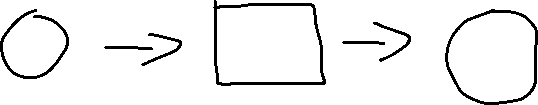
Rocket Game

Group 5/Team Rocket

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Emails go here.

It will be easy to launch our program from an executable. It will be written in processing, and to run it it will require that the machine have Java installed. The software will use Git as version control and will be stored on GitHub.



User mouse inputs

Program

Screen

A detailed design.

* Scene Changer: switch from a start screen to a building screen to a test-flight screen
* Start screen: display a brief description of what to expect. Press a button to start.
* Building screen: buttons for every part able to be added to the rocket are displayed.
  + A button to clear the rocket should be displayed.
  + A “Finish Rocket and Launch” button should also be included.
  + The cost to build the rocket should be displayed.
* A grid, let’s say 5x5 of empty cells should be displayed.
  + The user will click a button. The button will invert colors to indicate it has been selected.
  + Clicking a cell in the grid will deselect the button.
  + Clicking a cell in the grid will add the corresponding part to the grid.
  + Adding a part will increase the amount the user has spent on the rocket.
  + The rocket can only be built in 2d dimension. This game is 2d, like pac man (possibly excepting the UI)
* The user will be able to add different kinds of parts to the rocket for different prices. Each piece has a price, weight, and function.
  + “Fuel tank”
  + “Rocket engine”
  + “Payload”
  + “Structure”
  + “Nose cone”: Less essential feature.
  + “Fins”: Less essential feature.
  + We may add “better” versions of these parts that cost more to use
* The finish button should check that the user has made a valid rocket.
  + A rocket is invalid if the parts are not contiguous.
  + Elsewise the rocket should launch.
* On launch
  + The user should not be able to view the grid or buttons used to make the rocket. The user should be able to see a number indicating height.
  + The rocket’s engines should emit fire. This should be a visual effect.
  + The rocket exists in 2 dimensions. The rocket can only travel in 2 dimensions. (up down left right)
  + The rocket should become subject to forces at this point and not before
    - Gravity. A constant force should pull the rocket down at all times.
    - Thrust. Each engine will exert a constant thrust so long as the rocket has fuel.
    - Air resistance: This force acts against the rocket. Having a thin rocket lowers this force. Having a wide rocket increases this force. Having a nose cone at the rocket tip lowers this force. This feature is less essential.
    - The user could nudge the rocket right and left with arrow keys. This feature is less essential
* Ending
  + The simulation will end when
    - The rocket reaches orbit.
    - The rocket touches the ground and remains there for a period of time.
    - The cost and height values can be stored along with a name (like an old arcade machine). This is a less essential feature.
    - A button to restart will be displayed.