

Software Requirements Specification
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1. INTRODUCTION

1.1. PURPOSE

The purpose of this document is to present a detailed description of our GAMING ARCADE SYSTEM. It will provide a description of the software system to be developed, laying out functional and non –functional requirements.

It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli.

This document is intended for both the end user(s) and the developers of the system.

1.2. SYSTEM OVERVIEW

This program runs on both Windows and Linux interface.

1.3. SCOPE

The Gaming Arcade System enables administrator to manage player accounts and access them with comfort. The player can also easily login to his account and play a variety of games as he wishes. Player can even get a Sudoku puzzle solved. This software can be later expanded to include more games.

1.4. REFERENCES

- i) <https://www.google.co.in/>
- ii) <http://en.wikipedia.org/>
- iii) <http://cplusplus.com/>
- iv) <youtube.com>
- v) <http://www.cse.iitb.ac.in/~cs101/>
- vi) Introduction to Problem Solving and Programming through C++ by Abhiram Ranade
- vii) <http://www.sfml-dev.org>

2. OVERALL DESCRIPTION

2.1. PRODUCT PERSPECTIVE

Our software is totally independent and self-contained. It has been made using codeblocks integrated with gnu gcc compiler and SFML 2.1 libraries.

2.1.1. SYSTEM INTERFACES

The software opens a new window which serves as mode of interaction between user and system.

2.1.2. USER INTERFACES

The software currently uses a mouse and keyboard interface with graphics included.

2.1.3. HARDWARE INTERFACES

The software requires only the basic hardware – monitor, mouse and keyboards. Running locally the software has no special hardware requirements.

2.1.4. SOFTWARE INTERFACES

- 2.1.4.1. The ACCOUNT MANAGEMENT SYSTEM shall communicate with account.dat to access information about the accounts
- 2.1.4.2. The ACCOUNT MANAGEMENT SYSTEM shall communicate With administrator to access information about users

2.1.5. COMMUNICATION INTERFACES

The ACCOUNT MANAGEMENT SYSTEM shall be using the header file <fstream.h> for communication with the .dat files containing information about ACCOUNT HOLDERS.

2.1.6. MEMORY CONSTRAINTS

Any software involving database management involves a memory constraint. IN this case we estimate that using a decent enough machine one can have about 5000 user accounts each without any memory problems which seems to be more than enough.

2.2. PRODUCT FUNCTIONS

The software allows administrator to manage player accounts. It also allows players to play various games installed by logging into their accounts.

Currently two games have been installed in the arcade. One is minesweeper and the other is 7 up 7 down.

A Sudoku auto solver has also been included using which player can get a puzzle solved. However 1000 points will be charged for solving one Sudoku puzzle.

On starting the game of minesweeper, the player is asked to select difficulty level and the points needed. Then a new window is opened and the game of minesweeper is started. The player can uncover a square by clicking left on it. He can flag it by right clicking. If the player uncovers a mine he loses the game and the points. If he wins the game, the points are added to his account.

On starting the game of 7 up 7 down player is asked to place the bet points. Then a new window opens and the game is started. The player guesses the sum of two numbers appearing on pair of dices when rolled simultaneously as 7, 7up or 7down. If his guess is correct he wins the game and corresponding points are added to his account.

2.3. USER CHARACTERSTICS

The main function first displays options for
1)USER login 2) ADMIN login 3) Exit

A) ADMIN login:

Login for Administrator requires only password. The password for admin login is “minesweeper”. On logging into administrator account he can perform the following functions:

- 1) **NEW ACCOUNT:** To create new user account
- 2) **DEPOSIT AMOUNT:** To deposit money in any users account
- 3) **BALANCE ENQUIRY:** To know balance of any user
- 4) **ALL ACCOUNT HOLDER LIST:** To display all the users information
- 5) **CLOSE AN ACCOUNT:** To delete any users account
- 6) **MODIFY AN ACCOUNT DETAILS:** To modify details of any user account
- 7) **EXIT TO LOGIN MENU BY LOGGING OUT**

B) User login:

Login for user requires account number and password. On logging into user account he can do the following

- 1)**PLAY MINESWEEPER:** To start the game of minesweeper
- 2)**PLAY 7UP 7DOWN:** To start the game of 7 up 7 down
- 3)**SUDOKU AUTOSOLVE:** To get a Sudoku puzzle solved
- 4)**VIEW ACCOUNT:** To view his account details
- 5)**MODIFY ACCOUNT PASSWORD:** To change his account password
- 6)**LOGOUT:** To securely logout from his account

2.4. CONSTRAINTS, ASSUMPTIONS AND DEPENDENCIES

The software is developed under the following constraints and assumptions:

2.4.1. CONSTRAINTS

- 2.4.1.1. Only the administrator knows the admin password
- 2.4.1.2. Administrator cannot change his password
- 2.4.1.3. The player cannot save his game in between

2.4.2. ASSUMPTIONS

- 2.4.2.1. The player should have working knowledge of computers
- 2.4.2.2. The player should understand English
- 2.4.2.3. The machine on which software is installed is having the minimum required hardware components.

3.1. PERFORMANCE REQUIREMENTS

- 3.1.1 Should run on 500 MHz, 64 MB machine.
- 3.1.2 Most of the responses should be within 2 sec, except for searching the player database for which more time is acceptable

3.2. SOFTWARE SYSTEM ATTRIBUTES

3.2.1. RELIABILITY

The software should be bug free as far as possible. It should not crash frequently and return proper error messages wherever possible.

3.2.2 AVAILABILITY

The software should be readily available for installation and other modifications whenever needed.

3.2.3 SECURITY

The PLAYER ID and passwords should be secure and should not be accessible from anywhere inside the program to administrator or the members.

3.2.4 MAINTAINABILITY

The software should be low maintenance and should not require frequent upgrades. The aim is to provide a software that takes care of needs of near future as well.

3.2.5 PORTABILITY

The program should have cross platform compatibility and should run on popular operating systems like Linux Ubuntu, Windows 7, Windows 8, Windows 8.1 .