GNG 1103

Project Deliverable F
Prototype 1 and Customer Feedback

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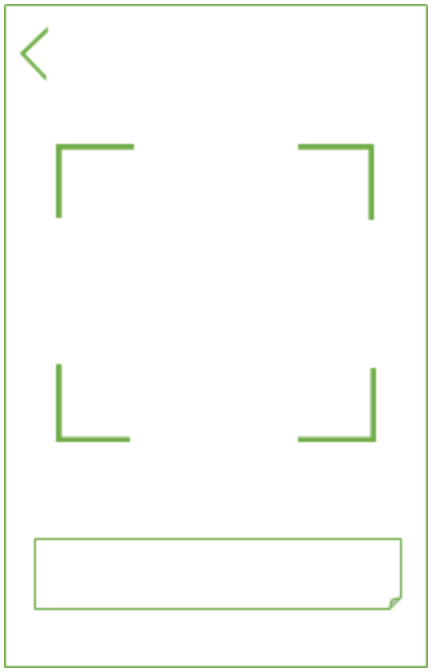
Introduction

In this deliverable, the first prototype is based on the idea of proof of concept. This means creating a prototype to find any significant problems with the app's concept design. The concept design can be found in deliverable D. This document will contain the technical details of this prototype and feedback from users, which will be used to see what direction the project is taking.

Prototype I

Prototype I Home. Basic home page; there are three buttons at the bottom of the screen which allow the user to maneuver throughout the app’s subsystems. Although the buttons are functional, they do not currently direct the user to each corresponding subsystem yet.



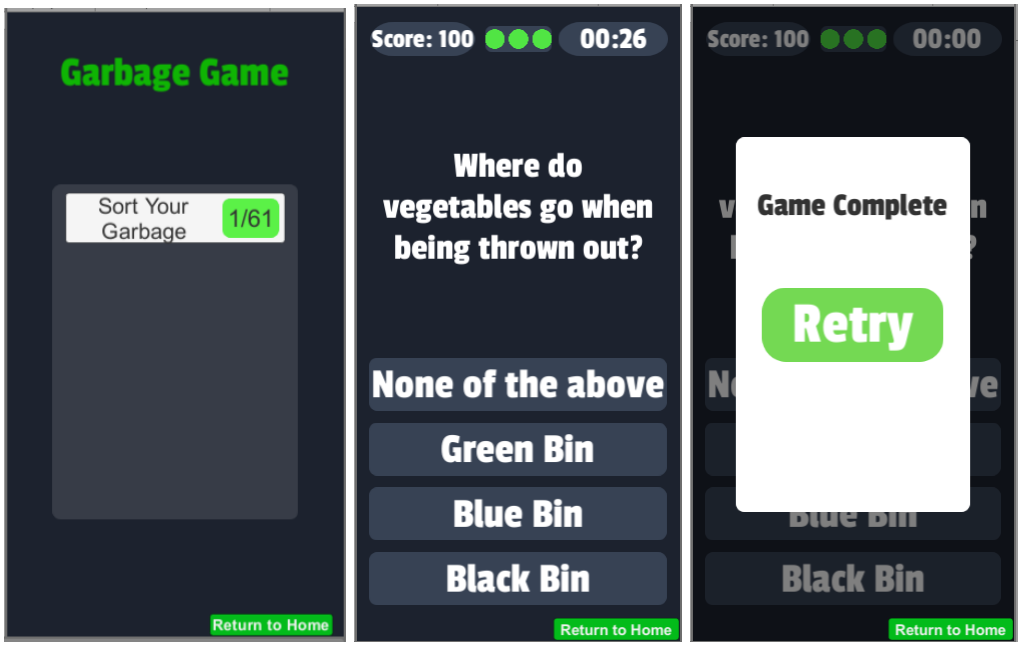
INDEX.HTML

index.html

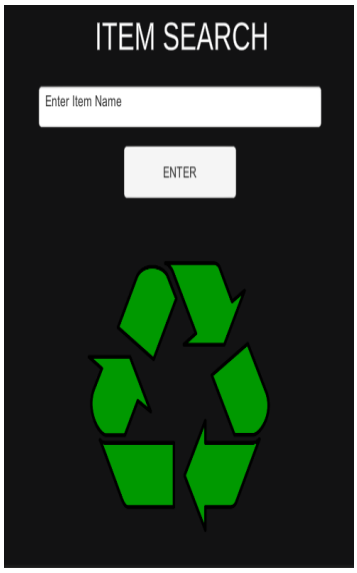
/storage/emulated/0/AppProjects/MyWebsite

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <input type="file" accept="image/*" capture="camera">
</body>
<ml>
<script>
    var file = document.querySelector('input');
        if (getIos()) {
            file.removeAttribute("capture");
        }
        function getIos() {
            var ua=navigator.userAgent.toLowerCase();
            if (ua.match(/iPhone\sOS/i) == "iphone os") {
                return true;
            } else {
                return false;
            }
        }
</script>
```

Prototype I Scan. Basic scan page. There is only one button at the middle of the screen, touch it to open the camera to scan. The categories of items scanned in the box will show in the box below.
This code is in HTML.When it's running it gives you a link, and when you go to that link, you can open the phone's camera from that web page.



Prototype I Game. Basic game page; there is one set of questions on where garbage needs to be sorted. Buttons for options currently work, with a timer, score board, and number of lives.



Prototype I Search. Basic search page; there is one input field where the user will be able to enter in the item. The one button named “ENTER” does work, however, does not yet direct the user to proceed to options after typing in the item name.

Prototype Test Plan

Why are we doing this test?

Testing is necessary for the first prototype for several reasons. First, this test ensures that the program is able to properly function on IOS. As a first prototype, group members may not have been able to integrate the ideas of the initial concept into a functional software. Additionally, the initial concept may not have been feasible through Unity, the chosen programming platform. Thus, this test was necessary to demonstrate proof of the concept.

What are the test objectives

The test objectives of this prototype include creating a basic app layout with basic functionality and seeking out any possible flaws in the initial app concept, as well as exploring possible improvements or alterations if there is a problem with the concept design.

What is being learned or communicated with the prototype

This prototype will help us learn whether our concept can be properly implemented as we initially intended or if specific changes must be made to alter or improve the concept. Furthermore, we can use gathered feedback from our client, friends, and family to make adjustments to our concept.

What are the possible types of results

The results consist of whether or not the program's basic functionality is operational and if the app layout is appealing and easy to navigate. For example, after testing the buttons, camera, and game functionality, we would record whether they were operational or not. Another test would be to get feedback from friends and family. Rather than recording these results as either "good" or "bad" (like the previous form of results), they can be recorded on a scale to analyze if they need improvement and how much they can be improved.

How will these results affect the decisions

Moving forward, we will need to adjust and improve our concept until perfected. We can use the measurable feedback results from the client, as well as friends and family, to help our decision making and move us in the right direction. It is important that we meet our clients expectations and needs, and with their feedback, we can make sure our client is satisfied.

What are the criteria for test success or failure

A successful prototype would require proper functionality among each subsystem and would meet the clients needs so far. If the program crashes, does not operate as intended, or fails to meet the clients needs, the prototype would be considered a failure

What is going on and how is it being done?

This prototype was aimed at assessing only key functionality scenes and systems of the idealized design. As this prototype does not have all of its intended features, this proof of concept will not yet be considered comprehensive.

Prototype Description

This prototype consisted of the creation of different scenes and some functionality in Unity. Each scene has been based on the final conceptual design, that can be found in deliverable D, and will contain some type of interactive subsystem. For the “Home Screen” scene, there are currently three buttons that, when clicked, will take you to a different scene(subsystem) of the app. The “Scan Screen” currently consists of a screen with a button that is able to open the camera on an IOS device. Lastly, the “Game Screen” has one option for a set of sorting items, once the game has started a question appears and a timer is started, it is currently possible to press buttons to move to other items.

What information is being measured

Each system was measured slightly differently but all focused around the main idea of basic functionality of elements in the Unity scene and on Unity Remote 5. Each scene measured the ease of use for buttons to see if they are appropriately sized, spaced out, positioned, etc. As well if the “Scan Screen” could open the camera.

What is being observed and how it is being recorded

Information that is observed includes measurements of interactive elements, functionality and ease of use, for each scene. This information will be recorded on a document or shared with the team via email or WhatsApp. These observations will be detailed and evaluated as future prototypes successes will rely on changes to fix these issues and/or improve upon them.

What materials are required and their approximate costs

The materials required are Unity software, Unity Remote 5, visual basic(a programming software), a computer, and an IOS mobile device to test the application on. All of these materials have a zero cost as the team already has these materials, and the team does not currently see many additional costs for this project.

What work needs to be done

The first round of testing meets the requirements for the current prototype, now the team will be taking the next steps to achieve prototype II. Moving forward the teams next steps are to make the “Home Screen” buttons functional, add images of items and finish the layout on the “Game Screen”, and to get the “Scan Screen” to start recognizing items. Furthermore, the “Search Screen” needs to be programmed in a way such that it matches the entered phrases/items with the Ottawa recycling database. After these have been tested the next step is to compile each

individual system into one.

When is it happening?

The testing of the prototype will take a few hours over one to two days depending on what's being tested. This prototype is in its elementary stages. Thus, most test results are very straightforward. Each focused prototype will be tested for their own individual expectations using Unity and Unity Remote 5 to test scenes on an IOS running smartphone. This means each subsection can be prototyped and tested independently from others. A closer look at specific dates for scheduling can be found on Wrike.

The results for prototype I tests are required by March 7, 2021. The updates and continuation of the project on to the second prototype are dependent on the results in the project plan.

Feedback

Overall, after asking multiple users to test the prototypes there is some positive feedback and some constructive criticism.

When talking to the client during the second meeting they had expressed satisfaction with the idea of a game to engage users, but also expressed that he would prefer a game that would become more challenging as it gets played by the user. He also liked the idea of scanning an item but disliked the idea of scanning the barcode of a product.

When gathering data from other users on the prototype created they found the game buttons sometimes don’t look like a button and the design needs to be changed. As well users expressed that they liked the layout of most scenes as they are easy to navigate and eye catching when using.

Conclusion

Based on the designs created in previous weeks, the team were able to create a plan for three prototypes, starting with the current one a “proof of concept” prototype I. With this deliverable, the team has now completed the first prototype for the new sorting garbage project, and have outlined a testing plan to make sure the project is on the right track to fulfil the clients needs. Following this deliverable, the team will be taking the feedback and other observations gathered to now move onto the second phase of prototyping, where they will start including more detail in subsystems and enhancing the functionality of the app.