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.**