

Criterion B—Mock IA

Khanh, Son and Kolton

April 2020

1 Systems Flow Chart

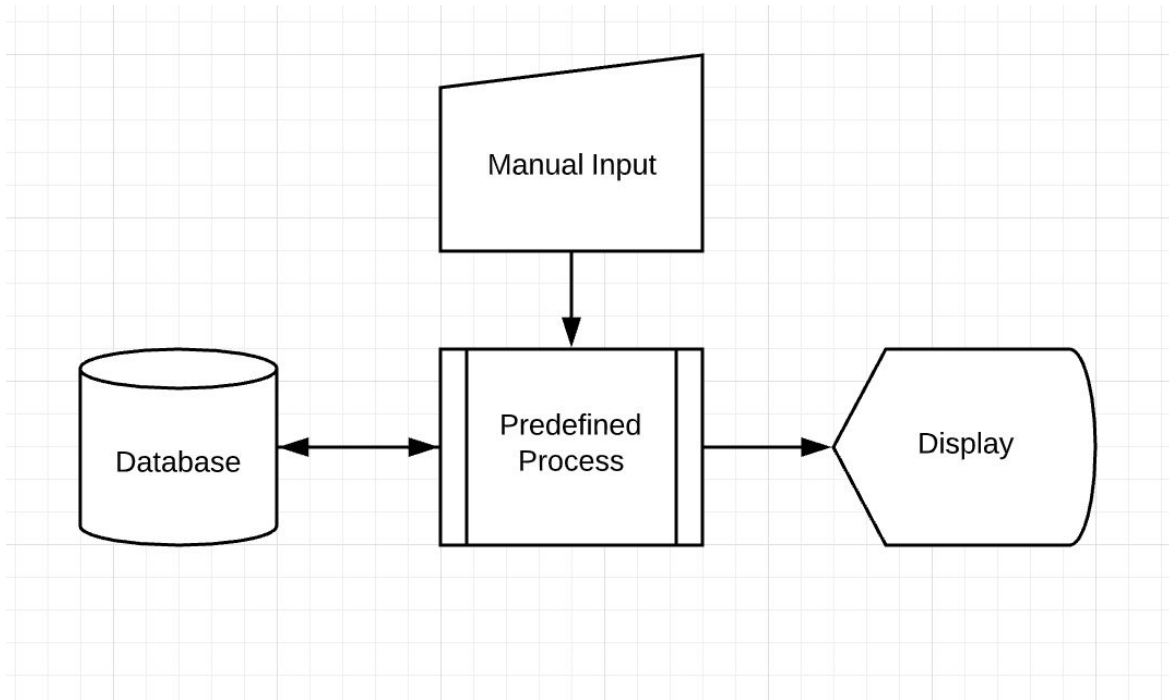


Figure 1: System flow chart

2 User Interface Design

000

House League

Input point

retrieve entries

current points

EXIT

reset points

Screen when clicked on "input point" button

000

Input house point

teacher	house	Amount of points
adam	red	
smith	yellow	
joe	green	
john	blue	

Date (DD/MM/YY)

ADD

Screen when clicked on "retrieve entries"

000

Top entries in past 2 weeks

	teacher's name	house	points	date
1.				
2.				
3.				
4.				
5.				
6.				

Screen when clicked on "current points"

000

House Rankings

	house	points
1.		
2.		
3.		

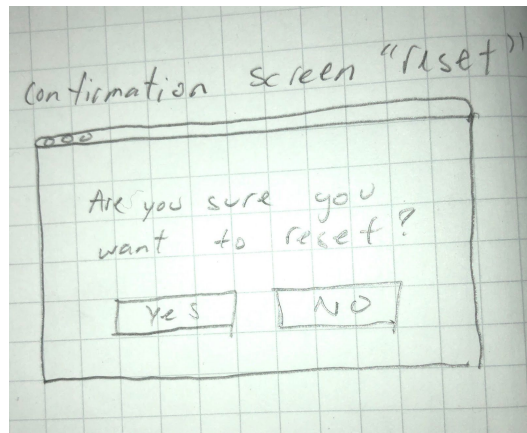


Figure 2: User Interface Design

3 Data Design

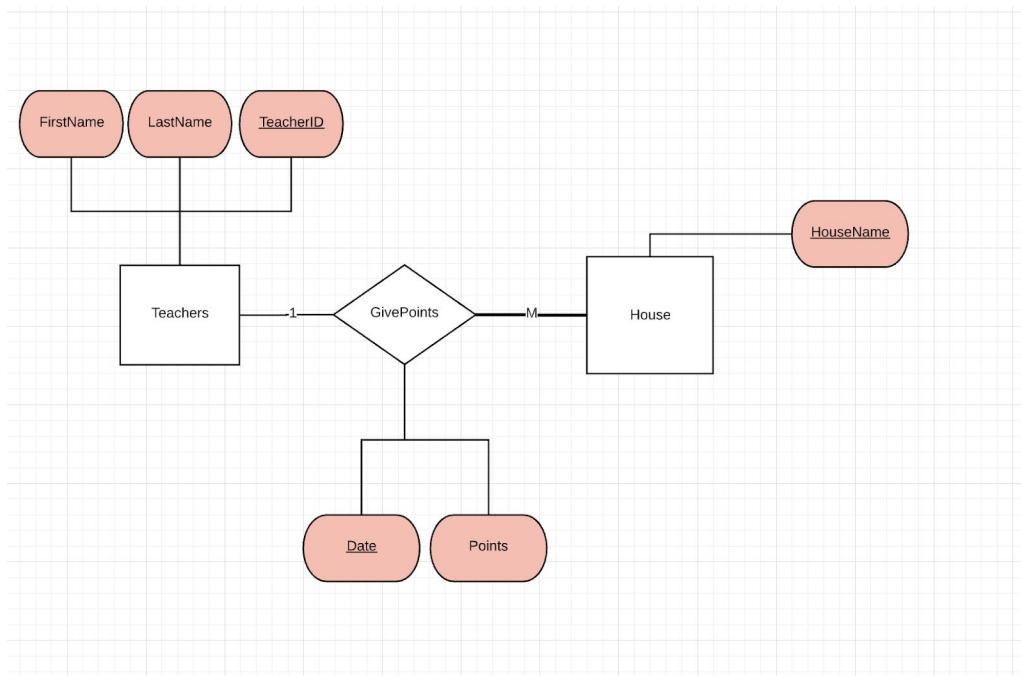


Figure 3: ERD

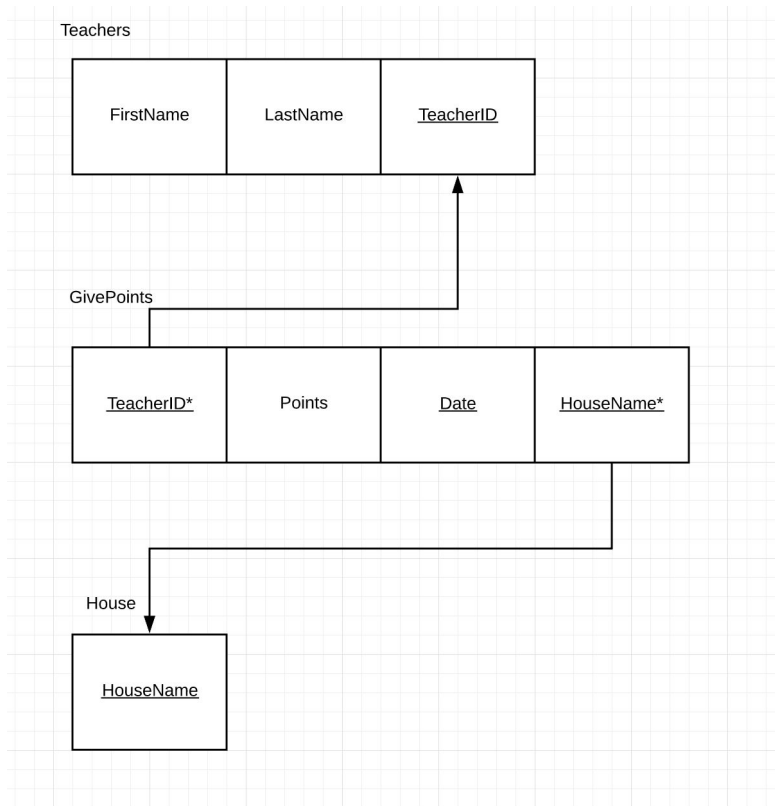


Figure 4: Relational Map

4 Algorithm Design

This is the general algorithm of the program. The algorithm will do the following:

When the client enters some point value for a certain house, the following will be executed and thus input the data into the data.

```
SQL INSERT INTO GivePoints (TeacherID) SELECT TeacherID FROM Teachers WHERE Teachers.FirstName == InputFirstName AND Teachers.LastName == InputLastName
```

```
SQL INSERT INTO GivePoints (House , Points ) VALUES (inputHouse , inputPoints)
```

When the client clicks on the report button, a window will show up and execute these commands. The result of the execution will be displayed on the pop-up window

```
SQL SELECT Points, FirstName, LastName, Date FROM Teachers JOIN GivePoints WHERE Teachers.TeacherID == GivePoints.TeacherID ORDER BY Points DESC
```

```
SQL SELECT SUM( Points, HouseName) FROM House JOIN GivePoints WHERE House.HouseName = GivePoints.HouseName
```

If the user so chooses to wipe then the following command will be executed. Hence, deleting all points from the houses

```
SQL DELETE FROM GivePoints
```

5 Algorithm Flowchart

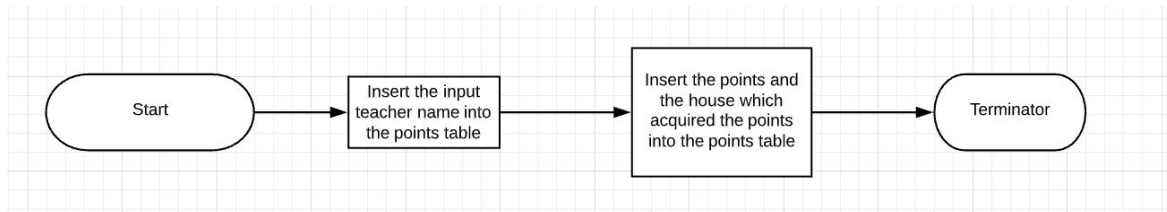


Figure 5: Flowchart for data entry

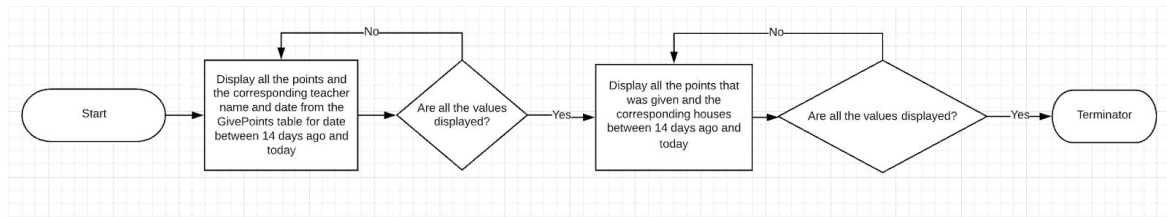


Figure 6: Flowchart for displaying reports

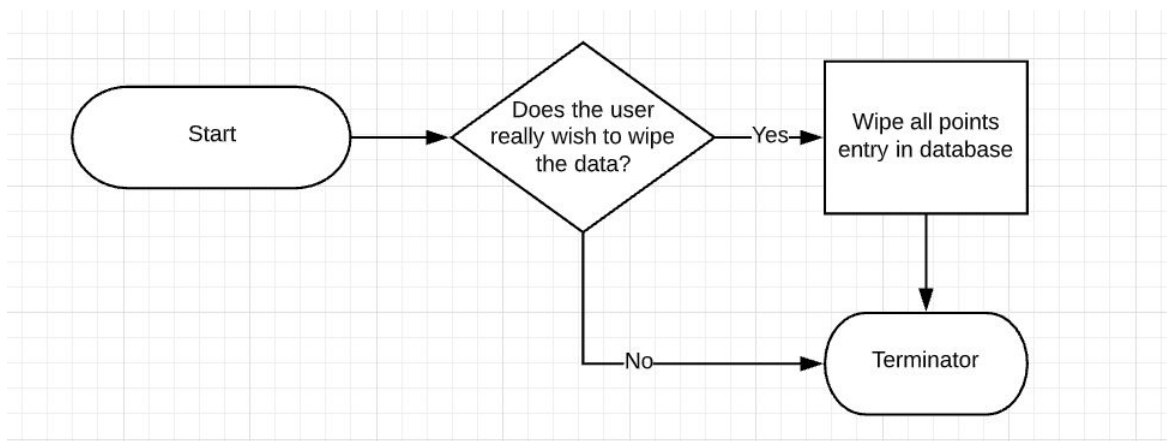


Figure 7: Flowchart for wiping data

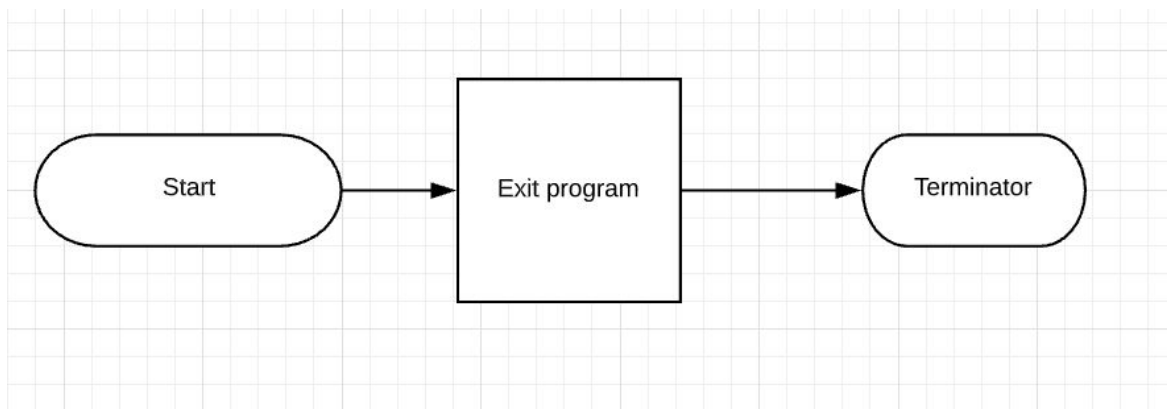


Figure 8: Flowchart for exit program

6 Test Plan

Success criteria	Planned Test	Expected
The main display of the program should have five buttons	When the program starts the main screen should be displayed with five buttons	The main screen should display every time the program is started
	The “input points” button	Should be displayed on the main screen and allows the user to click and bring the user to the correct screen to input entries.
	The “retrieve entries” button	Should be displayed on the main screen and allows user to click and bring the user to the correct screen and display all entries
	The “current points” button	Should be displayed on the main screen and allows user to click and bring the user to the correct screen and display all current points in houses
	The “exit” button	Should be displayed on the main screen and allows user to close the main screen and program
	The “reset point” button	Should be displayed on the main screen and allows user to click to remove all data. The confirmation screen will display before clearing database
The program should allow the client to input house points entries, display current entries, and view total house points multiple times.	Test if the program will continue to input entries multiple times into the database	The program should update multiple entries into the database
	Test if the program will display a list of entries multiple times	The program should display the list of entries multiple times in a session when the user requests it
	Test if the program will display total house points multiple times with most recent scores	The program should display the list of total house scores multiple times in a session when the user requests it
New entries inputted by a user must be stored in the database, so when a user opens program all added entries are saved.	Test if data is stored in the database when the program is closed	All the data should be saved after each session
	Test if multiple data can be stored and saved after the program is closed	When user input multiple entries, all data should be saved

	Test if resetting the database will remove all entries and will not appear when the program is re-opened later	If the user resets all entries, the program should not display any entries unless new entries are added in this session.
When inputting the program should display a list of teacher's name, what house the point is given too, amount of points, and the date inputted.	Test if the list of teachers name display every time	When the user is in the inputting screen, the list of teachers should be displayed and allow the user to click to choose
	Test if the name of the houses are displayed every time	When the user is in the inputting screen, the list of houses should be displayed and allow the user to click to choose
	Test if typing the wrong format for the date will prevent the user from inputting	When the user is inputting, the program should not add an entry if the format of date is wrong
	Test if typing wrong format for the number of points will prevent the user from inputting	When the user is inputting, the program should not add an entry if the format of points is wrong
	Test if the user has inputted all data needed for entry correctly	When data is missing for a full entry the program should send an alert and ask the user to redo the entry
	Test if the user has inputted all data in the correct format	If the user inputs the wrong format for any of the required field send an alert and ask the user to redo the entry