	3 of 8	Sam
npc_female_right_04.png	64 x 64	NPC	4 of 8	Sam
npc_female_right_05.png	64 x 64	NPC	5 of 8	Sam
npc_female_right_06.png	64 x 64	NPC	6 of 8	Sam
npc_female_right_07.png	64 x 64	NPC	7 of 8	Sam
npc_female_right_08.png	64 x 64	NPC	8 of 8	Sam
npc_female_right_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_female_right_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_female_right_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_male_back_01.png	64 x 64	NPC	1 of 8	Sam
npc_male_back_02.png	64 x 64	NPC	2 of 8	Sam
npc_male_back_03.png	64 x 64	NPC	3 of 8	Sam
npc_male_back_04.png	64 x 64	NPC	4 of 8	Sam
npc_male_back_05.png	64 x 64	NPC	5 of 8	Sam
npc_male_back_06.png	64 x 64	NPC	6 of 8	Sam
npc_male_back_07.png	64 x 64	NPC	7 of 8	Sam
npc_male_back_08.png	64 x 64	NPC	8 of 8	Sam
npc_male_back_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_male_back_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_male_back_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_male_front_01.png	64 x 64	NPC	1 of 8	Sam
npc_male_front_02.png	64 x 64	NPC	2 of 8	Sam
npc_male_front_03.png	64 x 64	NPC	3 of 8	Sam
npc_male_front_04.png	64 x 64	NPC	4 of 8	Sam
npc_male_front_05.png	64 x 64	NPC	5 of 8	Sam
npc_male_front_06.png	64 x 64	NPC	6 of 8	Sam
npc_male_front_07.png	64 x 64	NPC	7 of 8	Sam
npc_male_front_08.png	64 x 64	NPC	8 of 8	Sam
npc_male_front_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_male_front_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_male_front_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_male_left_01.png	64 x 64	NPC	1 of 8	Sam
npc_male_left_02.png	64 x 64	NPC	2 of 8	Sam
npc_male_left_03.png	64 x 64	NPC	3 of 8	Sam
npc_male_left_04.png	64 x 64	NPC	4 of 8	Sam
npc_male_left_05.png	64 x 64	NPC	5 of 8	Sam

npc_male_left_06.png	64 x 64	NPC	6 of 8	Sam
npc_male_left_07.png	64 x 64	NPC	7 of 8	Sam
npc_male_left_08.png	64 x 64	NPC	8 of 8	Sam
npc_male_left_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_male_left_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_male_left_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_male_right_01.png	64 x 64	NPC	1 of 8	Sam
npc_male_right_02.png	64 x 64	NPC	2 of 8	Sam
npc_male_right_03.png	64 x 64	NPC	3 of 8	Sam
npc_male_right_04.png	64 x 64	NPC	4 of 8	Sam
npc_male_right_05.png	64 x 64	NPC	5 of 8	Sam
npc_male_right_06.png	64 x 64	NPC	6 of 8	Sam
npc_male_right_07.png	64 x 64	NPC	7 of 8	Sam
npc_male_right_08.png	64 x 64	NPC	8 of 8	Sam
npc_male_right_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_male_right_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_male_right_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_kid_male_back_01.png	64 x 64	NPC	1 of 8	Sam
npc_kid_male_back_02.png	64 x 64	NPC	2 of 8	Sam
npc_kid_male_back_03.png	64 x 64	NPC	3 of 8	Sam
npc_kid_male_back_04.png	64 x 64	NPC	4 of 8	Sam
npc_kid_male_back_05.png	64 x 64	NPC	5 of 8	Sam
npc_kid_male_back_06.png	64 x 64	NPC	6 of 8	Sam
npc_kid_male_back_07.png	64 x 64	NPC	7 of 8	Sam
npc_kid_male_back_08.png	64 x 64	NPC	8 of 8	Sam
npc_kid_male_back_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_kid_male_back_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_kid_male_back_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_kid_male_front_01.png	64 x 64	NPC	1 of 8	Sam
npc_kid_male_front_02.png	64 x 64	NPC	2 of 8	Sam
npc_kid_male_front_03.png	64 x 64	NPC	3 of 8	Sam
npc_kid_male_front_04.png	64 x 64	NPC	4 of 8	Sam
npc_kid_male_front_05.png	64 x 64	NPC	5 of 8	Sam
npc_kid_male_front_06.png	64 x 64	NPC	6 of 8	Sam
npc_kid_male_front_07.png	64 x 64	NPC	7 of 8	Sam
npc_kid_male_front_08.png	64 x 64	NPC	8 of 8	Sam
npc_kid_male_front_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_kid_male_front_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_kid_male_front_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_kid_male_left_01.png	64 x 64	NPC	1 of 8	Sam
npc_kid_male_left_02.png	64 x 64	NPC	2 of 8	Sam
npc_kid_male_left_03.png	64 x 64	NPC	3 of 8	Sam
npc_kid_male_left_04.png	64 x 64	NPC	4 of 8	Sam
npc_kid_male_left_05.png	64 x 64	NPC	5 of 8	Sam
npc_kid_male_left_06.png	64 x 64	NPC	6 of 8	Sam
npc_kid_male_left_07.png	64 x 64	NPC	7 of 8	Sam
npc_kid_male_left_08.png	64 x 64	NPC	8 of 8	Sam
npc_kid_male_left_crouch.png	64 x 64	NPC	1 of 1	Sam

npc_kid_male_left_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_kid_male_left_idle_02.png	64 x 64	NPC	2 of 2	Sam
npc_kid_male_right_01.png	64 x 64	NPC	1 of 8	Sam
npc_kid_male_right_02.png	64 x 64	NPC	2 of 8	Sam
npc_kid_male_right_03.png	64 x 64	NPC	3 of 8	Sam
npc_kid_male_right_04.png	64 x 64	NPC	4 of 8	Sam
npc_kid_male_right_05.png	64 x 64	NPC	5 of 8	Sam
npc_kid_male_right_06.png	64 x 64	NPC	6 of 8	Sam
npc_kid_male_right_07.png	64 x 64	NPC	7 of 8	Sam
npc_kid_male_right_08.png	64 x 64	NPC	8 of 8	Sam
npc_kid_male_right_crouch.png	64 x 64	NPC	1 of 1	Sam
npc_kid_male_right_idle_01.png	64 x 64	NPC	1 of 2	Sam
npc_kid_male_right_idle_02.png	64 x 64	NPC	2 of 2	Sam
tree1.png	64x128	Terrain	1 of 1	Sean
tree2.png	64x128	Terrain	1 of 1	Sean
tree3.png	64x128	Terrain	1 of 1	Sean
bush1.png	64x64	Terrain	1 of 1	Sean
bush2.png	64x64	Terrain	1 of 1	Sean
rock1.png	64X64	Terrain	1 of 1	Sean
rock2.png	64X64	Terrain	1 of 1	Sean
rockBig.png	128X64	Terrain	1 of 1	Sean
dirt_path_straight.png	64X64	Terrain	1 of 1	Sean
dirt_path_turn.png	64X64	Terrain	1 of 1	Sean
dirt_path_T.png	64X64	Terrain	1 of 1	Sean
dirt_path_X.png	64X64	Terrain	1 of 1	Sean
tree_stump.png	64X64	Terrain	1 of 1	Sean
fence_vertical.png	64X64	Terrain	1 of 1	Sean
fence_horizontal.png	64X64	Terrain	1 of 1	Sean
fence_corner.png	64X64	Terrain	1 of 1	Sean
fence_corner_top.png	64X64	Terrain	1 of 1	Sean
flower_patch.png	128x128	Terrain	1 of 1	Sean
grass_tufts.png	128x128	Terrain	1 of 1	Sean
log.png	64X64	Terrain	1 of 1	Sean
destructable_tree.png	64x128	Terrain	1 of 1	Sean
iron_fence	64X64	Terrain	1 of 1	Sean
iron_fence_door	128X64	Terrain	1 of 1	Sean
forest_floor1.png	1024X1024	Background	1 of 1	Sean
forest_floor2.png	1024X1024	Background	1 of 1	Sean
forest_floor3.png	1024X1024	Background	1 of 1	Sean
boss_area	1024X1024	Background	1 of 1	Sean
pre-boss_area	1024X1024	Background	1 of 1	Sean
title_background.png	1024x1024	Background	1 of 1	Sean
progress journal background	512x512	Background	1 of 1	Sean
pause_menu_background	1024X1024	Background	1 of 1	Sean
game_over_screen_background.png	1024x1024	Background	1 of 1	Sean
load_screen_background.png	1024x1024	Background	1 of 1	Sean
health_potion.png	64x64	Item	1 of 1	Sean
stamina_potion.png	64x64	item	1 of 1	Sean

character_frame.png	256x128	HUD	1 of 1	Sean
active_char_frame.png	256x128	HUD	1 of 1	Sean
dead_frame.png	256x128	HUD	1 of 1	Sean
commanding_char_frame.png	256x128	HUD	1 of 1	Sean
mode_icon_attack.png	32x32	HUD	1 of 1	Sean
mode_icon_attack_selected.png	32x32	HUD	1 of 1	Sean
mode_icon_attack_greyed.png	32x32	HUD	1 of 1	Sean
mode_icon_defend.png	32x32	HUD	1 of 1	Sean
mode_icon_defend_selected.png	32x32	HUD	1 of 1	Sean
mode_icon_defend_grey.png	32x32	HUD	1 of 1	Sean
mode_icon_support.png	32x32	HUD	1 of 1	Sean
mode_icon_support_selected.png	32x32	HUD	1 of 1	Sean
mode_icon_support_greyed.png	32x32	HUD	1 of 1	Sean
pause_button.png	64x64	HUD	1 of 1	Sean
hud_background.png	1024x512	HUD	1 of 1	Sean
warrior_icon_attack.png	128x128	HUD	1 of 1	Sean
warrior_icon_defend.png	128x128	HUD	1 of 1	Sean
warrior_icon_special.png	128x128	HUD	1 of 1	Sean
mage_icon_attack.png	128x128	HUD	1 of 1	Sean
mage_icon_defend.png	128x128	HUD	1 of 1	Sean
mage_icon_special.png	128x128	HUD	1 of 1	Sean
rogue_icon_attack.png	128x128	HUD	1 of 1	Sean
rogue_icon_defend.png	128x128	HUD	1 of 1	Sean
rogue_icon_special.png	128x128	HUD	1 of 1	Sean
new_game.png	256x64	HUD	1 of 1	Sean
load_game.png	256x64	HUD	1 of 1	Sean
quit_game.png	256x64	HUD	1 of 1	Sean
resume_game_button.png	256x64	HUD	1 of 1	Sean
restart_scene_button.png	256x64	HUD	1 of 1	Sean
main_menu_button.png	256x64	HUD	1 of 1	Sean
save_game_button.png	256x64	HUD	1 of 1	Sean
arrow_button.png	64x64	HUD	1 of 1	Sean
retry_game_button.png	256x64	HUD	1 of 1	Sean
unused_load/save_file.png	256x64 (128x64)	HUD	1 of 1	Sean
back_button.png	256x64	HUD	1 of 1	Sean
load_button.png	256x64	HUD	1 of 1	Sean
level_select_banner.png	512x256	HUD	1 of 1	Sean
yes_button.png	64x64	HUD	1 of 1	Sean
no_button.png	64x64	HUD	1 of 1	Sean
dialogue box	256x64	HUD	1 of 1	Sean
golden key	64x64	HUD	1 of 1	Sean

Appendix D – Sound Assets

File Name	Source
characterswitch.wav	http://www.freesound.org/people/beman87/sounds/162844/
mageattack.wav	http://www.freesound.org/people/qubodup/sounds/159725/
magesimal.wav	http://www.freesound.org/people/Northern_Monkey/sounds/176741/
pageturn.wav	http://www.freesound.org/people/DrMinky/sounds/167047/
pickup.wav	http://www.freesound.org/people/WiesenWiesel/sounds/216629/
potionuse.wav	http://www.freesound.org/people/SpazTastic/sounds/104167/
rogueattack.wav	http://www.freesound.org/people/EverHeat/sounds/205563/
rogesimal.wav	http://www.freesound.org/people/alexmaxlle/sounds/202629/
select.wav	http://www.freesound.org/people/soundbyter.com/sounds/110429/
warriorattack.wav	http://www.freesound.org/people/ztrees1/sounds/134935/

Appendix E – Schedules

A-term

September 14 - September 20

- Version control working
- Everyone's able to checkout from repository
- Able to run base Desktop project

September 21 - September 27

- Loose Test Driven Development
- Basic game loop
- Player input
- Character class (actual programming class)
- Load sprites
- HUD
 - Player health
 - Player stamina
 - Dummy stuff

September 28 - October 4

- Initialize scene with static objects other than player
- Collision detection
- Mouse click
- Loading next scene?

October 5 - October 11

- Extending character class for enemies
- Test sound

October 12 - October 18

- Initialize single scene

- Text representation of scene is read by scene initializer
- Scene is initialized with all objects in their starting positions
- Player game mechanics
 - Basic character abilities
 - Movement
 - Damage
 - Protection
 - Death
 - System exit
 - Basic HUD
 - Player health
 - Player stamina
 - Dummy stuff

B-term

October 26th - November 1st

- Text
- Health
- Stamina
- Attack
- Working HUD
- Basic three scenes for test purposes
- Keybindings
- Interactable NPCs

November 2 - November 8

- Working HUD
- Keybindings
- Health
- Basic AI, for enemies and other characters
 - State machine
- Useless allies

November 9 - November 15

- Items: Drop
- HUD changes
- Three Party members, able to change between characters
- Warrior abilities
 - attack
 - defend
 - special

November 16 - November 22

- Mage Abilities
 - attack
 - defend
 - special
- Character death and revival

- Art:
 - warrior potion
 - warrior dying
 - mage ability 1
 - magic projectile
 - explosion
 - mage dying
 - mage dead
 - rogue ability 1
 - arrow
 - rogue potion
 - rogue dying
 - rogue dead

November 23 - November 29

- Rogue abilities
 - attack
 - defend
 - special
- Art:
 - Mage ability 2
 - mage potion
 - mage ability 3
 - rogue ability 2
 - rogue ability 3

November 30 - December 6

- Main Menu
- Game Over

December 7 - December 13

- Save
- load
- pause
- Progress journal

December 14 - December 19

- Clean and testing

C-term

January 21st- January 27th

- ART: Wizard enemy recolor and animations done
- Clean bugs
- Scrap current AI
- Start pathfinding with nodes
 - Allies behave like enemies
- test keybindings
- Plan FSA table

January 28th- February 3rd

- ART: rogue enemy ...
 - Wolf front back
 - mage bubble
 - Potion
- Functional state machine with basic attack
 - changes and identifies what it's seeking
 - test and finalize attacks for warrior
 - ... rogue
 - ... mage
- Menus
 - main menu, test loading
 - game over, test loading
 - pause, test save and journal

February 4th- February 10th

- ART: warrior enemy ...
 - Warrior outline
 - Quest Logo
 - League logo
- State machine is context sensitive
 - Create the remaining states
 - Attacks change based on enemy behaviors
 - change behavior based on stamina
- Add sounds to the game
- Menu-add load to the pause menu

February 11th- February 17th

- Polish AI
- Conversations

February 18th- February 24th

- finalize scenes 1 and 2
- testing and balancing
 - Health and stamina
- ART: NPCs

February 25th- February 3rd

- Journal
- balancing and testing
 - keybindings
 - character death and revival
 - items

March 4th- March 8th

- Polish
- Finish level

D-term

March 16th- March 20

- Lag
- New levels
- Schedule
- Create TODO list
- Art: Big boss

March 21- March 27

- Conversations
- Journal
- Tree to enemy
- NPC Sprites in game
- Implement levels
 - what lvls keeping
 - modify load page
- Website
- Sounds
- Testing
- Bugs
- Drafts of 2 presentations
- Paper outline
- Art: NPC child

March 28-April 3

- Big boss
- Bugs
- Testing
 - Defend
 - balancing
- Website content
- Modify presentations
- Paper

April 4- April 10

- Testing

- balancing
- bugs
- refactoring
- Win game
- Paper
- Art: Make art 'pop'
- Art: resize the kid sprite

April 11- April 17

- Testing
- Bugs
- Finalize presentations
- JAR
- Paper

April 18- April 24

- FINALIZE PRESENTATIONS

April 25- May 1

- Finish paper
- clean codes