Ashesi students and alumni Information System

Yaw Botwe
Kingsley Besidonne
Oswald Fiifi Amissah

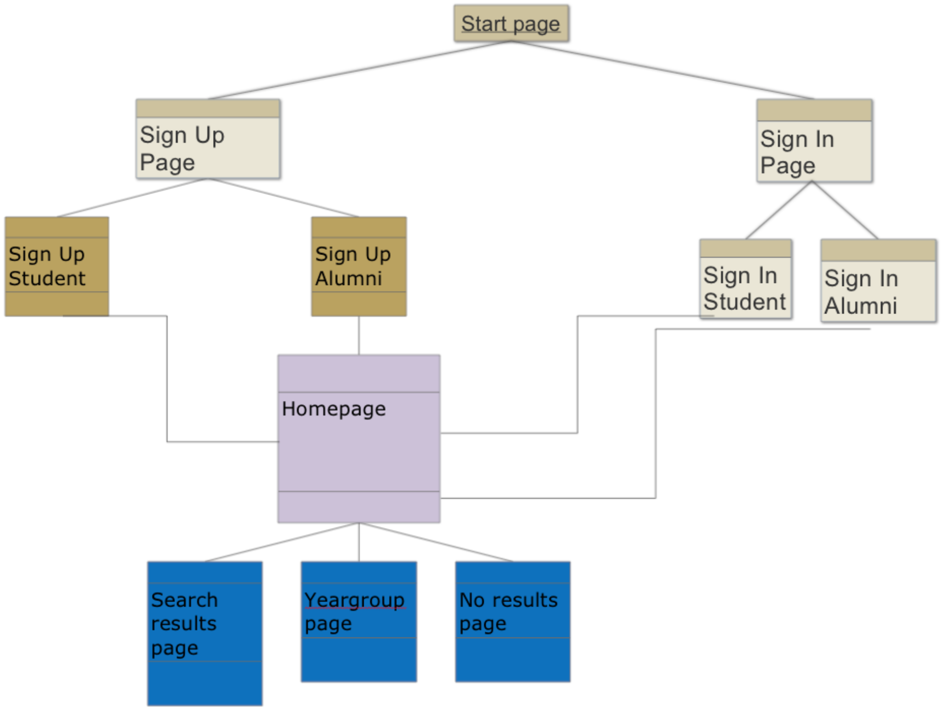
- **Introduction**: We want to bridge the gap between Ashesi students and Ashesi Alumni. There is no way for students to connect with alumni who are in career areas or are undertaking projects of interest to them and vice versa. Our problem is important and interesting because once students and alumni can connect it will provide a platform for innovative and entrepreneurial endeavors.

- **Background**: We did some research on graph implementation and found that the best graph implementation for us to use in our program was the basic adjacency list implementation using dictionaries (Klein, 2017).

- **Approach**: Our program starts by the user signing up with his details. The user's details are then stored in a HashTable using the student's full name as a key. We used tkinter for the GUI of our program. The second data structure we used was a Graph. We used a basic adjacency list implementation of a graph to store the tkinter frames used for our program. We also added a resize functionality so that the table never gets full. We used a hashtable so that we get a searching and finding efficiency of O(1). The graph stores the names of our frames as keys and keeps a list of possible frames that each frame can lead to. We used a graph so that we can easily go back and forth between frames. Our main function is InfoApp which imports all the 12 frame classes of our program and the hashtable classes. InfoApp switches across frames based on User input and buttons clicked. It also conducts the search and pastes search results on a new frame for the user.

The App switches frames from:

Start Page -> Sign Up -> Home Page -> Search Results Page -> Home Page.



Results: Our program is fully functional with user friendly features and fast interplay between frames. The search also provides results in O(1) runtime and we have provided features to cater for instances of human error and forgetfulness. Everything worked as expected except that the hashtable loses all the data once the program is closed.

Limitations: We could not customize our buttons for the frames for the Mac Interface. This is because tkinter cannot override the default Mac button. We therefore had to use the basic button format. This program however looks perfect on the Windows Interface with nicely customized buttons to fit the theme of our design.

Conclusion: Our program is basically a platform for students and alumni to connect and find out what they are all doing. We learned an important lesson that hashtables only store the information whilst the program running, meaning that a new instance of the hashtable would be started if we reopened the program. We therefore have to find a way to store all our information. Possible updates we can make to this program will be to allow search by interests. We can also display new and relevant stories on a user's homepage according to subjects like career, interests and year group

References

Klein, B. (2017). *Python Advanced: Graph Theory and Graphs in Python*. Retrieved November 28, 2017, from https://www.python-course.eu/graphs_python.php