Name(s)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  | **Project Guide - Innovation Prototype** |  |
| --- | --- | --- |

## Overview

Designing a computing device that combines hardware and software requires a good deal of preparation. Starting with a clear plan can help you stay organized and identify issues ahead of time. A lot of the work you do here will make it much easier to keep track of what you need to do once you begin creating your device, both the physical and software components.

## Device Goal and Design

Start by thinking about what problem your device is going to solve. How will the user interact with it? How does it communicate information back to the user? What shape will it take?

## Sketch and Describe Your Device

Describe your device and roughly sketch out the main elements. Don’t worry about making it pretty.

## 

## 

## Inputs

What inputs will your prototype need to function? What will they be used for?

| **Input type** | **What it is used For** |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Outputs

What outputs will your prototype need? What will they communicate to the user?

| **Output Type** | **What does it communicate?** |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## 

## 

## Processing

How will your program turn input into output? You won’t be able to do everything at once. Instead, break your program up into the major steps you’ll need for it to work. The different behaviors you described in your events should help you decide what these steps should be.

| **Function name** | **Parameters**  (Inputs to the function) | **What does it do?** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Develop Your Prototype

Once your teacher has approved your design, use the materials you are given to develop your prototype.

## Test Your Prototype

Test your prototype with multiple users and, if time allows, incorporate feedback from your testing.

## Reflect

What part of your project are you most proud of? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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If you had more time, what improvement would you make to your innovation?

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