PF Project 2021: Report

# The Digital Encyclopedia


**PROJECT MEMBERS:**

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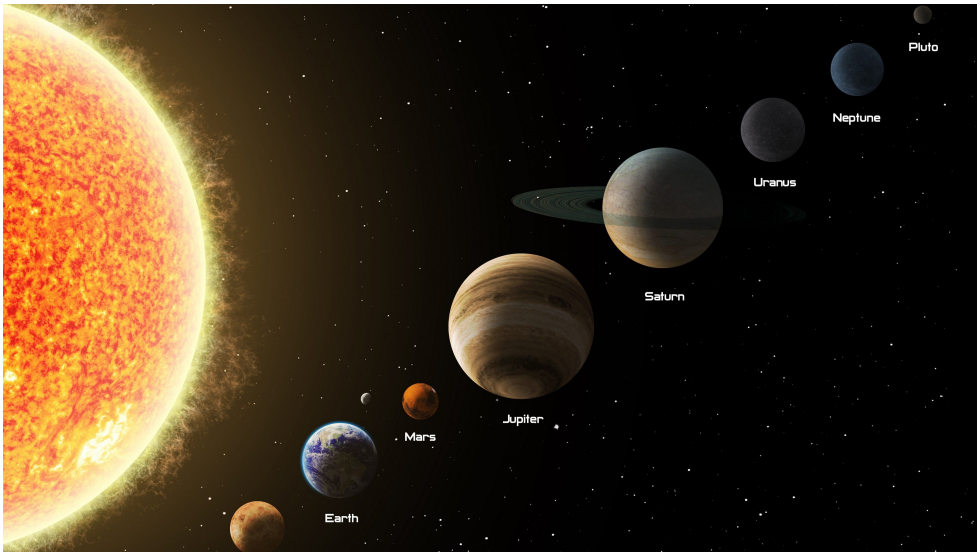


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# 1 Introduction

## 1.1 Aim And Motivation

The goal of this program is simple yet threefold. First, it would help the user extract all the available knowledge about the solar system. Second, it would help researchers since all the knowledge is available under one roof. Third, it can be a source of knowledge through entertainment as well.

# 2 Background

## 2.1 Research And Project Selection

Being astrophysics and cosmology enthusiasts ourselves, it motivated us to work on a project through which we can develop a program which enables users to find relevant piece of information, facts and entertainment in one place collectively. The subject of our program and project comes under the category of mutual interest of all our members hence we selected this idea. We had some other ideas such as a program for easy access of Service Labours(carpenters, plumbers etc.) and another idea of developing a program which works as an Essay Writing Helper. We resolved to go ahead with the idea of making a Digital Encyclopedia of the Solar System because it was the most interesting for all of our members.

# 3 Project Specification

## 3.1 System Users

- User (For example students, researchers, cosmos enthusiasts etc.
- Admin

## 3.2 List Of Features

User:

1. Planet's topography is available.
2. Materials planets are made up of.
3. Research related to the solar system.
4. Calculating BMI
5. Conversion of weight on different planets.
6. Solar System Facts and jokes.
7. Providing an email address to keep track of all the work a user did on the program.

8. Feedback related to the app at the end-stage.

Admin:

1. Receive Emails amp; Feedback.
2. User Assist.
3. Keep a record of user's information and data.

# 4 Problem Analysis

The problem of not finding all categories such as information, jokes, facts, planet comparison and fun activities related to the Solar System, on a single website motivated us to work on a project to make a program that provides the user with everything in a single platform.
We divided our work into some stages where firstly, we gathered information, interesting facts, space jokes, recent researches etc. from different websites. Secondly, we worked on categorising our gathered data and filing the data accordingly. Next, we worked on the coding part where we used our files and programming knowledge to write the code for our program. Last and most importantly, we compiled all of our pieces of codes which led to the completion of our project.

# 5 Solution Design

## 5.1 Tools And Techniques

The language used will be C and for IDE Visual Studio 2019 will primarily be used. Filing will be used to store the data.

## 5.2 Project Detail

Since this program is for the end-user, there will be one user of the program. This program falls under the category of knowledge and entertainment. It is the digital encyclopedia for The Solar System with some added features to ease the usability of the end-user. Our program would help Cosmos enthusiasts gather all kinds of knowledge about the solar system and its surroundings.It would also have some added features for fun for example, if the user wants to calculate his/her weight on Jupiter, or if they want to calculate their BMI.

## 5.3 Functionality And Features

Concepts used:

1. Control Structures(if-else, nested-ifs)
2. Switch Control
3. Arrays
4. Strings
5. Pointers
6. Recursion
7. Structures
8. Functions
9. Looping (nested)
10. File processing

Description:
This project has seven main features. It offers the user to get information about:

- Solar System
- Planets
- Celestial bodies

Secondly, It comprises of four entertaining features including:

- Jokes
- Facts about planets
- Weight on different planets
- Calculation of User's BMI
- Comparison of a Planet with Earth

# 6 Implementation

So, first, we have made a header file which consist of recursive functions performing different tasks. each function returns some value which is utilized in displaying the correct data on the screen. In total there are eleven functions. First user enters their personal information which is performed by getinfo function, which is saved in a text file using feedback function. Later he is asked to enter the number for the particular information he wants to get which is performed by selection info function. This function calls functions containing files of particular information that is required by the user. Weight and BMI is calculated in weight function. Likewise more functions use concepts of string, arrays, recursion, control statements and loops to perform the tasks. Welcome header file thus includes project header file where functions are called and the program proceeds.

# 7 Project Breakdown Structure

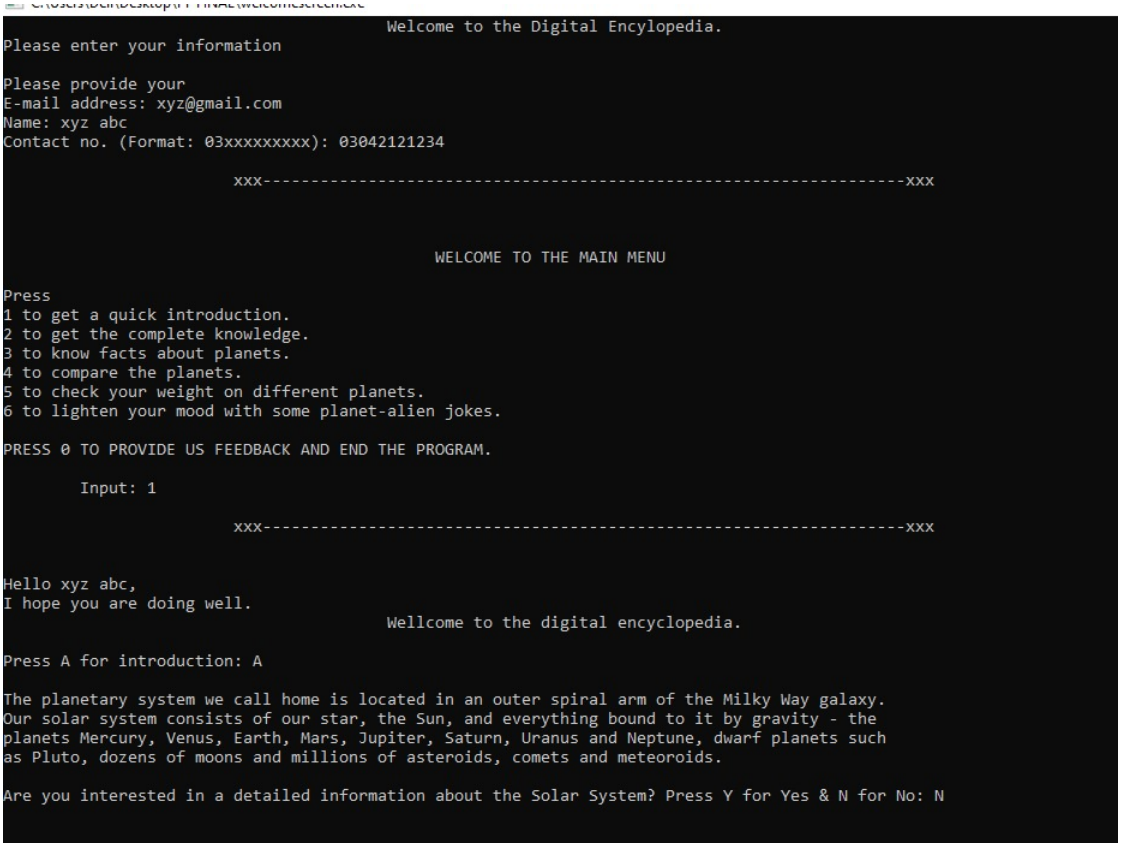
## 7.1 Workload Distribution With Timeline

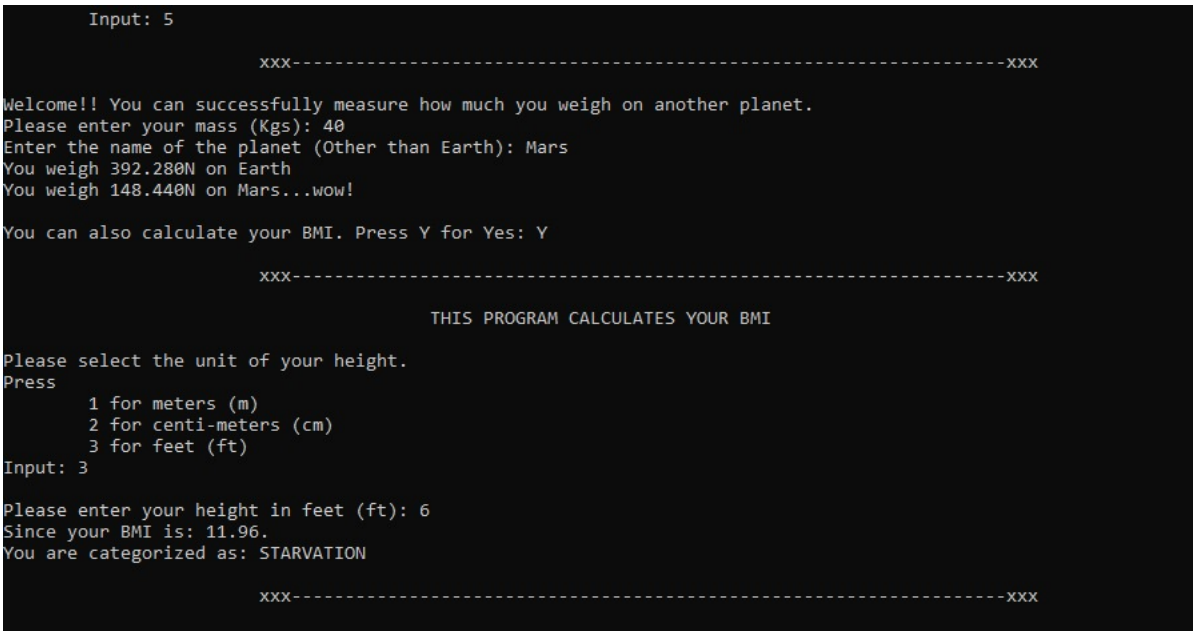
All the work has been equally divided among the group members for an equal workload pressure.
Features that each group member performed in the given time are:

1. Research work.
2. Coding
3. Project Report
4. Power point presentation

# 8 Results

The output of this program will be the information required by the user. Sample result output attached:



# 9 Conclusion

## 9.1 Summary And Discussion

This project is an amalgamation of research, writing, filing, coding and compilation. We were able to achieve our aim of making a program that allows a user to access any information, facts, jokes, comparison or fun activity in a single program. We added all the functionalities and features which we had planned to add for this program. It was a great learning experience for all members in terms of teamwork and collaborative efforts to make a program with mutual interest.