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**

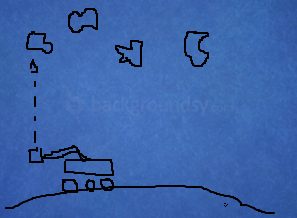
**5. Obstacle course**

**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.**