**CHAPTER 1**

**Overview of the Current State of Technology**

Programming is commonly used by those who are engaged with technology and innovation. It is also one of the main topic in the field of information technology and other courses which involves programming in their academic study. Students who are not familiar with programming can barely understand its function and purpose, because programming is a broad topic that evolves as our technology rises to a new level of innovation. Some find it confusing and too complicated to understand especially to those who are not familiar with it. The project, Code Testing RPG (Role Playing Game) is a web based game that can help those who find programming as a difficult topic to their studies and also to those who want to widen their abilities in programming. By just playing they can develop their learning in a fun way and the ability to react to any problem. Learning programming is possible with the help of Code Testing RPG (Role Playing Game).

**Research Objectives**

This research is for the development of a system which will help the students of College of Computer Studies and to those who wants to improve their skills in programming. The study will be a great contribution in helping the students to enhance their academic study with regards to programming.

**General Objectives**

Develop a web based role playing game dedicated for those who want to learn or broaden their programming abilities.

**Specific Objectives**

1. Introduce the project to the students/users who are interested in programming and on how to play it
2. Lessen the chance of failing the major subject because the user already know the ways of programming
3. Lessen the burden of the users when learning programming by playing the proposed game
4. Establish communication to the internet to allow the users to save their progress throughout the game
5. Design a user-friendly interface that will be suitable for any people accessing it.

**Scope and Delimitations/Limitations**

The research will be conducted in La Salle University-Ozamiz. The respondents will be college students, specifically the students of College of Computer Studies and will be limited only to the chosen students from the chosen college. The researchers will delimit the study to the students who are currently taking or have undergone a programming subject of College of Computer Studies.

**Significance of the Research**

The project Code Testing RPG (Role Playing Game) is necessary for the students that are having hard time in analyzing lines of codes. By the use of this project the students of the College of Computer Studies will be able to know the purpose and functions of various programming language and they can apply it to their daily studies and improve their skills in programming by playing. To those students who got failed in their programming 1 and 2, this will lessen their confusion and motivate them to learn because by playing they also learn something from the game as they try to explore and accomplish the game’s mission using the programming languages.

**Operational Definition of Terms**

|  |  |
| --- | --- |
| **Term** | **Description** |
| **Administrator** | The one who manages the software |
| **Architectural Design** | Architectural design defines the relationship between major structural elements of the software, the architectural styles and design patterns that can be used to achieve the requirements defined for the system, and the constraints that affect the way in which architecture can be implemented [Sha96]. |
| **Component Level Design** | Component-level design transforms structural elements of the software architecture into a procedural description of software components. Information obtained from the class-based models, flow models, and behavioral models serve as the basis for component design. |
| **Database** | Virtual storage where user’s accounts with the specific saved file are stored |
| **Deployment Diagram** | Deployment diagram focuses on the structure of a software system and is useful for showing the physical distribution of a software system among hardware platforms and execution environments. |
| **DFD** | Data Flow Diagram. A graphical depiction of data processes, data flows, and data stores in a business system. |
| **NPC** | Non-Playable Character |
| **Programming** | The action or process of writing computer programs. |
| **Programming Language** | is a formal language that specifies a set of instructions that can be used to produce various kinds of output |
| **Sequence Diagram** | In UML, a diagram that illustrates a succession of interactions between object instances over time. Often used to illustrate the processing described in use case scenarios. |
| **Software Quality Assurance** | a process that ensures that developed software meets and complies with defined or standardized quality specifications. |
| **Use Case Diagram** | a **use case** is a list of actions or event steps, typically defining the interactions between a role (known in the [Unified Modeling Language](https://en.wikipedia.org/wiki/Unified_Modeling_Language" \o "Unified Modeling Language) as an *[actor](https://en.wikipedia.org/wiki/Actor_(UML)" \o "Actor (UML))*) and a system, to achieve a goal. |
| **User** | a person who uses or operates something, especially a computer or other machine. |