Initial Use Case Diagram

Diagram

Description automatically generated

Use cases

Login

UC01: Login

UC02: Verify account

UC03: Forget password

UC04: Create account

UC05: Google login

Edit profile

UC06: Edit profile

UC07: Reset password

UC08: Update personal information

UC09: Update personality type

Take test

UC10: Take test

UC11: Input academic qualification

UC12: Personality test

Recommendations

UC13: Recommendations

UC14: Select preferences

UC15: Enter personality test results

UC16: View course-specific information

1. Display uni rankings
2. Display course rankings
3. Display IGP
4. Display campus location
5. Display course description
6. Display University description
7. Display employability outcomes

UC17: Display campus location

Use Case Descriptions

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| --- | --- | --- | --- |
| Use Case ID: | 1 | | |
| Use Case Name: | Login | | |
| Created by: | Hazel | Last Updated by: |  |
| Date created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

|  |  |
| --- | --- |
| Actor | User |
| Description | Users can create an account on the website application to store their personal information. Afterwards, their account is accessible remotely across different devices. |
| Preconditions | 1. Device must be connected to Wifi or Mobile Data |
| Postconditions | Users will be able to login with their email address and password. |
| Priority | High |
| Frequency of Use | Medium |
| Flow of events | 1. User clicks “Sign Up” to sign up as new user 2. System requests input for username, email and password 3. User enters  username, email address and password 4. The system  verifies the users’ email 5. The system verifies the user’s password 6. System sends a confirmation email to the user 7. When the user confirms his account via email, system logs username, email and password into the database |
| Alternative flow: | AF-S4: Email Address is invalid   1. If the email address already exists, system will display the message, “This email address is already used by an existing address” 2. If the email address does not exist, system will display the message, “This email address does not exist” 3. The website returns to step 2   AF-S5: Password is not strong enough   1. The website displays the message “Password is not strong enough! Your password should be at least 12 characters long and a combination of uppercase, lowercase, numbers and special characters” 2. The website returns to step 2 |
| Exceptions: | - |
| Includes | Login with Google Account   1. User logs in with linked Google Account 2. Using Google API to validate user account 3. Refer to Use Case 3 |
| Special Requirements: | - |
| Assumptions | User has a personal email |
| Notes and Issues | - |

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| --- | --- | --- | --- |
| Use Case ID: | 2 | | |
| Use Case Name: | User Login | | |
| Created by: |  | Last Updated by: |  |
| Date created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

|  |  |
| --- | --- |
| Actor | User |
| Description | User logs into their account with an email address and password |
| Preconditions | Device must be connected to Wifi or Mobile Data |
| Postconditions | User will be able to login and retrieve users’ information, including recommended courses and colleges if they have previously taken the test |
| Priority | High |
| Frequency of Use | High |
| Flow of events | 1. User clicks “Login” to log into the website as an existing user 2. Website requests input for email address and password 3. User enters email address and password 4. Website validates Information with the account information in the database 5. if  the users’ input is validated, user logs in successfully |
| Alternative flow: | AF-S4: Incorrect email or password   1. Website displays the message “Incorrect email or password” 2. Website displays the message “Forgot Password?” 3. If user clicks on “Forgot Password”, user is prompted to reset password (Refer to use case 4) 4. Return to step 2 |
| Exceptions: | - |
| Includes | Login with Google Account   1. User logs in with Google Account 2. Website uses Google’s API to validate user account 3. Refer to use case 3 |
| Special Requirements: | - |
| Assumptions | User has an account |
| Notes and Issues | - |

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| --- | --- | --- | --- |
| Use Case ID: | 3 | | |
| Use Case Name: | Login with Google Account | | |
| Created by: |  | Last Updated by: |  |
| Date created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

|  |  |
| --- | --- |
| Actor | User, Google API |
| Description | User logs in with their Google Account |
| Preconditions | Device must be connected to Wifi or Mobile Data |
| Postconditions | User will be able to login with their Google account and retrieve users’ information, including recommended courses and colleges if they have previously taken the test |
| Priority | High |
| Frequency of Use | Medium |
| Flow of events | 1. Website requests input for email address and password 2. User selects “Login with Google” 3. System validates account by checking against Google Database via Google API 4. User must grant permission to the website to access their Google Account information 5. System will use Google Account details to save information and preferences 6. If the user’s input is validated, user logs in successfully |
| Alternative flow: | AF-S3: User enters Google Account Incorrectly   1. Google API will prompt user to enter their credentials again 2. Return to step 3 |
| Exceptions: | - |
| Includes | Validate Account   1. Google Account credentials are validated using google API |
| Special Requirements: | - |
| Assumptions | User has a Google account |
| Notes and Issues | - |

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| --- | --- | --- | --- |
| Use Case ID: | 4 | | |
| Use Case Name: | Reset password | | |
| Created by: |  | Last Updated by: |  |
| Date created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

|  |  |
| --- | --- |
| Actor | User |
| Description | User updates password |
| Preconditions | 1. Device must be connected to Wifi or Mobile Data 2. User must have an existing account |
| Postconditions | 1. User will have a new password used to log into their account |
| Priority | High |
| Frequency of Use | Low |
| Flow of events | 1. User clicks on the “Reset password” 2. System requests for input for email 3. System validates the email against the database 4. System send a confirmation email 5. User confirms via email to change their account password 6. System requests input for new password 7. User enters new password 8. Account password is updated and the user is able to log in |
| Alternative flow: | AF-S3: Email does not exist   1. Website displays the message “Email does not exist” 2. Return to step 2   AF-S7: New password is not strong enough   1. The system displays the message “Password is not strong enough! Your password should be at least 12 characters long and a combination of uppercase, lowercase, numbers and special characters” 2. System returns to step 6 |
| Exceptions: | - |
| Includes | - |
| Special Requirements: | - |
| Assumptions | User has a personal email |
| Notes and Issues | - |

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| --- | --- | --- | --- |
| Use Case ID: | 5 | | |
| Use Case Name: | Take Test | | |
| Created By: |  | Last Updated By: |  |
| Date Created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

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| --- | --- |
| Actor: | User |
| Description: | System receives various inputs from the user which are used to recommend appropriate courses and universities. |
| Preconditions: | 1. The device must be connected to Wifi or Mobile Data 2. The user is either signed in as guest or existing user |
| Postconditions: | System responds by recommending to the user 10 suggested courses and respective colleges for each course |
| Priority: | High |
| Frequency of Use: | High |
| Flow of Events: | 1. The system conducts a personality test  (use case 9) 2. User completes personality test 3. The system requests for additional personal information (use case 6) 4. User inputs personal information 5. The system verifies that the “region of residence” field has been input by the user 6. The system will refer to use case 7 7. The system will display the top 10 recommended courses and the respective colleges to apply to for each course 8. Users can select preferences (use case 8) |
| Alternative Flows: | AF-S4: If the user does not input any personal information   1. The system will skip to step 7   AF-S5: If the User has not entered into the “region of residence” field   1. The system will skip to step 5 |
| Exceptions: | - |
| Includes: | 1. Personality Test (use case 9)    1. Uses Personality Test API 2. Personal information input field (use case 6) 3. Calculate distance from universities    1. Uses Google Maps API (use case 7) |
| Special Requirements: | User preferences are initially set to 50 across all sliders (Refer to use case 8) |

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| --- | --- | --- | --- |
| Use Case ID: | 6 | | |
| Use Case Name: | Input Personal Information | | |
| Created By: |  | Last Updated By: |  |
| Date Created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

|  |  |
| --- | --- |
| Actor: | User |
| Description: | User inputs their personal information |
| Preconditions: | 1. The users’ device must be connected to Wifi or Mobile Data 2. The user is either signed in as a guest or an existing user |
| Postconditions: | The user’s personal information is logged into the database |
| Priority: | High |
| Frequency of Use: | High |
| Flow of Events: | 1. User is redirected to the “Academic Portfolio” page 2. User selects their highest academic qualification from a drop-down list, followed by the corresponding courses taken and grades obtained 3. System requests user to input additional information including subjects of interest, CCAs, region of residence, tuition fee range and scholarships offered 4. User inputs additional information |
| Alternative Flows: | - |
| Exceptions: | - |
| Includes: | - |
| Special Requirements: | - |
| Assumptions: | 1. User has graduated from a pre-university level course. 2. User has only obtained a single high-school diploma |
| Notes and Issues: | - |

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| --- | --- | --- | --- |
| Use Case ID: | 7 | | |
| Use Case Name: | Calculate distance from universities | | |
| Created By: |  | Last Updated By: |  |
| Date Created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

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| --- | --- |
| Actor: | User, Leaflet API |
| Description: | System uses the Leaflet API to calculate the distance between User and all universities in consideration. |
| Preconditions: | 1. Device must be connected to Wifi or Mobile Data 2. The user is either signed in as guest or existing user 3. User has input region of residence (Use case 6) |
| Postconditions: | For each university, the system obtains information on the distance between the university and the users’  region of residence |
| Priority: | Medium |
| Frequency of Use: | Low |
| Flow of Events: | 1. The system uses Leaflet API to calculate the distances between the users’ region of residence and all universities stored in the database 2. The system verifies that all distances have been calculated 3. The system stores the information on distances |
| Alternative Flows: | AF-S2: Connection is lost   1. The system returns to step 1 |
| Exceptions: | EX-1: If the system experiences connection errors 3 consecutive times   1. The system displays the message “Network connection error. Please check your internet connection and try again.” 2. The system does not obtain the information on distances |
| Includes: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |

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| --- | --- | --- | --- |
| Use Case ID: | 8 | | |
| Use Case Name: | Select Preferences | | |
| Created By: |  | Last Updated By: |  |
| Date Created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

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| --- | --- |
| Actor: | User |
| Description: | Sliders are used to represent the significance of a factor in influencing user’s course or college preference. The system will display the recommendations according to these preferences. |
| Preconditions: | 1. Device must be connected to Wifi or Mobile Data 2. The user is either signed in as guest or existing user |
| Postconditions: | The system would display the adjusted recommendations of courses and colleges according to how the user adjusts their preferences |
| Priority: | High |
| Frequency of Use: | Medium |
| Flow of Events: | 1. The system displays a set of sliders, labeled “Distance from home”, “Employability after graduation”,”Subjects of interest” and “School Ranking” 2. User adjusts sliders to change how important they view each factor 3. The system computes the weightage of each factor and adjusts recommendations accordingly 4. The system displays the adjusted top 10 suggested courses |
| Alternative Flows: | AF-S2: If the factors were all weighed equally   1. The system displays the message “All the factors have been weighed equally. Please adjust the sliders again to personalize your recommendations.” 2. The system returns to step 1 |
| Exceptions: | EX1: If User indicates to reset all sliders   1. The system displays the original top 10 suggested courses. |
| Includes: | - |
| Special Requirements: | System should respond within 3 seconds of adjusting user preferences |
| Assumptions: | - |
| Notes and Issues: | - |

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| Use Case ID: | 9 | | |
| Use Case Name: | Personality Test | | |
| Created By: |  | Last Updated By: |  |
| Date Created: | 29 Jan 2023 | Date Last Updated: | 29 Jan 2023 |

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| Actor: | User, Personality test API |
| Description: | User answers questions about their personality and receives a corresponding Myers Briggs Personality type based on their responses. |
| Preconditions: | 1. Device must be connected to Wifi or Mobile Data 2. The user is either signed in as guest or existing user |
| Postconditions: | 1. User is shown their personality type 2. System stores users’ personality type |
| Priority: | High |
| Frequency of Use: | Low |
| Flow of Events: | 1. User clicks “Proceed” to begin the personality test 2. User completes a personality test via a personality test API 3. User is shown their personality type 4. System stores users’ personality type |
| Alternative Flows: | - |
| Exceptions: | EX-1: If the system experiences connection errors 3 consecutive times   1. The system displays the message “Network connection error. Please check your internet connection and try again.” 2. The system does not obtain the information on personality type |
| Includes: | - |
| Special Requirements: | - |
| Assumptions: | - |
| Notes and Issues: | - |