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| Microsoft |
| I.T. P.A.T. |
| System Specifications Document |
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| **Glenwood House** |

Table of Contents

[SUMMARY 2](#_Toc491696883)

[Specifications of Program Function 3](#_Toc491696884)

[Log In screen 3](#_Toc491696885)

[Registration screen 3](#_Toc491696886)

[Student Screen 4](#_Toc491696887)

[Student Profile Screen 4](#_Toc491696888)

[Tutor Screen 5](#_Toc491696889)

[Tutor Profile Screen 5](#_Toc491696890)

[Admin Screen 6](#_Toc491696891)

[Admin Profile Screen 6](#_Toc491696892)

[Specification of User Interface 7](#_Toc491696893)

[Log In Screen 7](#_Toc491696894)

[Registration Screen 7](#_Toc491696895)

[Student Screen 7](#_Toc491696896)

[Student Profile Screen 7](#_Toc491696897)

[Tutor Screen 7](#_Toc491696898)

[Tutor Profile Screen 7](#_Toc491696899)

[Admin Screen 7](#_Toc491696900)

[Admin Profile Screen 7](#_Toc491696901)

[Specification of Help 7](#_Toc491696902)

[Specification of Data Storage 8](#_Toc491696903)

# SUMMARY

My high school, Glenwood House, has a tutoring system in place where peers can tutor each other under an official tutoring system with official tutoring regulations. The problem with the system falls under its organization. The system is organized via the Peer Tutoring Administrators (PTA) who aim to keep track of the numerous tutors and their details such as who they are tutoring, at what times they are tutoring and what subjects they tutor. The PTA also needs to process the admissions of prospective tutors and need to inform the tutors of students which request tutoring. This puts the PTA at the centre of the functionality of the system, but with a large school body as well as busy schedules the PTA can have a hard time staying organized and keeping the system running effectively.

My program aims to create an interactive database that has three different platforms to be accessed by tutors, students and the PTA respectively. This aims to increase the organization of the system, making it more user friendly for all three factions of users and thus even increase the use of the Glenwood House Tutoring system overall and making the PTA’s job easier. This is done by creating profiles for tutors and students which will keep track of their information. The students can request tutoring via the program. The program allows the PTA to view information of both tutor and student profiles for the purpose of quality control. The PTA will also be able to delete profiles in cases they deem applicable and will have the ability to process the admission of prospective tutors into the program.

# Specifications of Program Function

The program will display the Log On screen directly after being launched.

## Log In screen

* Validation and Verification
  + Checks that the username entered is in the database and that the password is correct for that username.
* Change Screen
  + Open the “Student Profile”, “Tutor Profile” or “Admin Profile” screens respectively.
* Display error
  + If the username or password is invalid or incorrect then display an error to inform the user.

## Registration screen

* Validation and Verification
  + Check that the password is repeated correctly.
  + Check that the username is unique in the database.
  + Insert User.
* Insert User
  + Make a new entry in the database using user name and password details.
* Change Screen
  + Open the “Student Profile”, “Tutor Profile” or “Admin Profile” screens respectively.
* Display error
  + If the username is already used the password is repeated incorrectly then display an error to inform the user.

## Student Screen

* Display a list of all tutors
  + Select the tutors in the database that have been granted admin approval.
* Display a list of the user’s tutors
  + Select the tutors in the database that give tutoring to this user.
* Display tutor details.
  + Display the selected tutor’s details.
* Request Tutor
  + Allow the user to request to be tutored by a selected tutor.
* Remove Tutor
  + Allow the user to remove a tutor from their list of tutors.
* View Profile
  + Opens the Student Profile Screen.

## Student Profile Screen

* Validation and Verification
  + Checks that the user has entered data and that it is in the correct format.
* Display error
  + If the user attempts to perform an action but there are Validation or Verification errors then display these errors.
* Update Student Profile
  + Allow the user to change profile data if there are no Validation or Verification errors.
* Undo unsaved Student Profile changes.
  + Reset the profile data to values currently in the database.
* Delete uncompleted profiles
  + If the Exit button is pressed and the database has not been populated: delete database values inserted during registration.
* Delete User
  + Display a confirmation dialogue
  + Delete all user related data from the database.
  + Display the “Log On” screen.
* View Student Screen
  + Opens the Student Profile Screen if the database has been populated.

## Tutor Screen

* Display a list of requesting Students
  + Select all the Students in the database that are requesting to be tutored by the user.
* Display a list of the Students that are being tutored by the user.
  + Select the Students in the database that are tutored by user.
* Display Student details.
  + Display the selected student’s details.
* Accept Student
  + Allow the user to accept Students requesting to be tutored.
* Remove Student
  + Allow the user to remove a student from the list of students they tutor or that are requesting to be tutored.
* View Profile
  + Opens the Tutor Profile Screen.

## Tutor Profile Screen

## 

* Validation and Verification
  + Checks that the user has entered data and that it is in the correct format.
* Display error
  + If the user attempts to perform an action but there are Validation or Verification errors then display these errors.
* Update Student Profile
  + Allow the user to change profile data if there are no Validation or Verification errors.
* Undo unsaved Student Profile changes.
  + Reset the profile data to values currently in the database.
* Delete uncompleted profiles
  + If the Exit button is pressed and the database has not been populated: delete database values inserted during registration.
* Delete User
  + Display a confirmation dialogue
  + Delete all user related data from the database.
  + Display the “Log On” screen.
* View Tutor Screen
  + Opens the Student Profile Screen if the database has been populated.

## Admin Screen

* Display a list of all Students
  + Select all the Students in the database.
* Display a list of all Tutors
  + Select the Tutors in the database that have been granted admin approval.
* Display a list of requesting Tutors
  + Select all the Tutors in the database that have not been granted admin approval.
* Display Tutor or Student details.
  + Display the selected Tutor or Student’s details.
* Accept Tutor
  + Allow the user to accept Tutors requesting to be tutors.
* Delete User
  + Allow the user to delete a Student or Tutor or from the database.
* View Profile
  + Opens the Admin Profile Screen.

## Admin Profile Screen

* Validation and Verification
  + Checks that the user has entered data and that it is in the correct format.
* Display error
  + If the user attempts to perform an action but there are Validation or Verification errors then display these errors.
* Update Student Profile
  + Allow the user to change profile data if there are no Validation or Verification errors.
* Undo unsaved Student Profile changes.
  + Reset the profile data to values currently in the database.
* Delete uncompleted profiles
  + If the Exit button is pressed and the database has not been populated: delete database values inserted during registration.
* Delete User
  + Display a confirmation dialogue
  + Delete all user related data from the database.
  + Display the “Log On” screen.
* View Admin Screen
  + Opens the Student Profile Screen if the database has been populated.

## Log In Screen

* Input user name and password in 2 respective fields.
* A Log In button to instigate Verification and Validation and database insertion
* A clickable label that opens the Registration Screen
* A program Logo.

## Registration Screen

* A drop down menu with “Student” or “Tutor” as default.
* If the Registration screen is opened with administrator privileges.
  + “Admin”, Student” and “Tutor” will be available from the drop down menu.
  + The new admin’s profile will be opened at the end of registration.
* Input user name and password and repeated password in 3 respective fields.
* A Register button to instigate Verification and Validation and database insertion
* A clickable label that opens the Log In Screen
* A program Logo.

## 

## Student Screen

* A tabbed pane to allow the switching between Tutor lists.
* A list to display all Tutors
* A list to display the Tutors that tutor the user.
* Fields and labels to display a selected tutor’s: Name, Surname, Age, Grade, Cell phone number, Profile picture and the ‘subjects they provide tutoring in’.
* A timetable to display a selected tutor’s tutoring times.
* A “Request” button.
* A “Remove” button.
* A clickable label “View Profile” to open the Student Profile Screen.

## 

## Student Profile Screen

* Respective fields with accompanying labels to enter the user’s: Name, Surname, Date of Birth, Grade, ‘Subjects they want tutoring in’, Profile picture and Cell phone number.
* An “Apply” button to allow data to be updated into the database.
* An “Undo” button to call information from the database.
* A “Delete Profile” label.
* A clickable label “View Tutors” to open the Student Screen.

## Tutor Screen

* A tabbed pane to allow the switching between Student lists.
* A list to display all Students requesting to be tutored by the user
* A list to display the Students that the user tutors.
* Fields and labels to display a selected student’s: Name, Surname, Age, Grade, Cell phone number, Profile picture and the subjects they want tutoring in.
* An “Accept” button.
* A “Remove” button.
* A clickable label “View Profile” to open the Tutor Profile Screen.

## 

## Tutor Profile Screen

* Respective fields with accompanying labels to enter the user’s: Name, Surname, Date of Birth, Grade, ‘Subjects they want tutoring in’, Profile picture, Cell phone number and timetable of times they provide tutoring from.
* An “Apply” button to allow data to be updated into the database.
* An “Undo” button to call information from the database.
* A “Delete Profile” label.
* A clickable label “View Students” to open the Tutor Screen.

## Admin Screen

* A tabbed pane to allow the switching between the Requesting Tutors list and the All Users list.
* A list to display all Students in the database.
* A list to display the Tutors with admin approval
* A list to display Requesting Tutors: tutors without admin approval.
* Fields and labels to display a selected or Tutor’s: Name, Surname, Age, Grade, Cell phone number, Profile picture and the subjects they want or provide tutoring in. As well as the Tutor’s timetable if a tutor is selected.
* An “Accept” button.
* A “Remove” button.
* A clickable label “View Profile” to open the Tutor Profile Screen.
* A clickable label “View Tutors” .
* A clickable label “View Students”.

## 

## Admin Profile Screen

* Respective fields with accompanying labels to enter the user’s: Name, Surname, Date of Birth, Grade, Cell phone number.
* An “Apply” button to allow data to be updated into the database.
* An “Undo” button to call information from the database.
* A “Delete Profile” label.
* A clickable label “View Users” to open the Admin Screen.

# Specification of Help

The use of error messages will guide the user to correctly inputting data into the program. Error messages are stored in the program’s code and displayed dynamically based on errors that occur. Fields in the Log In and Registration Screens will turn the colour red to help the user identify error fields. Confirmation messages will inform users of dangerous actions they are about to perform, these messages are stored in the code of the program and confirmation messages vary according to the actions performed. A video will be done explaining the program.

# Specification of Data Storage

All data is stored in a database and profile pictures are copied from the user’s PC into the program’s local “Profile Picture” folder.

## Tutors

* String :Name, surname, grade, subjects providing tutoring in, username, password, cell phone number, profile picture file path
* Date : Date of Birth
* Boolean ‘Needs Administrator Approval’

## Students

* String :Name, surname, grade, subjects wanting tutoring in, username, password, cell phone number, profile picture file path
* Date : Date of Birth

## Admin

* String :Name, surname, grade, username, password, cell phone number
* Date : Date of Birth

# Hardware and Software Specifications

## Hardware

### Minimum Hard Drive requirements:

Excluding java and eclipse software, the application should be about: 5, 60 MB.

(It is recommended to have 500 MB of free Hard Drive space.)

### Minimum CPU requirements:

A single core CPU made after the year 2005.

An example is the 2.8 GHz AMD Athlon 64 FX-57 processor announced in 2005

(It is recommended to use a 2GHz CPU)

### Minimum RAM requirements:

1 GB

## Software

Java Software version: 8.0.1310.11

Eclipse Java EE IDE for Web Developers.

Version: Mars Release (4.5.0)

Build id: 20150621-1200