Idea:

We have decided to create an exercise app that allows the user to select a target area and workout to music.

Specifications:

Input Data:

Users will input the following:

Create a username to be stored in a database

Create a password which will also be stored in the system

Once logged in:

Name

Age/Gender/Weight

Height

Valid and Invalid Data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data | Type | Valid Data | Invalid Data | Action if Wrong data type entered |
| Name | Alphanumeric | String | Integers | Ask user to enter name again |
| weight | numeric | Integer | String | Highlight incorrect data type |
| height | numeric | Integer | String | Highlight incorrect data type |
| gender | radio | Boolean | N/A | N/A because user only select either male or female |
|  |  |  |  |  |

Who will use the Software:

The software is to be used by anyone that would like to exercise. The type of interface that will be used will be a Graphical User Interface.

Design:

Database table structures:

Profile:

ID

Name

Last\_name

Height (feet)

(inches)

Weight

Gender

BMI

Table Structures:

**Profile Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| Field Name | Data Type | Field Size | Description |
| ID | Integer | Long integer | A unique identification number for each user |
| Username | Char | 12 | Username used by the user to login |
| Name | Char | 15 | The user’s first name |
| Last name | Char | 15 | The user’s last name |
| Height(feet) | Double | 2 | This is the user’s height in feet |
| inches | Double | 2 | This is the user’s height in inches |
| Weight | Double | 4 | Shows the user’s weight |
| Gender | Boolean | 1 | Shows whether the student is male or female |
| BMI | Double | 4 | Shows the User’s calculated BMI |

**Systems Flowchart Diagram:**

User Inputs their details

Data entered is validated to ensure that the correct data is entered

Display an error message if incorrect data is entered

User details stored in the Profile table

Databases updated

User logs into the system using

Username and password

Once logged in the user selects their workout for the day

Work out details are stored in the workout archive to store the user’s progress

The system outputs the User’s workout

**Form Designs:**

New User Form:

Create Account

Name:

Username: Password: 

Weight: 

Height: 

Body Mass Index: 

Male Female

BMI Calculator

Create Account

This is the form that users will use to create a profile on the app. Once the user enters details of the correct type. They will have their account created from then on they will be led to the next form which is the Login Form which allows users to Login.

User Login Form:

Username:

Password:

Login

Create Account

This form is used by the User to Log into the system, once logged in the user is taken to the Workout selection form.

Workout Selection Form:

Without Equipment

With Equipment

Full Body Workout

Legs

Arms

Cardio

Core

Images of workouts

The Work Out Selection Form will be a grid, which will allow the user to select whether or not they want to use equipment or no equipment. From then on, they will have workouts shown according to categories, legs arms, cardio, and core. Imaged of the workouts will be shown on the grid below the section. The user will also be allowed to select full body work out. That will then lead them to the next page is the Workout page.

Workout:

After selecting a type of workout the workout screen should appear.

Timer to set duration of set

Start Workout

Workout Animation/GIF

Workout description

Back

Stop

Start

Exit

How it works:

Once the user has selected the workout they would like to do, the Workout page is called. What this page allows them to do is select how long they want the workout to be and they can start it. There will also be a song that will play at as soon as the window opens. From then the user can see an animation of the workout and they also have instructions on the next workout they would like to do. The once the time has ended the app moves onto to the next workout.

Moving onto the Next Workout:

Data Structure used: Stack

When a workout type is selected, the first workout on the queue is pushed onto the stack. The Gif and the Text describing the workout are pushed on.

|  |
| --- |
| 1 |

When the workout is completed based on the timer it is popped out of the stack

|  |
| --- |
| Empty |

Then the next workout is then pushed into the stack along with its text, and popped out after the workout is complete.

|  |
| --- |
| 2 |

This process is repeated until all the workouts are completed then a message that displays that the workout is completed is displayed.