Galaxy.Info Application

Design Documentation

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INTERNET AND MOBILE APPLICATIONS | GMIT SOFTWARE DEVELOPMENT YEAR 2

INTRODUCTION

I am going to create a Cross Platform Application that will incorporate the Xamarin.Forms Framework. I have decided on creating a Milky Way Galaxy Information Application that will have a easy to use and understand User Interface, so that people of all ages will be able to use it.

The Software I will use to accomplish this will be Microsoft Visual Studio 2017 along with the Xamarin.Forms UWP (Universal Windows Platform) and Android Cross Platform Frameworks. The Programming Language's I will be using are .Xaml and C# . Xaml is Xamarin's Layout Programming Language where I will code the Front End of the Application and C# is the Back-End where the Code will execute.

System Requirements

- Easy to Use Design – Using Navigation Layout's, Scroll Views, Tabbed Pages, Buttons and Content Pages
- Needs to Incorporate Pictures and a Fluid Colourful Design that is attractive to the End User.
- Needs to Work on both Windows and Android Platforms.
- Needs to be Unable to Crash or get Bugs during User Usage.
- Use of Isolated Storage and Settings as needed to store Information and Update the Content of the application where necessary.
- Must be Regularly Updated on GITHUB until Application Completion.
- GIT must contain a ReadMe File that describes the Application's Functionality.
- Use of Good Coding Practices - UI Design, Variable Naming, Commenting, use of sub routines and functions.

The UI Design I am planning to design will be a Home Page with the Solar System Being Showcased and Buttons for Each Planet that go in ascending order from their distance to the sun.

I will add a more button to add info for parts of our solar system that aren't technically a planet like Pluto and the Moon along with asteroids and moons that other planets may have. Along with more general info about our Solar System. This more Button may be replaced by a Horizontal or Vertical Scrolling View Depending On the Information I find and how the user Experience will be when changed.

When the User clicks into one of Buttons it will bring up a picture of that planet along with general info like its Age, Location from the Sun and The planet's surface area in Kilometres Squared along with other basic info that may interest the User. I will add a Vertical Scrolling feature to the Info Page on the planet so that people can scroll to read the Sentences that may not all appear on the small screen size of a Phone. Along with a more info button to give relative Information and this may include links and buttons for the user to gather more information if they are interested in that particular planet.

1. Use the Layouts and user double tap or swiping motions to control the application in a way that is easy to understand.
2. Add Unique Calculators that can calculate things like how long a earth year/years is on another planet and how long it would take to travel to a certain planet moving at a user inputted speed.
3. The ability to save and record the amount of time the user has spent on the app and display back to the user or the ability to record some sort of User changed information to the Device storage for future use.

Development Plan

Phase 1 – Understanding the Scope of the Project

First I need to look over my planned project and understand what kind of features I can add and how I can go about making a pleasant user experience within my 6 week Allocation Time for the Project.

I will take into consideration UI Ideas and run it by classmates and friends to get Idea's and Inspiration. I will look over the system requirements and the Wish list of features and See what I can come up with or if the UI needs a complete overhaul.

Phase 2 – Experimentation

I will experiment with the different features of .Xaml and C# to see what capabilities I can have along with researching others achievements with the Xamarin.Forms Framework. I will program different UI's that are close to my usual design Idea and see which brings about the best User Experience

Phase 3 – UI Coding

After the Experimentation Phase I will begin to program the UI for the programming, this includes Layouts, Page's, Buttons, etc. I will do this in accordance to User Experience Information I gathered in Phase 2. This UI will need to be programmed to be easy to navigate and offer a fresh and clean user experience. <Will be performed on .Xaml Mostly>

Phase 4 – Back-End Coding <Adding Functionality>

This will be a heavy programming phase which purpose is to add functionality to the buttons and adding information to the application. This will be performed on C# in Visual Studio Xamarin.Forms. I will have to do my best to program as well as I can as to not take up more time in Phase 5.

Phase 5 – Debugging and Testing

I will begin running the programming, testing the user experience and trying my best to break it and make it crash. If it crashes or their something wrong with the UI/User Experience then I will need to go over it in the Code and re-implement the functionality with a fixed version.