Curiosity Killed the App: Technological Design Process **Sample**

Identify the Need:

Build your own app using App Inventor that either completes a task related to the exploration of Mars or is a Mars based game app.

Research the Problem:

You did some of this during the lesson before you started the activity. Write what you discovered on Part II here:

Learned about the Martian environment:
  a. atmospheric composition
  b. temperature range
  c. surface features
    1. Valles Marineras
    2. Olympus Mons
    3. Poles
    4. Gale Crater
  d. soil composition
  e. gravitational pull
  f. size
  g. magnetic field

Design a Solution:

Brainstorm a list of ideas for your new application:

1. Lander simulation
2. Question and answer (Mars specific) with Mars background pictures
3. Shooter (lander vs. Martians)
4. Matching game with vocab and definitions
5. Obstacle course
6. Jumping game with curiosity robot
7. Curiosity laser accuracy game (Asteroids or ground rocks)

Draw a blueprint of your design in the space provided:
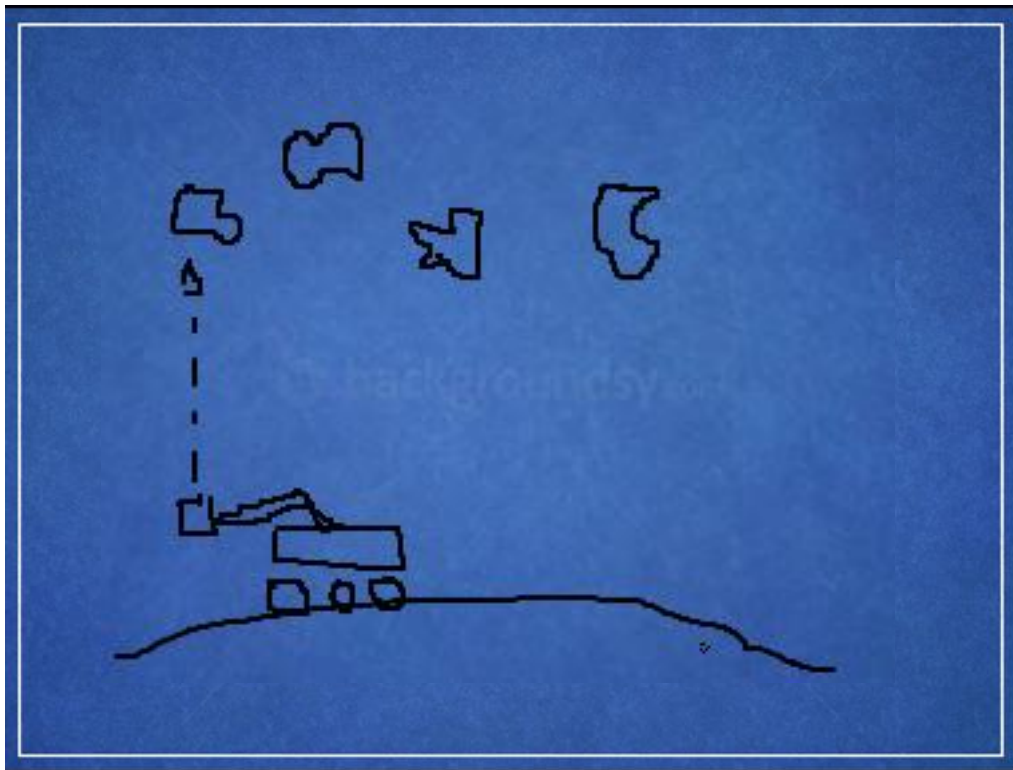
Build a Prototype

Describe your chosen Mars app here:

My app is a Curiosity laser accuracy game that shoots asteroids out of the sky.

What are some special features of your design?

Left and right movement
Small rockets that come out of the top to destroy large amounts
Lasers shoot from main body to shoot individual asteroids
Real Mars background images change after different levels

Troubleshooting, Debugging, and Redesigning

Design #	Performance	Problems	Ideas for improvement (next design features)
1	Ok	Rocket gets stuck at top of screen	Make rocket image disappear when it reaches the top of the screen
2	Ok	Nothing happens when rocket hits	Make asteroid disappear and make exploding noise when hit
3	Good	Unlimited rockets means don't use laser	Make a limit on rockets
4	Good	No way to know when level is done	Make a score keeper and change background and speed of asteroids on new levels
5	Really good	Not hard enough	Make damage meter when asteroids hit rover
6	Excellent		

Communicating the Solution

What is your final design and how well does your final design fulfill the need?

My final design is fun to play but it gets old after a while. The design really didn't have a lot of real science content. The game was not really a learning game. Even though it didn't fit all the needs, it was Mars-based and I used App Inventor.

Are there still design problems that need to be fixed? If so, what step in the design process do you need to go back to?

Yes, the design is good, but there are still some things I want to add to the design. I probably need to go back to the troubleshooting phase and improve my design. I just ran out of time.