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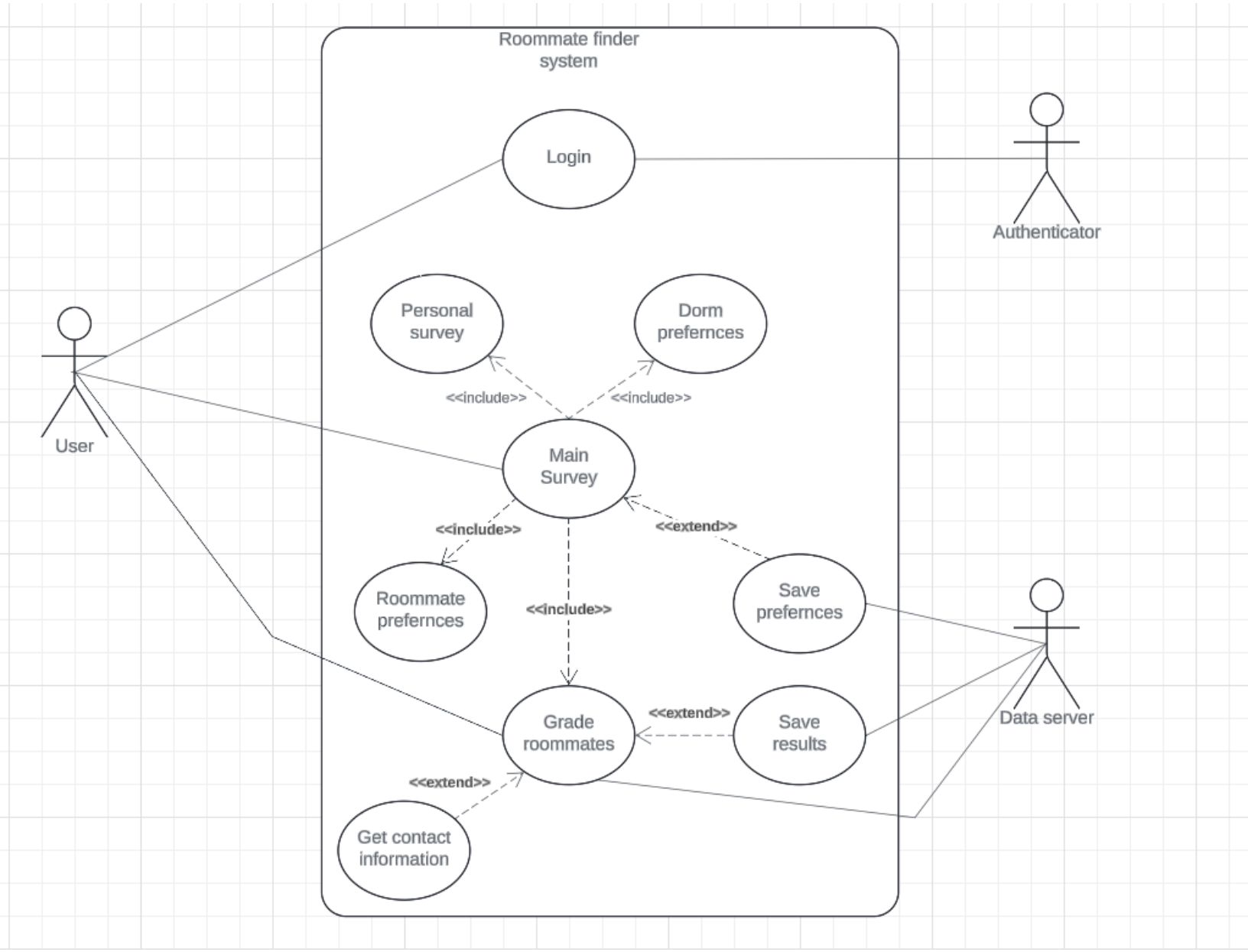
CPT_S 322
Use Case Diagrams and
Traceability Matrix

9/25/2024

Use Case Diagram



Traceability Matrix

Functional Requirements	User Story ID	Use Case ID	Description	Test Case ID
User must be able to log in to their account	US01	UC01	Logging into user account with a valid username and password.	TC01

User must be able to take a personal survey	US02	UC02	User takes a personal survey to answer questions about themselves to determine a good roommate match.	TC02
User must be able to choose their preferred dorms	US03	UC03	The user ranks their dorm preferences from the list of available dorms.	TC03
User must be able to take the main survey	US04	UC04	User takes the main survey where they will fill out their preferences for all 3 sections. The main survey will have a checklist that is marked off as each section is completed.	C05
User must be able to set roommate preferences	US05	UC05	User takes a sub survey within the main survey to select roommate preferences.	TC05
User must be able to save their preferences	US06	UC06	Saves the survey info to the database.	TC06
System must generate valid roommate options based on user preferences	US07	UC07	An algorithm will use the users survey info to generate a list of a few roommates that best match the user's preferences.	TC07
Users must be able to request contact information of a match	US08	UC08	Allows a user to request access to their matches contact information.	TC08
User must be able to save the list of potential matches	US09	UC09	Allows the user to save the current list of matches.	TC09

Use Case Descriptions

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1. Login to account UC01:

Use Case: logging into user account

Actors: User, Authenticator

Description:

The login use case is the first thing the user will interact with and requires them to insert a valid user name and password in order to move forward with the program. The login information will be verified by the authenticator actor. The login use case is required for the sake of having something to attach user information to. It's also required to protect the sensitive information such as names and contact information accessed by the app from being interacted with by unauthorized users.

Preconditions:

The User must have launched the program in order to reach the login screen.

Basic Flow:

User reaches login screen, user enters username, user enters password, user is granted access and moves to the next part.

Alternative Flow:

User reaches login screen, user enters username, user enters password, user is denied access and must restart.

Post Conditions:

The user reaches the next part of the program.

2. Personal survey UC02:

Use Case: User takes a personal survey

Actors: User

Description:

The user takes a personal survey where they answer questions about themselves. The questions cover topics such as sleeping habits, social levels, cleanliness etc. This survey is part of the main survey that is used to create the user's profile and preferences.

Preconditions:

The user has begun the main survey and are on the main survey page.

Basic Flow:

The user clicks on the personal survey option on the main survey page and are then redirected to the personal survey where they answer all the questions one by one until they answer all questions. Once completed they are redirected back to the main survey page where they will see that the personal survey option is labeled as complete.

Alternative Flow:

The user clicks on the personal survey option on the main survey page and are then redirected to the personal survey where they begin to answer the questions but part way through the survey they go back to the main survey page. When this occurs, their progress is saved, and the personal survey option will be labeled as incomplete.

Post Conditions:

The survey has been completed and are back on the main survey page. The option for the personal survey has an indicator that the survey has been completed.

3. Dorm preferences UC03:

Use Case: User chooses dorm preference

Actors: User

Description:

The user ranks their dorm preferences from the list of available dorms. These preferences are filled out as part of the main survey.

Preconditions:

The user has begun the main survey and are on the main survey page.

Basic Flow:

The user clicks on the dorm preferences option on the main survey page and are then redirected to a page where they then choose a ranking for each dorm available. Once completed they click on the save selection button and are brought back to the main survey page where they will see that the dorm preferences option is labeled as complete.

Alternative Flow:

The user has already completed their dorm preference selection, but decides they wish to change their ranking. The user clicks on the dorm preference option and are redirected to the ranking page which has saved their previous selection. They can then change their rankings as they see fit. Once their rankings have been chosen, they click on the save selection option and are brought back to the main survey page where they will see that the dorm preferences option is labeled as complete.

Post Conditions:

The user is back on the main survey page and the dorm preferences option has an indicator that it has been completed.

4. Main survey UC04:

Use Case: User takes main survey with multiple preferences

Actors: User

Description:

The main survey is the hub used to reach the other preference collection features such as the personal survey, dorm preferences, roommate preferences. The survey will have a checklist that is marked off as each section is completed. It will also support redoing sections in case the user wishes to make changes. Once all fields are completed the data will be saved to the user database. The main survey can be retaken to update the user's preferences.

Preconditions:

The user has logged in successfully and is on the home page.

Basic Flow:

After the user logs in for the first time, a pop-up will be displayed that will ask the user to take the survey. If the user accepts the redirection, they will be taken to the main survey page where they can then complete the various other surveys. Once all fields are completed the user will click the save changes button and the users data will be saved to the database. The user will then be redirected back to the homepage where they will be notified that the survey has been completed.

Alternative Flow:

The same flow as the basic flow takes place however, before the survey is complete the user decides to quit out by hitting the save changes button. When this happens the user's data will be saved as normal, and they will be brought back to the home page as before. However, on their profile the survey will still be shown as incomplete.

Post Conditions:

The user is back on the home page, and they will see that the survey button will either have a completed indicator or an incomplete indicator based on if they completed the survey.

5. Roommate preferences UC05:

Use case: Finding a roommate

Actors: User

Description:

One of the sub-features of the main survey where the user completes a survey about their preferences in a roommate. The user will answer questions one by one until the survey is completed, or they can save their current progress and return to it later.

Preconditions:

The user has begun the main survey and are on the main survey page.

Basic Flow:

The user clicks on the roommate preferences button, then answers every question until the survey is completed. When finished, they are redirected back to the main survey where they will see that the roommate preferences option is labeled as complete.

Alternative Flow:

The user clicks on the roommate preferences button, then answers some of the questions before clicking the save and complete later button. The user is redirected back to the main survey where they will see that the roommate preferences option is labeled as incomplete.

Post Conditions:

The user moves onto the next part of the program.

6. Save preferences UC06:

Use Case: Save users data

Actors: User, Data server

Description:

Saves the survey info to the database.

Preconditions:

The user within the main survey and click the save and exit button.

Basic Flow:

The user completes the main survey and clicks the save and exit button. Their data is then saved to the database and the user is redirected back to the homepage. The survey option will then show as complete on the homepage.

Alternative Flow:

The user partially completes the main survey and click the save and exit button. Their data is then saves to the database and the user is redirected back to the homepage. The survey option will then show as incomplete on the homepage.

Post Conditions:

The user is on the home page and the survey option will show as either complete or incomplete, depending on the user's choices.

7. Grade roommates UC07

Use Case: Generate roommate options

Actors: User, Data server

Description:

An algorithm will use the users survey info to generate a list of a few roommates that best match the user's preferences.

Precondition:

The user is on the home page and clicks on the “Matches” button.

Basic Flow:

The user has completed the survey and clicks on the “Matches” button. An algorithm is then run using the user's data to generate a list of users that best match the user's preferences. Once the list is generated, it is then displayed to the user.

Alternative Flow:

The user has not completed the survey and clicks on the “Matches” button. The user will then get a pop-up indicating that they need to complete the survey to view matches and are then redirected back to the home page.

Post Conditions:

The user is on the matches page and has a list of matches that they can browse.

8. Get contact information UC08

Use Case: User request info on another

Actors: User

Description: An option on the profile of matched users that allows a user to request access to their matches contact information. The user is only able to send one request and is notified when their match accepts, but not when they reject.

Basic Flow:

The user has successfully generated a list of potential matches and clicks the get contact information button. Then a notification is sent to that match that the user wishes to access their contact information. The match accepts and the contact information is then sent to the user.

Alternative Flow:

The user has successfully generated a list of potential matches and clicks the get contact information button. Then a notification is sent to that match that the user wishes to access their contact information. The match rejects the request, and the user is not notified.

Post Conditions:

A notification indicating that the match contact information has been sent is shown to the user and after some time they may get a notification indicating that the match has accepted.

9. Save results UC09

Use Case: Save potential matches

Actors: User, Data server

Description:

Allows the user to save the current list of matches.

Basic Flow:

The user has successfully generated a list of potential matches, has not previously saved a list, and then clicks the save list option. The list will then be saved to the database.

Alternative Flow:

The user has successfully generated a list of potential matches, but has previously saved a list, and then clicks the save list option. If the new list that the user is saving is different from their previous list, then the user is asked if they would like to overwrite their previous list or add to their old list. After the user selects their option, the new list will be saved via the chosen method.

Post Conditions:

The user is given a notification the list has been saved and can then load that list at their leisure.

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