**ABSTRACT**

**Applications like games may be developed for various android devices like phones, tablets etc. This makes the application quite entertaining, amusing and interesting. Android provides a rich application framework that allows us to build innovative applications and games for mobile devices in a Java Language Environment. Android Studio plays a crucial role in developing android applications for mobile devices. Android Operating System provides a very effective and efficient implementations of applications for android based mobile devices.**

**Here the game in consideration is the “Number Spectre”, an absolute mind-framed and illuminating application that can be used for the betterment and elevation of waves present in the mind that suggests high brain activity. High Brain activity defines a person as an intelligent and brainy in a very special way. This application which is indeed a game, will help every person who is particularly in boredom or who are smart enough, to want to play more. This application, one can which someone can access by installing in the computer, is highly reliable opponent.**

**The Concept of the whole game involve tiles present in the graphic image presented to user in divided among three different sections namely easy, medium and hard. Each of which helps the user target the desired level of competence of play. In an m\*m tile game, 1 tile is left empty except all the other tiles. They’re all filled with numbers randomly arranged from 0 to (m\*m-1). Using that empty tile, every number present in those tiles should be rearranged in ascending order placing the empty block in the last tile. Then the goal of the game is reached and the time taken for the completion of the game is recorded.**

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | **INDEX** |  |
|  |  |  |
| **S.NO. CHAPTER NAME** | | **PAGE NO.** |
| ABSTRACT | | i |
| LIST OF FIGURES | | iv |
|  | |  |
| **1. INTRODUCTION** | | **1** |
| 1.1 | Purpose of the Project | 2 |
| 1.2 | Scope of Project | 2 |
| **2. SOFTWARE ARCHITECTURE** | | **3** |
| 2.1 | Description of Tools | 3 |
|  | 2.1.1 Java | 3 |
|  | 2.1.2 Android architecture | 4 |
|  | 2.1.3 Android | 4 |
| **3. SYSTEM ANALYSIS** | | **12** |
| 3.1 | Existing System | 12 |
|  | 3.1.1 Drawbacks of Existing System | 12 |
| 3.2 | Proposed System | 12 |
|  | 3.2.1 Advantages of Proposed System | 12 |
| 3.3 | Feasibility Study | 13 |
|  | 3.3.1 Technical Feasibility | 13 |
|  | 3.3.2 Operational Feasibility | 13 |
|  | 3.3.3 Economic Feasibility | 14 |
| **4. SOFTWARE REQUIREMENT SPECIFICATIONS** | | **15** |
| 4.1 | Functional Requirements | 15 |

|  |  |  |
| --- | --- | --- |
| 4.2 | Non Functional Requirements | 15 |
| 4.3 | Performance Requirements | 16 |
| 4.4 | Software Requirements | 16 |
| 4.5 | Hardware Requirements | 17 |
| **5. SYSTEM DESIGN** | | 18 |
| 5.1 | Module Description | 18 |
| 5.2 | Data Flow Diagrams | 18 |
| 5.3 | UML Diagrams | 18 |
|  | 5.3.1 Use case Diagram | 20 |
|  | 5.3.2 Class Diagram | 21 |
|  | 5.3.3 Sequence Diagram | 22 |
|  | 5.3.4 Activity Diagram | 24 |
|  | 5.3.5 Component Diagram | 25 |
|  | 5.3.6 Deployment Diagram | 25 |
|  | 5.3.7 Collaboration Diagram | 26 |
| **6. IMPLEMENTATION** | | **27** |
| 6.1 | Screenshots | 27 |
| **7. SYSTEM DESIGN** | | **32** |
| 7.1 | Introduction to Testing | 32 |
| 7.2 | Test Cases | 32 |
|  | 7.2.1 Testing types | 33 |
| **8. CONCLUSION** | | **35** |
| **REFERENCES** | | **36** |

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | **LIST OF FIGURES** |  |
|  |  |  |
| **FIGURE NO.** | **FIGURE NAME** | **PAGE NO.** |
|  |  |  |
| Fig 5.1 | Use Case Diagram | 20 |
| Fig 5.2 | Class Diagram | 21 |
| Fig 5.3 | Sequence Diagram | 22 |
| Fig 5.4 | Activity Diagram | 24 |
| Fig 5.5 | Component Diagram | 25 |
| Fig 5.6 | Deployment Diagram | 26 |
| Fig 5.7 | Collaboration Diagram | 26 |
| Fig 6.1 | Screenshot Main screen | 27 |
| Fig 6.2 | Screenshot of Easy | 28 |
| Fig 6.3 | Screenshot of Medium | 29 |
| Fig 6.4 | Screenshot of Hard | 30 |
| Fig 6.5 | Screenshot of Completed Game | 31 |
|  |  |  |
|  | | |