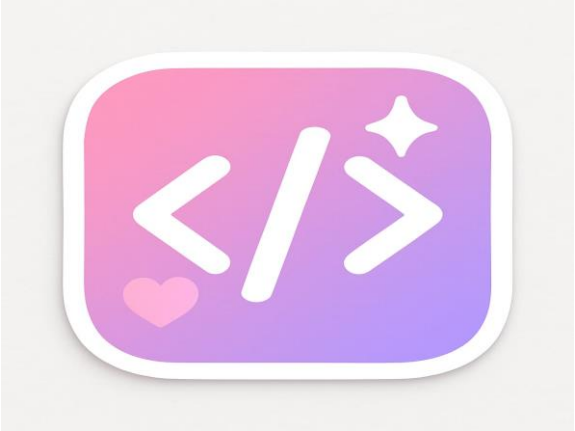
Hack-Hers Coding & Digital Essentials Project



Project Overview

- This project helps solve gender equality in digital transformation for females.
- It's unique style and design is created to initially attract young women to learn about digital information and further close the gap of gender discrimination.
- The project's intended purpose is to provide young women with the necessary information to understand the essentials to start learning how to code.
- The project is a desktop Quizlet that will ask the player basic interest questions to create a roadmap that will help the user start their journey into coding.
- It provides information on every selection that the user makes so that they may have the information they need to make informed decisions that best suits them.

Technical stack

Technologies used

1. **Windows Forms (WinForms)**

→ This is a user interface framework for building Windows desktop applications.

→ It uses controls like `RadioButton`, `ListBox`, `PictureBox`, and form event handlers (`Form.Load`, `Button. Click`) are part of WinForms.

2. **.NET Framework or .NET Core/.NET 5+**

→ The project runs on a .NET platform since it's using VB.NET and WinForms

3. **Resource Management**

→ The Images (`My.Resources`) are managed as embedded resources, which is a feature of .NET Windows desktop apps.

Tools used

1. **Visual Studio IDE (Intergrated Development Environment)**
   → Used to develop, design user interface forms, manage resources (`My.Resources`), and compile/run the application.

2. **Windows Forms Designer (part of Visual Studio)**
   → Likely used to drag and drop user interface controls like buttons, radio buttons, picture boxes, etc.

Programming Languages

1. **Visual Basic .NET (VB.NET)**
   → The code syntax clearly indicates that it's written in VB.NET, a .NET language supported in Visual Studio.

Installation and Deployment Instruction

Launch the quizlet

- Locate the game's installation folder on your computer.
- Double-click on the PlayHack-her.exe file to open it.

Step 1: Enter Your Name

→ 1. The first screen will greet you and ask you to enter your name.
→ 2. Type your name into the text box.
→ 3. Press Enter to continue.

Step 2: Choose What You Want to Learn

→ 1. The next screen will display a selection of coding languages and applications.
→ 2. You will see different options presented as: - Check boxes (for selecting multiple choices). - Radio buttons (for choosing one option at a time). - Picture boxes (for visual representation of coding concepts).
→ 3. Click on the coding topics you are interested in learning.

Step 3: Access Learning Resources

→ 1. The final screen will present relevant information based on your selections.
→ 2. You will receive: - Basic explanations of the coding topics you selected. - Links to online learning platforms for further exploration.
→ 3. Read through the materials and follow the links to expand your coding knowledge.

Step 4: Exiting the Game

→ 1. When you are ready to exit, simply click the "Exit" button.
→ 2. The game will thank you for participating in the learning experience.
→ 3. The application will close.

Challenges & Solutions

1. Finding a way to connect multiple different forms in one project seeing as the design of the project required connecting more than one form.
   → The solution was found by searching a YouTube video tutorial that gives a step-by-step guide on how to create the necessary line of code
2. Unresponsive progress bar on form1
   → The solution was found by doing a Google search and finding tutorials on how to adjust the motion and timing of the progress bar
3. Form2 not being showing up after the progress bar finishes loading
   → Adjustments were made by add an "ELSEIF" statement.

4. Changing a Picturebox to become a selectable control to have a more visual effect when completing the quizlet
    → Using Chatgpt and a TikTok tutorial video that provides the information to adjust the code to change the display control into a Ctype sender control that will allow the user to select a picture as a response
5. Find the right pictures to populate the Picturebox
    → Through a safari image search ,12 pictures were downloaded to provide the visual representation of different options.
6. Difficulty implementing the imagelist and having the images show for every selected option by the end user
    → A YouTube tutorial on how to use the image list provided instructions on solving the problem and using an 'if '' statement to have certain pictures show for different selections.
7. Trouble with making the images fit and finding a way to place them in a way that best suits the theme and style
    → Asking my fellow teammates for their opinion on how to format the images and how to set the size.
8. Converting the icon image from jpg to ico
    → Using convertico.com to provide answers on how to convert the image
9. Making the controls work
    → Adjusting parts of the code to desighner.vb

Future Enhancements

1. **Advanced Learning Techniques**
    → Add more activities that incorporate coding in the programming language that the user is interested in.
    → Reward System: Introduce achievement badges, experience points, and progression levels to keep users motivated.
    → Competitive Coding Challenges: Create a leaderboard where young learners can compete in small coding challenges.
2. **Expanded Language Support**
    → Use more Programming Languages: Allow users to select additional languages such as PHP, C++, or Swift.
    → Multilingual UI: Provide options for different languages to make learning more inclusive.
3. **Collaboration & Community Features**
    → Peer Coding Sessions: Enable multiplayer mode where users can work together on small coding projects.
    → Forums & Chat Support: Create an in-app community where students can discuss coding concepts and share

Team Members And Roles

Members:

1. Audrey Munzhedzi

2. Lindokhuhle Hope Mdluli
3. Thulaganyo Monametsi

Roles:

1. **Coding**

   → Lindokhuhle designed, coded and created the first and second form of the application (Welcome screen & Quizlet)
   → Audrey designed and provided code for the third form (The result page)
   → Thulaganyo provided insight on the GUI
   → The codes were created by different people on different PCs therefore Lindokhuhle had to simplify, adjust and combine the two forms as well as the codes into one project.
   → Lindokhuhle made the project into a desktop application

2. **Documentation**
   → Lindokhuhle provided the project over, installation and deployment instructions and challenges and solutions.
   → Thulaganyo did the architectural diagram as well as the information for future enhancements
   → Audrey gave information on the technical stack of the project and compiled the information into one document.