

Milestone 3 Project Evaluation

Team Members:

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Faculty Advisor from CSE:

Dr. Phillip Chan –pkc@cs.fit.edu

Client Name:

Dr. Phillip Chan –pkc@cs.fit.edu

Affiliation: Florida Tech

Meeting Dates:

4/1/2024

4/12/2024

Scheduled: Fridays Bi-Weekly at 3pm

Progress Milestone 3

Task	Completion	Austin	Jason	Jacqueline	Hunter
Complete remaining profile tasks.	90%	50%	50%	0%	0%
Develop and test algorithm for carpool group recommendations	80%	0%	0%	0%	100%
Develop user interface for showing user carpool groups and allow users to create/form groups	75%	0%	50%	50%	0%
Develop and test	75%	100%	0%	0%	0%

real time tracking and route creation					
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Discussion (at least a few sentences, ie a paragraph) of each accomplished task (and obstacles) for the current Milestone:

Task 1 (Complete Profile Setup): For this current milestone, we implemented the uploading function for a driver's car in the users profile area. There have been updates allowing users to manage their schedules such as adding a recurring event and allowing them to enter an Earliest/Latest arrival/departure time along with their desired time. The preferences were changed to default to no preference, a search bar for other users was added on the friends page, and privacy inputs were moved to the settings/manage tab.

Task 2 (Carpool Group Recommendation Algorithm): The carpool group recommendation algorithm was broken down into 4 quantifiable inputs, including the number of functional seat belts, user schedule, user location, and user preferences. Based on these inputs, an algorithm was created to return the most sufficient car pool.

Task 3 (Carpool Group Interface): The group recommendation interface displays a view of group recommendations to either accept or deny. For each user in these groups, a table of important information is displayed, including their name, username (email), profile picture, and role in the carpooling group (rider/driver). There is also a "View User" button, which links to a separate page which displays more information about the selected user. The functionality of joining groups and denying recommendations, however, will be added in a future milestone.

Task 4 (Routing/Map Integration): The real time tracking is completed and working. Care was taken to ensure that users information was only in the database while a ride was in progress. This interface is further along than just a test interface as it prompts users for inputs, allowing them to control what group to start driving for. Riders can view the drivers location after the driver starts the trip but before the driver starts the riders can view all of the groups that they are a part of.

Discussion (at least a few sentences, ie a paragraph) of contribution of each team member to the current Milestone:

Austin Phillips: I worked on task 1 and task 4. For task 1 I completed the scheduling interface and database integration. This was built on the user profile page and it allows users to delete, update and create schedules for arrival and departure. The scheduling interface also allows users to create recurring schedules. Task 4 my main focus was creating a user interface for riders and drivers that they can view before and during a trip. For riders and drivers before they have an active trip they can view all the groups they are currently in and the drivers have a button they can use to begin a trip. Location tracking works by a timer on the drivers page triggers at the selected interval and

updates a database entry, that database entries retrieved from the rider page when a user in that group is logged in and on the page. That entry is currently retrieved from the database on a set interval of 30 seconds but we will look into ways to improve this mechanism.

Jason Smith: During this milestone, I worked on Task 1 and Task 3. For the remaining tasks of the previous milestone, I updated the user profile page to include an upload for Drivers' vehicle image and modified the Friends page to include a search bar for other users on the application. For a majority of the milestone, I focused on Task 3, developing the group recommendation interface and user details page. The interface page displays a view of group recommendations that users will be able to interact with (accept, deny, view user). It displays recommended users' profile picture, username (email), first/last name, and their selected carpooling role. Through the "View User" button on this page, I linked the group interface with a separate, modified User Details page, which displays a profile of the selected user. The User Details page has now been updated to display the profile information of the current user, which is pulled from the user database.

Jacqueline Torres: On this current milestone, my focus was on Task 3, specifically on the user details page. With a deeper understanding, I changed the toggle to implement a "self-view" and a "user-view". I added and removed items for each perspective. I modified the profile view of another user and is now able to send friend requests directly from that view. I also adjusted the interfaces of different web pages for easier user readability.

Hunter Smith: For Milestone 3, I worked on the group matching algorithm. I developed three separate algorithms, each using a different metric to assess the quality of a group of users. The Location metric solves a traveling salesman problem using the duration of a trip, which was obtained from the google maps api. The Schedule metric calculates the difference between the latest and earliest members to arrive and leave campus. Finally, the Preferences metric counts the number of times each user's set preferences (smoking, eating, etc.) conflicts with another user's. These three metrics can be used to make recommendations to members currently outside of a group, giving them open groups to join that align with them well.

Task Matrix for Milestone 4

Task	Austin	Jason	Jacqueline	Hunter
Group Recommendation with difference scenarios; Same time different location clusters; Could increase	25%	25%	25%	25%

from 8 -> 16; 4 location clusters North - East - West - South of campus				
Develop and Test long and short views for user profiles	25%	25%	25%	25%
Finding Friends, Add and Remove Friends	25%	25%	25%	25%
Interface for entering ratings and reviews	25%	25%	25%	25%
Integrate accept and deny group recommendations into the database; Once they decline show more recommendations if available	25%	25%	25%	25%
Rider confirmation, cancel; Section 3.5.1 of Requirement Document; Know the Driver 3.5.2 of Requirement Driver document	25%	25%	25%	25%

Discussion of each planned task for the next Milestone:

Task 1: This task has a strong focus on implementing different scenarios to test the group recommendation algorithm. Through this task, the algorithm will be exposed to these tests and will allow us to optimize based on these situations.

Task 2: Task 2 focuses on user privacy and readability. With a short view, other users can be exposed to other users in a concise manner, while maintaining privacy. The focus on the short view are basic information such as name and reviews. The long view(or personal view) will include more information such as driver/rider statistics.

Task 3: Extending Task 2, Task 3 focuses on the ability to leave each rider/drive a review and a rating. This will be connected to the database and will be updated and presented in the users profile.

Task 4: This would involve inserting database entries when groups are created and allow group members to modify and delete the group as needed. We have already created the user interface for this section but will need to integrate this interface to our

site database along with the additional recommendations for new groups for the user to join.

Task 5: The rider cancel and confirmation page will prompt the user before their trip if they are going to be part of the carpooling trip on that specific day. This ensures drivers are not wasting time or waiting on riders that won't be using the service on that day.

Date(s) of meeting(s) with Client during the current milestone:

- 4/1/2024
- 4/12/2024

Client feedback on the current milestone

- See Faculty Advisor Feedback below

Date(s) of meeting(s) with Faculty Advisor during the current milestone:

- 4/1/2024
- 4/12/2024

Faculty Advisor feedback on each task for the current Milestone:

04/01/2024 -

1. Profile page
 - a. Update Role selection wording to Driver/Rider, Rider Only
2. Use above notes and in class examples to come up with grouping
 - a. For the recommendation algorithm
 - i. Use a simple csv file for input data, each row is a user, columns are name, arrival time, location and preferences
 - ii. Devise an algorithm to generate a grouping
 - iii. Need evaluation metric to measure how good one grouping is, one grouping means how to divide the user into multiple groups
 1. Minimize the time range, route length to FIT and conflicts with preferences
 - iv. Start with 8 users into 2 groups and then move to 16 users into 4 groups
 - v. Compare multiple algorithms for this problem
3. Refer to Task in meeting on 3/15/2024

04/12/2024 -

1. Group recommendation
 - a. The first and second user have one choice, to create a new group
 - b. Calculate score for the next users for each of the groups
 - c. Recommendation for testing
 - i. Create two groups with arrival/departure times within 5 minutes in order test how the algorithm measures other parts of the scoring system

- ii. Setup 8 users, 4 users that live closer together and then 4 users that live away from the other 4 and close to each other
 - 1. Adjust user locations to see how the scoring changes
- 2. Group recommendation:
 - a. Decide if the current user should be shown in the group recommendations
 - i. To save screen space the best way to do it would be to not show the current user in the groups they are recommend
- 3. Group Interface:
 - a. In recommended groups, do not display the user themselves in any group
 - b. View Expanded Profile is just for the user to view their own expanded information
 - c. View Other User profile will be a brief view of the selected user
- 4. Viewing User Profiles:
 - a. Short View (view other user):
 - i. Name
 - ii. User Ratings/Reviews
 - iii. Remove user statistics from View Other User (short view) page
 - b. Long View (user views their own profile)
 - c. Future Consideration: Expanded View page for Friends Only
 - i. Expanded is between Long and Short views
- 5. Real Time Tracking
 - a. Simulate it with driving around,
 - i. Take video for presentation

Faculty Advisor Signature: _____ Date: _____