Team Steamed Potatoes Project Agile

Baseline Story: (1 Story Points) SPRINT 1 DONE

As a college student and an administrator, I want to have a login page to determine if the user is a student or an administrator. Different privileges will be accessed depending on the type of user logged in. The user will be able to look at or access at least 20 college campuses and their corresponding traditional souvenirs. The student is able to plan a short college touring trip starting at ASU, and plan a custom trip for their college experience. The admin will be able to modify information about souvenirs and college locations.

Assumption:

In order to create a UI for the user to login with and interact with, QT will be used to code the program. The user will input the appropriate login information for if they are a student or an administrator.

Task:
- Using QT, we will be able to create a login window for the user to input a username and a password into labeled locations.
- The username and password inputted by the user will be used as parameters in a login checking function to check if the inputted information is valid for an administrator login.
- If the user successfully logs in as an administrator, they will gain access to a UI that will allow them to modify the colleges and souvenir present in the program.
- If the user successfully logs in as a student, they will gain access to a UI that will allow them to plan their college touring trip.
- If the user's login is incorrect, they will receive an error message and will be prompted for another login attempt.

Definition of Done:
- The code is to adhere to the Saddleback College style standard and documentation standards.
- An error message is displayed when the user inputs an invalid login (neither student login or administrator login).
- The administrator UI is only accessible if the user inputs a valid administrator login information.
- The student UI is only accessible if the user inputs a valid student login
- Ensure that errors are not present in the program through debugging and analysis that the objectives were met using the optimal methods.
- The final product is approved by the product owner and the customer.

Priority: 10
Assignee: Ivan

Story Line #1: (3 Story Points) SPRINT 2 DONE

As a STUDENT, I would like to see a list of the other colleges and their distances from a Saddleback College, or a specified college.

Description:

A student should be able to select the name of a college they would like to view. When the college is selected, a table that shows the name of the other colleges and the distance between the selected college and each other colleges.

Assumption:

Using SQL database, we would need to create a list dedicated to the college campuses existing and the distances between each other. A new UI page would need to be created in QT in order to display the specific information from the database.

Tasks:
- In SQL database, create a new database for the list of college campuses and their distances between each other.
- In QT, create a new UI page so that users could access the database and view the campuses and distances between the colleges.
- In QT, provide a method so the student can select which specified campus they wish to view.
- In QT, once the user has selected the college they want to view, create a button that allows the user to see the database.

Definition of Done:
- The method of select and buttons accurately allow the user to choose what they wish to view.
- There is no possibility of the producing an error in the program while utilizing the program (i.e. no possibility for incorrect inputs and possibility for multiple views).
- The titles of the columns accurately say what the columns will show.
- The information from the database is accurately transferred into a table for the user to view.
- The UI to display distances is connected to the rest of the program, and it is easy to traverse to and from the ui.
- The product owner signs off on the definition of done.

Priority: 8
Assignee: Wesley & Yicheng

Story Line #2: (3 Story Points) SPRINT 2 DONE
As a STUDENT, I would like to see a list of traditional souvenirs for a specified campus.
Description:
A student should be able to select the name of a college they would like to view. When the college is selected, a table that shows the name of traditional souvenirs offered by the specified campus.
Assumption:
Using SQL database, we would need to create a list dedicated to the college campuses existing and their corresponding souvenirs. A new UI page would need to be created in QT in order to display the specific information from the database.
Tasks:
- In SQL database, create a new database for the list of college campuses and their corresponding souvenirs.
- In QT, create a new UI page so that users could access the database and view the campuses and their souvenirs.
- In QT, provide a method so the student can select which specified campus they wish to view.
- In QT, once the user has selected the college they want to view, create a button that allows the user to see the souvenir database.

Definition of Done:
- The method of select and buttons accurately allow the user to choose what they wish to view.
- There is no possibility of the producing an error in the program while utilizing the program (i.e. no possibility for incorrect inputs and possibility for multiple views).
- The titles of the columns accurately say what the columns will show.
- The information from the database is accurately transferred into a table for the user to view.
- The UI to display distances is connected to the rest of the program, and it is easy to traverse to and from the ui.
- The product owner signs off on the definition of done.

Priority: 8
Assignee: Daniel & Ivan

Story Line #3: (5 Story Points) SPRINT 2 DONE

As a STUDENT, I should be able to select a tour that starts at UCI and then allows the student to visit the 11 initial campuses.

Description:

The 11 initial campuses are UCI, ASU, MIT, Northwestern, Ohio State, Saddleback College, University of Michigan, UCLA, University of Oregon, University of Wisconsin, University of the Pacific. The order of the tour should be determined and the total distance should be calculated.

Assumption:

The databases for campuses and distances between the campuses should already be completed (Story 1). The recursive function to sort the campuses should be completed for calculating the tour order.

Tasks:
- In Qt, create a button that allows the user to select the UCI tour type.
- When the UCI tour is selected, a method is needed if the 11 campuses are present in the campuses and distances database for use in the tour.
  - If the campuses are all present, the campuses are placed into a container to be sorted and their distance can be calculated
  - If the campuses are not all present, there should be an error message preventing the users from advancing.
- Once the campuses are sorted and distance is calculated, the resulting tour should be displayed for the users to see. (UCI being the starting point)

Definition of Done:
- The user is able to select the UCI tour easily after logging in as a student.
- Error checking method is functioning correctly to allow for the user to avoid unexpected exceptions when utilizing the program.
- The correct campuses are loaded into the container.
- The information about the colleges and their distances is accurately read in from the database.
- The campuses added are accurately sorted according to the recursive function, and an accurate distance is calculated.

- The final tour order and the total distance is accurately displayed to the user.
- The product owner signs off on the definition of done.

Priority: 6
Assignee: Daniel

Story Line #4abc: (8 Story Points) SPRINT 2 DONE

As a STUDENT, I should be able to select a tour that starts at ASU, allows me to select the maximum number of college I can visit for my tour, and then select colleges I wish to visit.

Description:

The user should be able to select the number of colleges for the tour, then select the appropriate number of colleges that I would like to visit. The order of the tour should be determined and the total distance should be calculated.

Assumption:

The databases for campuses and distances between the campuses should already be completed (Story 1). The recursive function to sort the campuses should be completed for calculating the tour order.

Tasks:
- In Qt, create a button that allows the user to select the ASU tour type.
- When the ASU tour is selected, the user should be prompted for a number using an ui input object.
  - The input object should only allow the user to select a number that is within the range of colleges present in the database (i.e. they cannot choose a number above or below the maximum or minimum number of colleges in the database).
  - The number specified the number of colleges that will be visited, including ASU.
- After an appropriate number has been selected, the user should be able to select which colleges they wish to visit.
  - The user must select the appropriate number of colleges, and cannot move on till they have.
  - The user cannot go over the maximum number they have selected.
- The selected campuses are placed into the container.
- The information about the colleges and their distances is accurately read in from the database.
- The campuses added are accurately sorted according to the recursive function, and an accurate distance is calculated.
- The final tour order and the total distance is accurately displayed to the user.

Definition of Done:
- The user is able to select the ASU tour easily after logging in as a student.
- The UI input object only allows the user to select numbers that are within the possible range in order to prevent possible error.
- During selection, the user cannot select campuses above or below the number they have specified, and the same college cannot be selected more than once (error checking).
- The correct campuses are loaded into the container.
- The information about the colleges and their distances is accurately read in from the database.

- The campuses added are accurately sorted according to the recursive function, and an accurate distance is calculated.
- The final tour order and the total distance is accurately displayed to the user.
- The product owner signs off on the definition of done.

Priority: 6
Assignee: Daniel & Yicheng

Story Line #5abcd: (3 Story Points) SPRINT 1 DONE

As a STUDENT, I should be able to create my own custom tour plan.

Description:

The user should be able to select their own starting point. After the starting point selection, the user should be able to select whichever campuses to visit after the first campus.

Assumption:

The databases for campuses and distances between the campuses should already be completed (Story 1). The recursive function to sort the campuses should be completed for calculating the tour order.

Tasks:

- In Qt, create a button that allows the user to select the custom tour type.
- When the custom tour is selected, the user should be prompted for a starting campus for their custom tour using an ui input object.
  - The input object should only allow the user to select an existing college in the database as their starting point.
- After a starting college has been selected, the user will be able to select however many other campuses they wish to visit.
  - The user should not be able to add anymore campuses after all possible campuses have been selected.
  - The users should not be able to select the same college more than once.
- Create UI objects that displays the available colleges to visit, and the selected colleges.
- The selected campuses are placed into the container.
- The information about the colleges and their distances is accurately read in from the database.
- The campuses added are accurately sorted according to the recursive function, and an accurate distance is calculated.
- The final tour order and the total distance is accurately displayed to the user.

Definition of Done:

- The user is able to select the custom tour easily after logging in as a student.
- The UI input object only allows the user to select the starting point and add it to the selected campuses container.
- During selection, the user cannot select passed the maximum number of campuses in the database (error checking).
- The UI objects accurately display the campuses that the user has selected and the campuses that are still available.
- The correct campuses are loaded into the container.
- The information about the colleges and their distances is accurately read in from the database.

- The campuses added are accurately sorted according to the recursive function, and an accurate distance is calculated.
- The final tour order and the total distance is accurately displayed to the user.

Priority: 3
Assignee: Daniel

Story Line #7a: (2 Story Points) SPRINT 3 DONE

As an admin, I would like to add new campuses with their specified souvenirs through my input file.

Assumption:

Use the QFileDialog and fstream includes to read in the requested input file once the user presses the QT's push button UI. Also, create a txt file for both the new campus distances and souvenirs.

Tasks:
- Create 2 push buttons to read in the new campus distances and the new campus souvenirs.
- For the campus distance push button, declare two std strings to read in the starting and ending campus
- For the souvenir distance push button, declare a double variable to read in the distance for the starting and ending campus.
- Instantiate a QFileDialog function to a QString variable to allow the user to choose their desired file.
- For the std strings, utilize the getline function to read the data off of the txt file.
- For the double variable, utilize the .ignore function to read the data off of the txt file.
- Convert the std strings to QStrings using the fromStdString function. This will allow the program to put information onto the database.
- Create a QSqlQuery function to input the QStrings into the database

Definition of Done:
- Double check that the information on the txt files are accurate. In other words, extra white spaces, typos, etc.. should not be present on the txt file.
- Make sure to select the correct txt file. For instance, if the user selected the distance button, the user should find and select the distance txt file and not the souvenir txt file.
- Once the txt files are read, test to see if the combo boxes, table widgets, lines edits are updated with the new campuses. The data must be persistent with changes.
- Once the txt files are read, test to see if the database on dbManager is updated. The data must be persistent with changes.
- Test to see if the program calculates the new souvenir data.
- Test to see if the program calculates the new distance data.

Priority: 7
Assignee: Wesley

Story Line #7b-7d: (2 Story Points) SPRINT 3 DONE

As an admin, I would like to add, delete and change the prices of existing traditional souvenirs from the campuses.

Assumption:

Use a QSqlQuery datatype to read or alter information off of the db browser database. QT's push button Ui will utilize the QSqlQuery datatype as necessary.

Tasks:
- Create 3 pages for the add, delete and change traditional prices.
- Create 3 push buttons on the admin home page to access the add, delete and change prices of traditional souvenir page.
- For the add push button, create a QSqlQuery variable and use the SQL prepare function INSERT INTO to add souvenirs into the database.
- For the delete button, create a QSqlQuery variable and use the SQL prepare function DELETE FROM to delete souvenirs into the database.
- For the change price of traditional souvenirs, create a QSqlQuery variable and use the SQL prepare function update to change the prices.
- For all the buttons, have the admin select which campus they want through a QMessageBox.

Definition of Done:
- Make sure the push buttons to access the pages goes to their respective page. For example, if the admin presses the "Add Souvenir" button it will go to the add souvenir page
- If the campus doesn't exist, it will output an error message regarding that the campus doesn't exist. Thus, the program will not go its respective page and stay on the admin page.
- If the souvenir doesn't exist for the campus, it will output an error message regarding that the souvenir doesn't exist. Thus, the program will no longer perform.
- The price will change to the admin's input on the database once the change the price button is pressed.
- The souvenir that the admin added in the input line will show on the database once the add souvenir is pressed.
- The souvenir that the admin inputted in the input line will delete once the delete souvenir button is pressed.

Priority: 8
Assignee: Wesley

Story Line #8: (5 Story Points) SPRINT 3 DONE

As a STUDENT, I should be able to select a tour that starts at Saddleback and then allows the student to visit the 13 campuses.

Description:

The 13 initial campuses are Saddleback College, ASU, MIT, Northwestern, Ohio State, UCI, University of Michigan, UCLA, University of Oregon, University of Wisconsin, University of the Pacific, Cal State Fullerton, University of Texas. The order of the tour should be determined and the total distance should be calculated.

Assumption:

The databases for campuses and distances between the campuses should already be completed (Story 1). The recursive function to sort the campuses should be completed for calculating the tour order. Administrator adding new campuses (Fullerton and Texas) has already been implemented.

Tasks:

- In Qt, create a button that allows the user to select the Saddleback tour type.
- When the Saddleback tour is selected, a method is needed if the 13 campuses are present in the campuses and distances database for use in the tour.
  - If the campuses are all present, the campuses are placed into a container to be sorted and their distance can be calculated
  - If the campuses are not all present, there should be an error message preventing the users from advancing.
  - Administrator needs to add Fullerton and Texas to the database (Story 7).
- Once the campuses are sorted and distance is calculated, the resulting tour should be displayed for the users to see. (Saddleback being the starting point)

Definition of Done:

- The user is able to select the Saddleback tour easily after logging in as a student.
- Error checking method is functioning correctly to allow for the user to avoid unexpected exceptions when utilizing the program.
- Added campuses by the administrator are easily added and accessed by the program.
- The correct campuses are loaded into the container.
- The information about the colleges and their distances is accurately read in from the database.
- The campuses added are accurately sorted according to the recursive function, and an accurate distance is calculated.
- The final tour order and the total distance is accurately displayed to the user.
- The product owner signs off on the definition of done.

Priority: 6
Assignee: Daniel

Story Line RECURSION: (20 Story Points) SPRINT 1 DONE

As a PROGRAMMER, I want to implement a recursive function that sorts a container of colleges to be sorted.

Description:

The function should be able to sort the campuses in a specific order. After the starting point, the closest college to the start is visited, then the closest after that, and so on.

Assumption:

The databases for campuses and distances between the campuses should already be completed (Story 1). The selected campuses are all held in the same container (i.e. a vector).

Tasks:

- The function should take in an unsorted vector of campuses to be sorted.
- When a campus has been used it should be removed from the unsorted vector and placed into a new sorted vector.

- Create another function that gets the distances between two colleges from the database to be used for comparison.
- The function should be recursive.
  - Maybe calls the function recursively for each current college.

Definition of Done:
- The function runs without crashing or creating an infinite loop.
- The result of the recursion is accurate (DO DESK CHECKS TO TEST).
- A sorted vector is the result in order to be used elsewhere in the program.
- The product owner signs off on the definition of done.

Priority: 6
Assignee: Daniel & Wesley

Story Line SOUVENIR: (2 Story Points) SPRINT 2 DONE
     As a college student, I would like to track multiple traditional souvenirs purchased at each campus on any given trip.

Assumption:
     Using SQL database, we would need to create a list dedicated to the traditional souvenirs that each given campus provides. The UI page from story point #1 will be used for displaying the list.

Tasks:
- In SQL database, track the number of souvenirs with the size function of the list.
- In QT, connect the button to the database UI page. This button will be seen after the login page. This button should also be accessible from the trips UI page.
- In QT, once the user gets to the new UI page, create a button that allows the user to add souvenirs from the database.
- In QT, there should be a list of number of souvenirs from each college visited. At the top of the page, there should be a total count of traditional souvenirs.

Definition of Done:
- The QT must display number of traditional souvenirs for each college and total number of traditional souvenirs
- The information for college campuses inputted in the SQL database must be consistent and accurate.
- The SQL database must be connected to the QT project/UI page.
- In QT, the button which is connected to the database UI page for traditional souvenirs must be open when it is in action.
- The UI database page will contain a button to further access the database
- Once the user clicks the button, the database will be visible

Priority: 4
Assignee: Ivan