

Group Members:

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Technical Specifications

Basic Functionality (If there is additional time or these are completed under budgeted time we hope to add more features):

1. Networking. (Changes: Used local server, not hosted)
 - a. Setup a public/3rd party free database/server (2 hrs)
 - b. Implement a function to send the updated top 5 high scores from backend Java server (5hrs)
 - c. Implement a function to receive the updated top 5 high scores from backend Java server (5hrs)
 - d. Implement a function to parse the data from database (4 hrs)
 - e. Figure out how to organize data in the database properly, e.g. class hierarchy (3 hrs)
2. Has authentication function to verify user login (Changes: Authentication is local, no email/text)
 - a. Figure out to use email/text to send out authentication, which is easier (3hrs)
 - i. <https://stackoverflow.com/questions/14743055/how-to-do-email-verification-by-sending-the-mail-in-jsp>
 - b. Implement a function to generate unique login code for each user, either email or number (3 hrs)
 - c. Implement a function to send the verification code out to email/text (3.5 hrs)
 - d. Implement a function to receive the verification the user has entered (3.5 hrs)
 - e. Implement a function to verify the received code, and generate a boolean value to indicate if the user passes the verification (2 hrs)
3. Multithreading: Have many different sounds, each running in their own thread
 - a. Accumulate the different sound bites we want to use, e.g. .wav files (1.5 hrs)
 - b. Decide where multithreading happen and implement multiple sounds
 - i. Make a function to start a new thread to play one sound (3 hrs)
 - ii. Reach: start multiple new threads to play multiple sounds. e.g. , background, crash sound, etc. (3 hrs)
4. Graphics: Plane as well as foreground and background image (Changes: Became a falling rocket and there is a background image and no need for a foreground. We added

wormholes that transport the rocket to another and stars which reduce speed. All effects were changed because of the change in the game.)

- a. Set up a framework, e.g. how should we organize the graphics stuffs (5 hrs)
- b. Figure out how to let the graphics talk back to the server (5 hrs)
- c. Find a API/online tool to do graphics, which can be easily integrated in JAVA (4 hrs)
- d. Create a stand alone graphics display page
 - i. Has a background image (extended goal: allow user choice) (2 hrs)
 - ii. Has a plane (extended goal: some customization) (2 hrs)
 - iii. Has a countdown before the game starts with fading animations (2 hrs)
- e. Connect the graphics page with the processing for the game play
 - i. Receive user input for the game from the space-key (5hrs)
 - ii. Control the horizontal speed of the plane before take off based on space-key presses (5 hrs)
 - iii. The plane should fall in the correct parabolic path (5 hrs)
 - iv. Have the plane's descent be based initial velocity and space key presses after take off (5 hrs)
- f. Add Effects: (5 hrs)
 - i. When a plane crashes there should be an effect showing the crash
 - ii. The plane taking off will be another effect to be implemented