



ADDICTION ASSISTANT

SYSTEM SPECIFICATION DOCUMENT
PHASE 1

Luke Van Rooyen - 191094020935

Table of Contents

SUMMARY:	3
GAMES:	3
STUDENTS:	3
HOUSES:	3
GRADES:	3
SPECIFICATIONS OF PROGRAM FUNCTIONS:	4
HOME WINDOW	4
DATA WINDOW	5
ADMIN LOGIN WINDOW	6
ADMIN WINDOW	6
SPECIFICATIONS OF USER INTERFACE:	8
HOME WINDOW	8
DATA WINDOW	9
ADMIN LOGIN WINDOW	10
ADMIN WINDOW	11
SPECIFICATIONS OF HELP	14
TOOLTIPS	ERROR! BOOKMARK NOT DEFINED.
ERROR MESSAGES	14
HELP BUTTONS	14
SPECIFICATIONS OF DATA STORAGE	15
GRADES	15
STUDENTS	15
HOUSES	15
GAMES	15
ADMINS	15
HOURS	15
HARDWARE AND SOFTWARE REQUIREMENTS	16
MINIMUM REQUIREMENTS	16

Summary:

An increasing concern in the 21st century is how much time teenagers are spending on their smart phones. In particular, smart phone games seem to be devouring a large portion of teenager's time. Having a system to store the amount of time a teenager spends on each particular phone game would make calculating the total time spent on phone games far easier and would allow statistics and other summaries to be drawn. My program will focus on easily allowing data to be entered and summaries to be created thus allowing more time to be spent on analysing the results. All it will require is the name of the student, the name of the game, and the amount of time spent playing and the rest will be done automatically. It will be able to give the total time spent playing for each boy, each grade and the entire school.

One thing that has stood out to me, is that most people spend the majority of their time playing one game so my program will place an emphasis on the most popular for each student, grade, house or the whole school. It will also display the total hours for this game and the total overall hours making it easy to compare how much of the total time is actually being spent on one game.

My plan with the program is for it to be installed on all school computers and student laptops to make recording data as easy as possible.

Games:

A list of all the popular or common phone games will allow students to easily select which game they have been playing when they are entering data. It will also allow summaries to be drawn about the most time-consuming games. This will contain the name of the game and the publisher.

Students:

This will be used to store all relevant information about each student such as full name, grade and house. It will allow students to sign in and enter data for themselves.

Houses:

A list of all the houses will allow users to select the house they desire. It will only store the name of the house.

Grades:

A list of all the grades will again allow the users to select the grade they desire and it will allow students to easily find their grade when entering data. It will only store the name of the grade.

Specifications of Program Functions:

Home Window

- The first window opened when the program is run.
- A way for users to select a grade and a student from that grade and then proceed to the Data Entering Window and close the Home Window.
- A way for the user to enter 'data viewing' mode.
- A way for the user to enter 'admin' mode.
- A way to close the program.
- A way for users to access the Help Dialog Box.

Data Entering Window

- A way for the user to reopen the Home Window.
- A way for the user to see all the data for the selected student.
- A way to select the game and the number of hours played and then save the data.
- A way to add a new game.
- There will be a way to update the student's personal details.
- A way for users to access the Help Dialog Box.

New Game Dialog Box

- A way to close the dialog box.
- A way to enter the name of the game and the name of the publisher.
- A way to save the data.
- A way for users to access the Help Dialog Box.

Update Details Dialog Box

- A way to close the dialog box.
- A way to update the student's full name, select a new grade, and select a new house.
- A way to save all the updated data.
- A way for users to access the Help Dialog Box.

See Data Dialog Box

- A way to close the dialog box.
- A way to display the student's games and the hours they've played for each game.
- A way to display the student's most used game.
- A way for users to access the Help Dialog Box.

Data Window

- A way to for the user to reopen the Home Window.
- A way to view the data of each student, all the houses or all the grades through the All Data Window.
- A way to view a detailed summary of the data for the school, a house or a grade through the Summary Data Window, also closing the Data Window.
- A way to view the data grouped by house or grade through the Grouped Data Window, closing the Data Window.
- A way to enter a student's full name and grade and then search for their data and view it through the See Data Window described above.
- A way for users to access the Help Dialog Box.

All Data Window

- A way for the user to reopen the Data Window.
- A way to change between viewing all the students, all the houses and all the grades.
- A way to display all the student, house or grade names; the total hours for each; the most popular game and the hours played of the most popular game.
- A way for users to access the Help Dialog Box.

Summary Data Window

- A way for the user to reopen the Data Window.
- A way to change between viewing the school, house and grade summary.
- If the house or grade summary is selected, an option to select the desired house or grade.
- A way to display the total hours, highest grade by hours if in school or house summary mode, highest house by hours if in school or grade summary mode, the most popular game and the hours playing the most popular game.
- A way for users to access the Help Dialog Box.

Grouped Data Window

- A way for the user to reopen the Data Window.
- A way to change between viewing the students by house or by grade and a way to select the desired house or grade.
- A way to display each student's name, their total hours, most popular game and the hours played in their most popular game.
- A way for users to access the Help Dialog Box.

Admin Login Window

- A way to for the user to reopen the Home Window.
- A way for the user to enter their username and another for them to enter their password.
- A way for the user to open the Admin Window, provided the username and password are correct.
- A way for users to access the Help Dialog Box.

Admin Window

- A way to for the user to reopen the Admin Login Window.
- A way to edit the students, which will open the Edit Students Window.
- A way to edit the houses, which will open the Edit Houses Window.
- A way to edit the grades, which will open the Edit Grades Window.
- A way to edit the games, which will open the Edit Games Window.
- A way to edit the data, which will open the Edit Data Window.
- A way for users to access the Help Dialog Box.

Edit Houses Window

- A way to allow the user to close the current window.
- A way to open the New House Dialog Box.
- A way to open the Update House Dialog Box.
- A way to delete a house.
- A way for users to access the Help Dialog Box.

Update House Dialog Box

- A way to close the dialog box.
- A way to edit the current house name and save the data.
- A way for users to access the Help Dialog Box.

New House Dialog Box

- A way to close the dialog box.
- A way to enter the new house's name and save it.
- A way for users to access the Help Dialog Box.

Edit Grades Window

- A way to allow the user to close the current window.
- A way to open the New Grade Dialog Box.
- A way to open the Update Grade Dialog Box.
- A way to delete a grade.
- A way for users to access the Help Dialog Box.

Update Grade Window

- A way to close the dialog box.
- A way to edit the current grade name and save the data.
- A way for users to access the Help Dialog Box.

New Grade Dialog Box

- A way to close the dialog box.
- A way to enter the new grade's name and save it.
- A way for users to access the Help Dialog Box.

Edit Students Window

- A way to allow the user to close the current window.
- A way to open the New Student Dialog Box.
- A way to open the Update Details Dialog Box described above.
- A way to delete a student.
- A way for users to access the Help Dialog Box.

New Student Dialog Box

- A way to close the dialog box.
- A way to enter the student's full name.
- A way to select their grade and their house.
- A way to save the data.
- A way for users to access the Help Dialog Box.

Edit Games Window

- A way to allow the user to close the current window.
- A way to open the New Game Dialog Box described above.
- A way to open the Update Game Dialog Box.
- A way to delete a game.
- A way for users to access the Help Dialog Box.

Update Games Dialog Box

- A way to close the dialog box.
- A way to update the current name, the current publisher and a way to save it.
- A way for users to access the Help Dialog Box.

Edit Data Window

- A way to allow the user to close the current window.
- A way to enter the student's full name as well as grade and search for them, which will open the Edit Student's Data Window.
- A way for users to access the Help Dialog Box.

ADDICTION ASSISTANT

Edit Student's Data Window

- A way to close the current window.
- A way to open the Data Entering Window described above.
- A way to delete the game and hours.
- A way to display the total hours.
- A way for users to access the Help Dialog Box.

Specifications of User Interface:

Home Window

- The first window opened when the program is run.
- A title, "Addiction Assistant", displayed at the top.
- A drop-down box with all the grades and another drop-down box with all the students in that grade displayed beneath the title.
- A button, "Proceed", below the drop-down boxes, that opens the Data Entering Window.
- A button, "See Data", in the top left corner, that opens the Data Window.
- A button, "Admin Login", in the top right corner, that opens the Admin Login Window.
- A button to close the program below the "Proceed" button.
- A button, in the top right, called "Help" to access the Help Dialog Box.

Data Entering Window

- A button, "Back", in the top left corner, to close the window and return to the Home Window.
- A title, "Enter Data for Student", at the top.
- A label with the selected student's name below the title.
- A button, "See Data", also below the title, that opens the Student's Data Dialog Box.
- A drop-down box with all the current games and a spinner to input the number of hours played, both below the "See Data" button.
- A button, "Save", below the drop-down box and spinner, to save the data.
- A button, "New Game", to the right of "Save", that will open the New Game Dialog Box.
- A button, "Update Student", to the left of "Save", that will open the Update Details Dialog Box.
- A button, in the top right, called "Help" to access the Help Dialog Box.

New Game Dialog Box

- A button to close the dialog box in the top left corner.
- A title, "New Game", at the top.
- A text field to enter the name of the game and another one to enter the name of the publisher both displayed below the title.
- A button, "Save", at the bottom, to save the data.
- A button, in the top right, called "Help" to access the Help Dialog Box.

Update Student Dialog Box

- A button to close the dialog box in the top left corner.
- A title, “Update Student”, at the top.
- A text field to update the student’s full name below the title.
- A drop-down box with all the grades to select a new grade and another one with all the houses to select a new house, both below the text field.
- A button, “Save”, at the bottom, to save all the updated data.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Student’s Data Dialog Box

- A button to close the dialog box in the top left corner.
- A title, “Student’s Data”, at the top.
- A table with two columns, one to display a list of the student’s games and another to display the hours they’ve played for each game, displayed in the middle of the dialog box.
- A label at the bottom displaying the student’s most played game.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Data Window

- A button, “Back”, in the top left, to close the window and return to the Home Window.
- A title, “Data”, at the top.
- A button, “All Data”, below the title, that opens the All Data Window.
- A button, “Data Summary”, below the “All Data” button, to open the Data Summary Window.
- A button, “Grouped Data”, below “Data Summary”, that opens the Grouped Data Window.
- A text field to enter a student’s full name and a drop-down box to select the grade, both below the “Grouped Data” button.
- A button, “Search”, that will open the See Data Window described above.
- A button, in the top right, called “Help” to access the Help Dialog Box.

All Data Window

- A button, “Back”, in the top left, to close the window and return to the Home Window.
- A title, “All Data”, at the top.
- A drop-down box with ‘students’, ‘houses’ and ‘grades’ to change the viewing mode.
- A table, in the middle of the window, with 4 columns, one for the student, house or grade names; one for the total hours for each; one for the most popular game and one for the hours played of the most popular game.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Data Summary Window

- A button, “Back”, in the top left, to close the window and return to the Home Window.
- A title, “Data Summary”, at the top.
- A drop-down box with ‘house’ and ‘grade’ to change viewing modes in the middle, below the title.
- A drop-down box with all the houses or grades, depending on the selected mode, to select the desired option below the title.
- A table in the middle with a column for the total hours, one for the highest grade by hours if in house summary mode, a column for highest house by hours if in grade summary mode, one for most popular game and another one for the hours played in the most popular game.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Grouped Data Window

- A button, “Back”, in the top left, to close the window and return to the Home Window.
- A title, “Grouped Data”, at the top.
- A drop-down box, in the top right, with ‘by house’ and ‘by grade’ to change between viewing the students by house or by grade.
- A drop-down box, under the title, with all the houses or grades to select the one to be viewed.
- A table in the middle of the window with 4 columns: one for each student’s name, one for their total hours, one for their most popular game and one for the hours played in their most popular game.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Admin Login Window

- A button, “Back”, in the top left, to close the window and return to the Admin Login Window.
- A title, “Admin Login”, at the top.
- A text field for the user to enter their username and another one for them to enter their password, both under the title.
- A button, “Login”, at the bottom, that will open the Admin Window provided the username and password are correct.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Admin Window

- A button, “Back”, in the top left, to close the window and return to the Home Window.
- A title, “Admin”, at the top and another, “Edit:”, underneath.
- A button, “Students”, below the title, to open the Edit Students Window.
- A button, “Houses”, below the title, to open the Edit Houses Window.
- A button, “Grades”, below “Students”, to open the Edit Grades Window.
- A button, “Games”, below “Houses”, to open the Edit Games Window.
- A button, “Data”, below “Grades” and “Games”, to open the Edit Data Window.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Edit Houses Window

- A button, “Back”, in the top left, to close the window and return to the Admin Window.
- A title, “Edit: Houses”, at the top.
- A table, in the middle, with one column for the house name.
- and one with a button to delete the house.
- A button, “Add House”, below the table, to open the New House Dialog Box.
- A button, “Update”, that appears to the left of “Add House” when a House is selected in the table, to open the Update House Dialog Box.
- A button, “Delete”, that appears to the right of “Add House” when a House is selected in the table, to delete the selected House.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Update House Dialog Box

- A button to close the dialog box in the top left.
- A title, “Update House”, at the top.
- A text field in the middle to edit the current house name.
- A button, “Save”, to save the data at the bottom.
- A button, in the top right, called “Help” to access the Help Dialog Box.

New House Dialog Box

- A button to close the dialog box in the top left.
- A title, “New House”, at the top.
- A text field in the middle to enter the new house’s name and a button, “Save”, to save it, underneath.
- A button, in the top right, called “Help” to access the Help Dialog Box

Edit Grades Window

- A button, “Back”, in the top left, to close the window and return to the Admin Window.
- A title, “Edit: Grades”, at the top.
- A table, in the middle, with one column for the grade name.
- A button, “Add Grade”, below the table, to open the New Grade Dialog Box.
- A button, “Update”, that appears to the left of “Add Grade” when a Grade is selected in the table, to open the Update Grade Dialog Box.
- A button, “Delete”, that appears to the right of “Add Grade” when a Grade is selected in the table, to delete the selected Grade.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Update Grade Dialog Box

- A button to close the dialog box in the top left.
- A title, “Update Grade”, at the top.
- A text field in the middle to edit the current grade name.
- A button, “Save”, to save the data at the bottom.
- A button, in the top right, called “Help” to access the Help Dialog Box.

New Grade Dialog Box

- A button to close the dialog box in the top right.
- A title, “New Grade”, at the top.
- A text field in the middle to enter the new grade’s name and a button, “Save”, to save it, underneath.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Edit Students Window

- A button, “Back”, in the top left, to close the window and return to the Admin Window.
- A title, “Edit: Students”, at the top.
- A table, in the middle, with one column for the student’s name.
- A button, “Add Student”, below the table, to open the New Student Dialog Box.
- A button, “Update”, that appears to the left of “Add Student” when a Student is selected in the table, to open the Update Student Dialog Box, described above.
- A button, “Delete”, that appears to the right of “Add Student” when a Student is selected in the table, to delete the selected Student.
- A button, in the top right, called “Help” to access the Help Dialog Box.

New Student Dialog Box

- A button to close the dialog box in the top right.
- A title, “New Student”, at the top.
- A text field to enter the student’s full name beneath the title.
- A drop-down box with all the grades to select their grade and another one with all the houses to select their house, both underneath the text field.
- A button, “Save”, at the bottom, to save the data.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Edit Games Window

- A button, “Back”, in the top left, to close the window and return to the Admin Window.
- A title, “Edit: Games”, at the top.
- A table, in the middle, with two columns: one for the game’s name and another for the publisher.
- A button, “Add Game”, below the table, to open the New Game Dialog Box described above.
- A button, “Update”, that appears to the left of “Add Game” when a Game is selected in the table, to open the Update Game Dialog Box.
- A button, “Delete”, that appears to the right of “Add Game” when a Game is selected in the table, to delete the selected Game.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Update Game Dialog Box

- A button to close the dialog box in the top right.
- A title, “Update Game”, at the top.
- A text field in the middle to edit the current game name and another, also in the middle, to edit the current publisher.
- A button, “Save”, to save the data at the bottom
- A button, in the top right, called “Help” to access the Help Dialog Box.

Edit Data Window

- A button, “Back”, in the top left, to close the window and return to the Admin Window.
- A title, “Edit: Data”, at the top.
- A text field to enter the student’s full name and a drop-down box to select their grade, both in the middle.
- A button, “Search” to search for the given student under the text field, which will open the Edit Student’s Data Window.
- A button, in the top right, called “Help” to access the Help Dialog Box.

Edit Student's Data Window

- A button, "Back", in the top left, to close the window and return to the Edit Data Window.
- A title, "Edit: Student Data", at the top.
- A table, in the middle, with two columns: one for the game's name and another displaying the hours for each game.
- A button, "Add Data", below the table, to open the Data Entering Window described above.
- A label on the right with the total hours.
- A button that appears to right of the table when a row is selected named "Delete" to delete the selected game and hours for the current student.
- A button, "Add Data", at the bottom, to open the Data Entering Window described above.
- A button, in the top right, called "Help" to access the Help Dialog Box.

Specifications of Help

Error Messages

- There will be detailed error messages displayed whenever an error occurs. It will tell the user what went wrong and how it can be done correctly.

Help Buttons

- When a help button is pressed a window will be opened containing help information, such as what each UI element does and what data should be entered where. It will have a section for each window.

Specifications of Data Storage

Grades

The grades will be stored in a table with a string for each grade and an integer for each grade_id – the primary key.

Students

The students will be stored in a table with a string for their name, an integer for their grade_id and a integer for their house_id as well as an integer, student_id, as the primary key.

Houses

Houses will be stored in a table with a string for each house name and a house_id, an integer – the primary key.

Games

Games will be stored in a table with a string for their name and a string for their publisher as well as an integer for each game_id – the primary key.

Admins

A list of strings for the admin usernames, passwords and a user_id, the primary key, for each will be saved in this table.

Hours

This table will save the number of hours in each game for each student. It will have a primary key, hours_id, as well as the student_id, game_id and hours for each student.

Hardware and Software Requirements

Minimum Requirements

Hardware

- 500MB of RAM – to store the program while it is running.
- 50MB of secondary storage space – to store the database and program while it is not running.
- Pointing device (mouse, touchscreen, trackpad etc.) – to interact with the GUIs.
- Keyboard – to enter data.
- Screen – to view the GUIs.
- Intel core i3 processor – to perform the calculations and run the program.

Software

- 64-bit Operating System (e.g. Windows 7, or later) – to manage the program and relevant hardware.
- MySQL – to manage the database and SQL queries.
- JDBC driver – to handle the interaction between Java and SQL database.