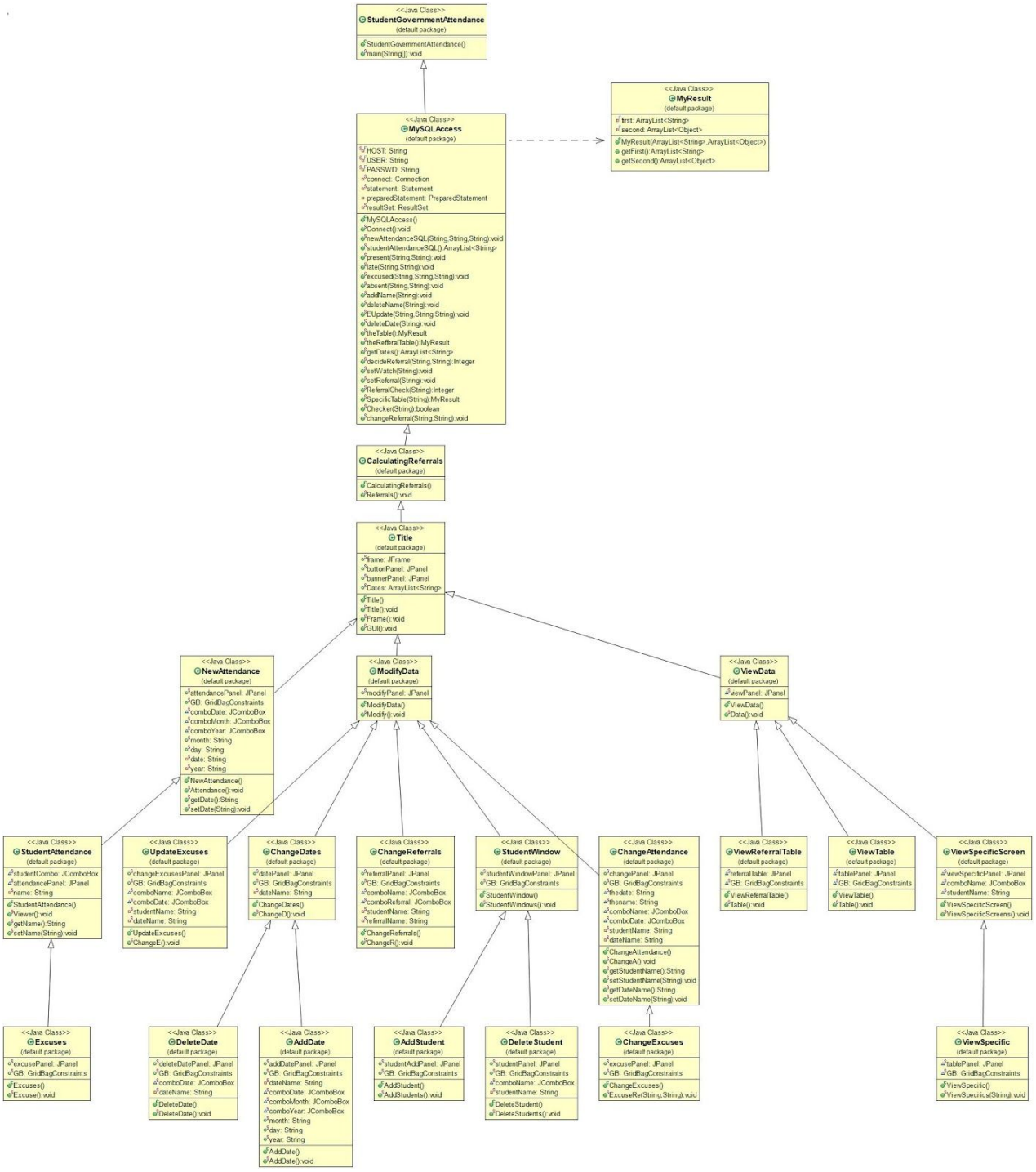
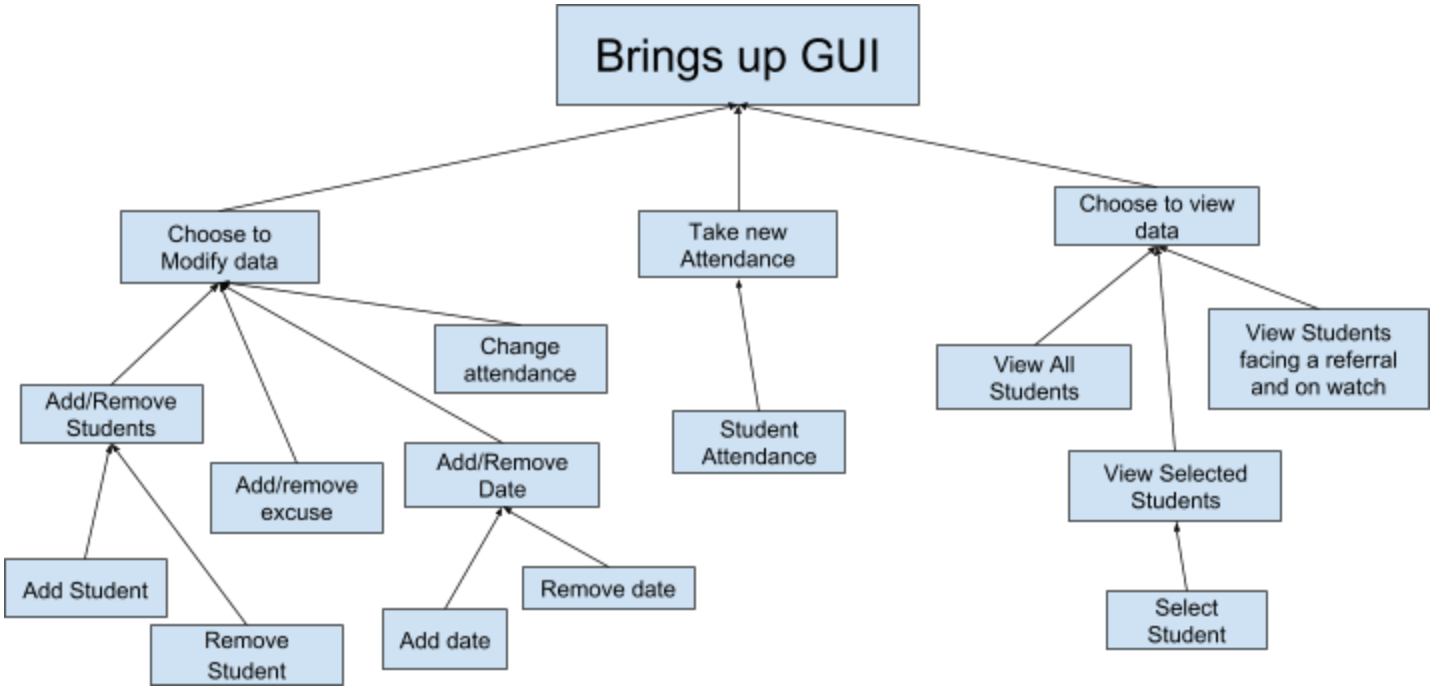
Criterion B: Design

Design Overview -

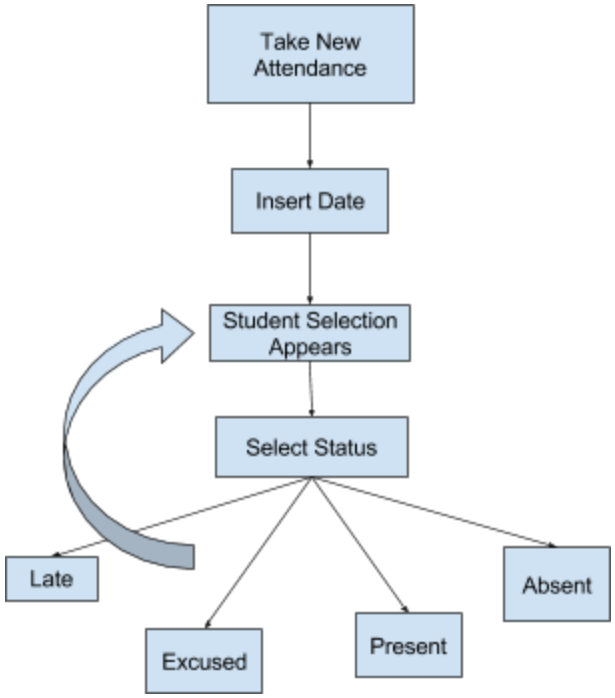
Overall UML



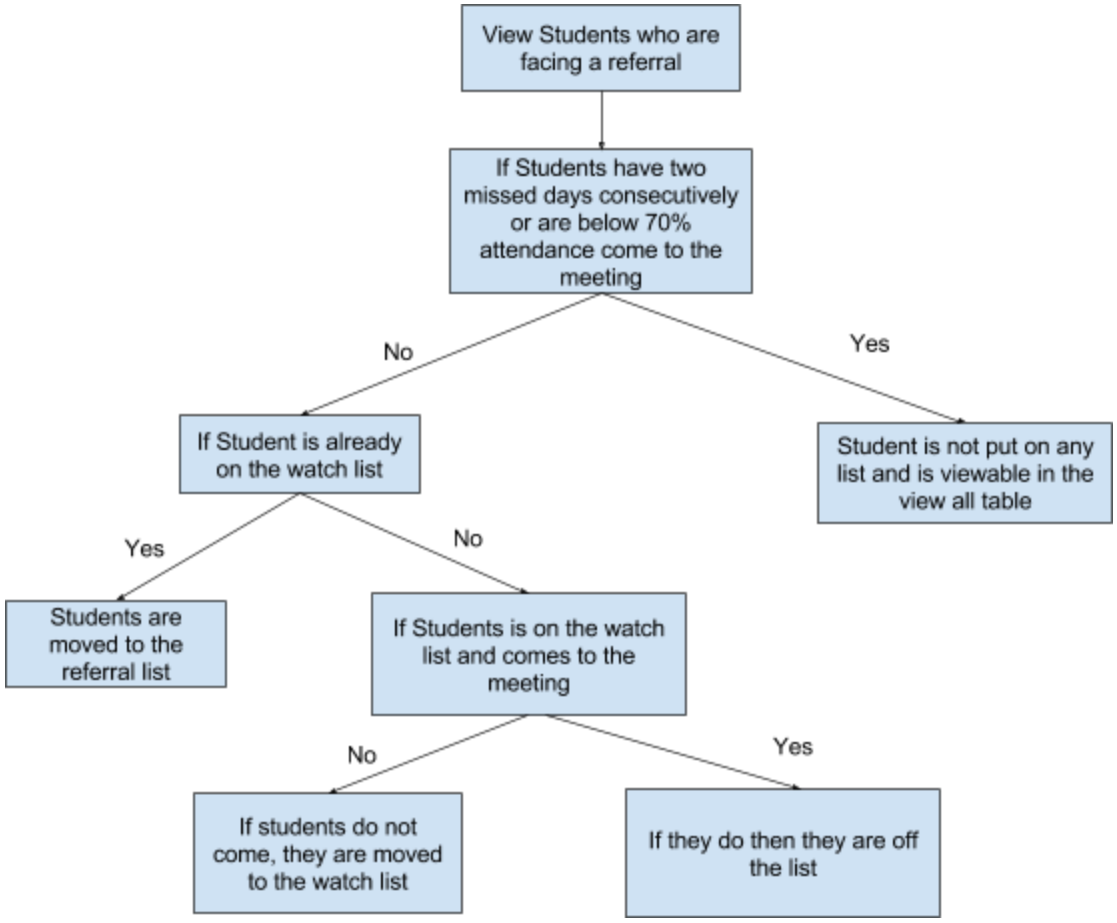
Graphical Visualization



New Attendance Logic Chart



Algorithm Logic Chart



Tables Showing Fields and Data Types

Table: Students

Field Name	Data Type	Description	Other Information
Name	string	Allows identification of student	
Referral	integer	Indicates if student is on watch or on referral,	0 indicates none, 1 indicates on watch, 2 indicates a referral
Date (infinite)	integer	Indicates student's attendance status	0 is absent, 1 is present, 2 is late, 3 is excused

Excused Date (infinite)	string	If student is excused, this holds the reason	

Table: Dates

Field Name	Data Type	Description	Other Information
Dates	string	Holds all of the dates currently in use	

Queries

Query Name	Purpose	Additional Information
Connect	Connects to the database	Used by every SQL query
newAttendanceSQL	Adds new columns to the Students and Dates tables	Needs month,day and year
studentAttendanceSQL	Retrieves all names from the Student list and puts them into an ArrayList	
present	Sets the dates column value to 1 and the dates excuse column to N/A	Needs date and name
late	Sets the dates column value to 2 and the dates excuse column to N/A	Needs date and name
excused	Sets the dates column value to 3 and the dates excuse column to the excuse	Needs date name and excuse
absent	Sets the dates column value to 4 and the dates excuse column to N/A	Needs date and name
addName	Inserts a student name into the name column and provides a value of 0 for the referral column	Needs name
deleteName	Removes the row with the name of the student	Needs name
EUpdate	Updates the excuse of the	Needs date, name and excuse

	provided student	
getDates	Gets all the dates from the Date table	
deleteDate	Drops the date and the date's excuse columns from the Student table and removes the dates from the Dates table	Needs date
Checker	Retrieves all value from the Date table and checks if the given date is already in use	Needs date
decideReferral	Retrieves the results of a specific day to check if a student should have a referral or not	Needs date and name
setWatch	Sets the referral column of a student to 1	Needs name
setReferral	Sets the referral column of a student to 2	Needs name
ReferralCheck	Retrieves the value in the referral column of a student	Needs name
changeReferral	Changes the referral value for a specific student to a given value	Needs name and referral value
theTable	Selects all results from the Student table and puts the information into two arraylists	
theReferralTable	Selects all results from the Student table who have referrals and puts the information into two arraylists	
SpecificTable	Selects results of a specific from the Student table and puts the information into two arraylists	Needs name

Testing Plan

Action to Test	Method of Testing
GUI Works	Ability to switch to appropriate screens
Database is Linked	Add and delete information, information is retained
Ability to see certain Students, either by Referral or by Name	Adding data into the database and seeing if the tables returned are correct
Database is dynamic	Add and delete students, dates and excuses. Check database to see it has been correctly changed
Data illustrates different student categories	Run scenarios where students are placed into different groups and see if results are correct
Data penalties are accurate	Run scenarios of students being late and input data to see if results are correct
Students are appropriately categorized	Run scenarios where students should get referrals or are required to go to the next meeting and see if the results are correct
Database is viewable	Add data to the database and see if it shows up in the table
Program can be used on any platform	Run the program on an Apple device