Graphics Documentation

Team Members:

Mat Siwoski, Damien Sathanielle, Konstantin Boyarinov, Sam Youssef, Robin Hsieh, Tim Kim

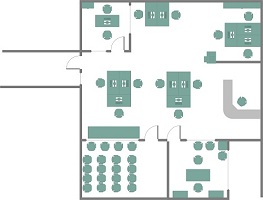
# Milestones

## Milestone 1 – February 21, 2014

This milestone will include the basic startup of the game. This game will follow a very simplistic implementation of Cops vs. Robbers. The game will be able to display the map on screen, render up to two players, and allow for user input to maneuver a player around the map. The game will commence once both users have connected to the server.

When the game begins, there will be a map that will be displayed with a perimeter wall to prevent users from going off-screen as well as some internal walls to impede players. Throughout the map, there will be 4 placed “objectives” that the Robber must compromise.    
  
Win conditions:   
Robber – compromise 3 of the 4 objectives  
Cop – capture all of the robbers or defend the objectives until the end of the round  
  
To compromise an objectives, a Robber must simply collide with the compromised system for a continuous 5 seconds. A Cop must collide with a Robber to perform a capture.

The game will be round based with a full game being a best of 7. A point is awarded per round to the respective team with the win conditions mentioned above. After each round, the roles will be changed between users.

  
a segment of a map from a user’s point of view

  
our reference in designing the style of the game

## Milestone 2 – March 6, 2014

Robustness of the gameplay is a focus in milestone 2 as well as implementing a maximum team size of 16 players per side (32 in total). The overall graphics and map details will also be more polished from the first milestone.

Multiple floors will be introduced with a maximum of 8, which will be accessible through stairs. When a player enters a stairwell going up or down, they will be moved up or down a floor accordingly. The total floors available will be determined by the number of players connected, with every 4 players generating a new floor. The “objectives” from milestone one will now be randomized throughout the multiple floors.

A pre-game menu screen will also be added which will serve as a more convenient way for users to enter server information with the addition of graphical options and key bindings to be implemented in the next milestone. After pressing Start on the menu screen, users will be taken to a lobby, where they will see the other users connected within the game. The users will be able to select which team they would like to play for; however, the game will rectify any balancing issues.

## Milestone 3 – March 20, 2014

Our final milestone, which many of the features deemed necessary have been implemented. The lobby will now be a “playable” map (being able to move around the map), where users will be able to decide by their location on the map to which team they would like to play for. This lobby will be much like a floor in the game and will be interactive.

More variety in the maps will be introduced with different passages such as “vents”. User interaction with the objectives will now be possible as well as player modification e.g. movement speed. User interaction would include such actions such that a certain action will affect the system/map in a different way.

Fog of war will also be added as a feature in this milestone. Players on both sides will have a circle of vision, giving a live view of the players on the map. They will also share vision with teammates on the same floor.

The robbers will start the game with no vision, except for their own, and vision of their teammates. As they explore, they will reveal the map, example follows:



The cops will start the game with vision of the map layout, as if they have explored the entire map, but not vision of opposing players. As example above, the cops view of the map is a darker shade where the map is revealed.

# State Transition Diagram



# Pseudo-Code

int main(){

initialize(){}

create thread for loading images()

bool quit = false;

SDL\_Event e;//Event handler

while( !quit ) //While application is running

{

while( SDL\_PollEvent( &e ) != 0 )//Handle events on queue

{

if( e.type == SDL\_QUIT ) //User requests quit

{

quit = true;

}

}

render\_system(&world, surface);

/\*SDL\_RenderClear( gRenderer ); //Clear screen

SDL\_RenderCopy( gRenderer, gTexture, NULL, NULL ); //Render texture to screen

SDL\_RenderPresent( gRenderer );//Update screen\*/

SDL\_UpdateWindowSurface(window);

}

close();

}

bool initialize(){

initialize SDL{

}

create window(){

}

create renderer(){

}

initialize img\_loading{

}

return true;

}

bool load\_media(){

}

void close(){

SDL\_DestoryTexture();

SDL\_DestroyRenderer();

SDL\_DestroyWindow();

//free memory

free();

IMG\_QUIT();

SDL\_QUIT();

}

# Testing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test # | Test Description | Tools | Expected result | Pass/Fail |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |