Software Requirements Specification

for

A7-Track2Eat

Version 1.1

Prepared by

Team Number: 01

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Vishnu Ajay Balaram Battini Induru Revanth Kumar Reddy Thadi Umesh Chandra Reddy Venkata Akhil Chinthala	First draft.	05/02/22
1.1	Vishnu Ajay Balaram Battini Induru Revanth Kumar Reddy Thadi Umesh Chandra Reddy Venkata Akhil Chinthala	Improved SRS based on the review of Version 1.0 by Team 07 on 09/02/2022.	20/02/2022

1 Introduction

Our project is called Track2Eat. It is an application to track the menu of every mess on the NITC campus. In this section, the reader can learn about the application overview, document purpose, project scope and intended audience.

1.1 Document Purpose

The purpose of this document is to provide a detailed description of the requirements for the Track2Eat mobile application. This application aims to help the faculty and the students of NITC to track the menus of various messes on the campus and help them decide on their next meal.

1.2 Product Scope

The objective of Track2Eat is to ease the process to get the food menu and rating of every hostel block's mess. The application displays every mess's snacks and dinner menus for every day of the week. The user can choose to eat in another block's mess as guests if they don't like the food in their corresponding mess. With the help of Track2Eat, the user need not rely on hassle ridden, unreliable sources like enquiring about the menu from the students of other hostel blocks. Moreover, Track2Eat's filter messes, view guest charges and suggestions features make choosing a good meal an easy experience.

1.3 Intended Audience and Document Overview

This document is intended for the developers, stakeholders and users of Track2Eat. The next section, the Overall Description section, of this document gives an overview of the product’s functionality. It also describes the informal requirements and establishes a context for the technical requirements specification in the next section. The third section, the Specific Requirements section, of this document, is written primarily for the developers and describes the details of the product’s functionality in technical terms.

1.4 Definitions, Acronyms and Abbreviations

1.4.1 Acronyms

Acronym	Full-Form
IEEE	Institute of Electrical and Electronics Engineers
SDLC	Software Development Life Cycle

SRS	Software Requirements Specification
NITC	National Institute of Technology, Calicut
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
HTTP	Hypertext Transfer Protocol
API	Application Programming Interface
UI	User Interface

1.4.2 Abbreviations

Abbreviation	Full-Form
App	Application
DB	Database
S/W	Software
VSCode	Visual Studio Code
Rep	Representative
JS	JavaScript

1.5 Document Conventions

This document follows the IEEE formatting requirements.

1.6 References and Acknowledgments

1) IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

2 Overall Description

2.1 Product Overview

Everyone wants to have the best dinner or snacks on campus. Our campus has many hostels that provide mess and accommodation. The campus allows us to choose the mess as per our wishes, but we have less information about the mess, and it takes a lot of effort to gather information about the mess of hostels. To solve this problem, we thought of introducing an app. This app mainly consists of details of dinner and snacks, the price required to be a guest for a specific session, and the items' rating. It also provides options for users to give their rating of meals they had. There is a feature to filter the list of meals by their cost and ratings. A NITC email address is required to sign in and use the app. This way, it provides users with an efficient method of enquiring about meals of different hostel messes.

2.2 Product Functionality

Track2Eat app's main functionality:

- **Authentication**: The students and faculty can log in to the application using their NITC email id. Mess representatives are NITC students themselves; super admin will grant them admin status. Once their tenure is over, the super admin revokes their admin status.
- **Navigation**: Users can navigate through hostels and check the menu items. They can also move through the different options in the app like home page, filters and suggestions.
- **Rating**: Users can rate the food which they had at the mess.
- **View Guest Charges**: Each food in the menu gets their charges for guests (anybody outside of that mess' subscription) displayed on the app.
- **Filter by Cost or Rating**: The users can filter the list of messes on a particular day either by the cost factor or through ratings.
- **App Suggestions**: The app has a feature that suggests the users with food to have on a specific day, using the top-rated food by other users.

2.3 Design and Implementation Constraints

- **Development Environment**: The development environment used for the application must be Android Studio / VSCode.
- **Database**: This application relies on the database maintained by the Super Admin. It contains data on messes and meals. Any changes to the mess representatives or the update of a new dish in the database should reflect in the application. For the same reason, a private Firebase must be the database for this project. In the database, integer, varchar, date and image type of information will be held. While a local server can host the entire project, it is advisable to use a cloud-based database administrator since the amount of data is significant. We expect over 6000 users, and a rough calculation using this formula might not exceed 500 MB in total.

- **Storage**: The app has photos of the dishes on the menu, and we need to store them in the cloud. We expect at least ten messes and two meals (snacks and dinner) for seven days of the week. It translates to 10 x 2 x 7 = 140 images. Considering each image to have a size of 1.5 MB, the storage required for the images is 140 x 1.5 MB = 210 MB.
- The current cloud-based application uses Firebase to store the data and can support up to 5000 users with the current plan
- **Design conventions and standards**: This application development process must follow the principles specified by the Software Development Lifecycle (SDLC).

2.4 Assumptions and Dependencies

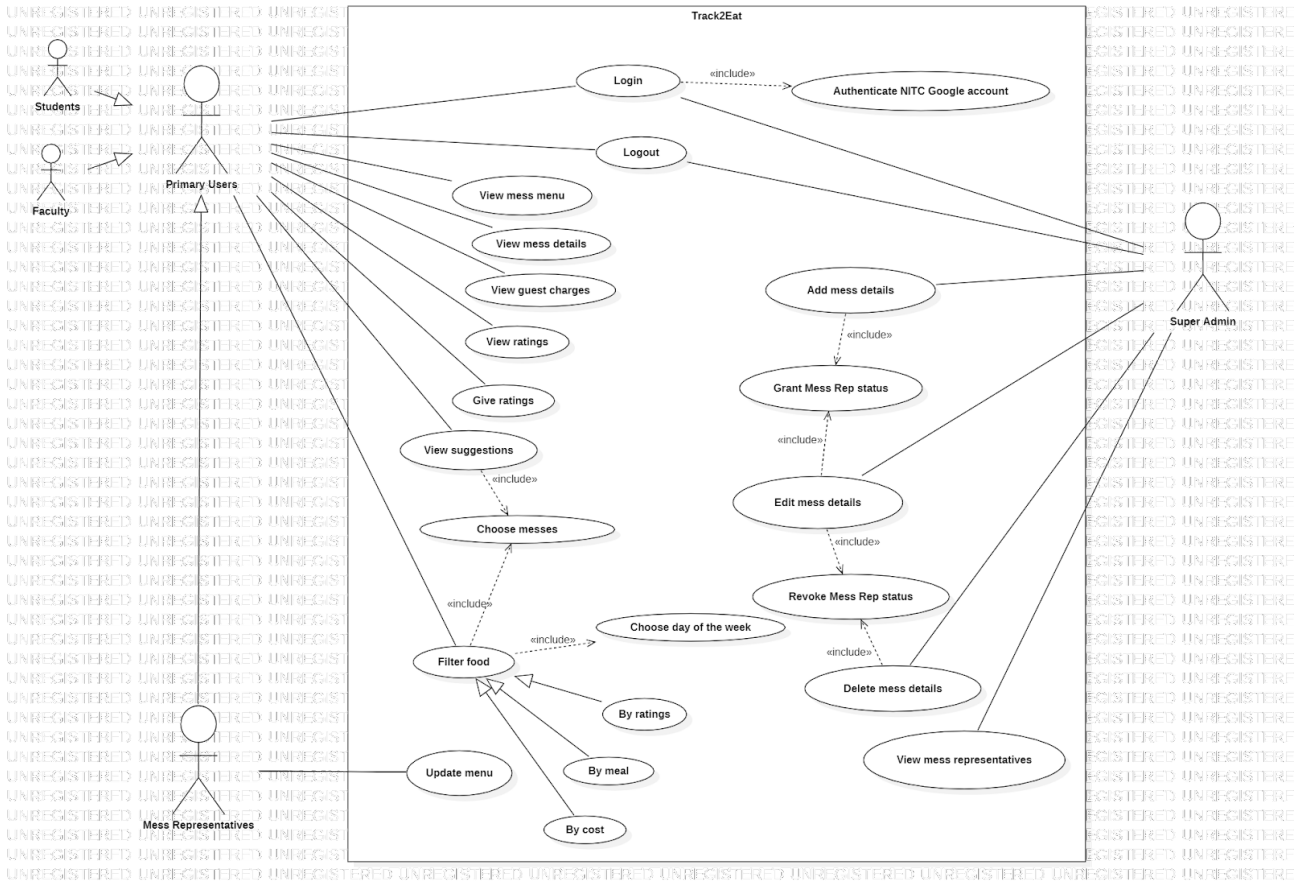
- Since we will develop our application with, user interfaces and functionalities may change in the future. It depends on the cycle of the project and the development team.
- We assume that the students and faculty will frequently use the application for mess references.
- We also assume that every user of the app has a unique, valid NITC email ID.

3 Specific Requirements

3.1 Functional Requirements

F1: The system shall verify the credentials of primary users and super admin while logging in.
F2: The system shall show the mess menu and guest charges for a specific day to the primary user.
F3: The system shall provide food suggestions to the primary user.
F4: The system shall add the ratings given by primary users.
F5: The system shall provide the primary user with filters to filter the food by price, rating and meal.
F6: The system shall let the mess representatives update the respective mess menu.
F7: The system shall let the super admin grant/revoke the mess representative status.
F8: The system shall let the super admin add/edit/delete mess details.
F9: The system shall let the primary user choose the messes of their preference.
F10: The system shall let the primary users and super admin log out from the account.
F11: The system shall let the super admin view the list of mess representatives.
F12: The system shall let the primary user view the mess details.

3.2 Use Case Model



3.2.1 Use Case #1 (Login – U1)

Author – Vishnu Ajay

Purpose - To log in as a primary user (student/faculty/mess representative) or as the super admin using Google sign-in and proceed to the dashboard.

Requirements Traceability – F1

Priority - High

Preconditions -

1. The primary user/super admin must have a valid NITC email address (eg. xxxxx@nitc.ac.in) and this email address should be mapped to a Google account on the primary user/super admin's device.

2. Primary users and super admin must know their registered passwords.

Postconditions -

1. The primary user and super admin is able to log in and arrives at their respective home pages. The mess representative, who is also a primary user, gets an additional option of a mess representative dashboard, which is not available for the other primary users.
2. The primary users and super admin are able to access the various features of the application via their respective home pages.

Actors – Primary user and super admin

Extends – None

Flow of Events

Basic Flow

Actor's Action	System's Response
The primary user or super admin selects the Google sign-in button and selects his NITC email account.	The system validates the credentials and proceeds to their respective home page depending on whether it is a primary user or the super admin.

Alternative Flow

Actor's Action	System's Response
The primary user or super admin selects the Google sign-in button and selects a non-NITC email account.	The system validates the credentials and tells the primary user to sign in with a NITC email account.

Includes - U2

Notes/Issues - None

3.2.2 Use Case #2 (Authenticate NITC Google account – U2)

Author – Vishnu Ajay

Purpose - To verify if the selected Google account is mapped to a NITC mail ID.

Requirements Traceability – F1

Priority - High

Preconditions - Primary users must have a valid NITC email address (eg: xxxxx@nitc.ac.in) and it should be mapped to a Google account.

Postconditions - Google NITC account verified.

Actors – Primary user and super admin

Extends – None

Flow of Events

Basic Flow

Actor's Actions	System's Response
The primary user's/super admin's device sends the details of the NITC Google account selected by the primary user/super admin to the system backend.	The system uses the Google API to check if the selected Google account is mapped to a NITC mail ID. The system sends a successfully verified message to the login portal.

Alternative Flow

Actor's Actions	System's Response
The primary user's/super admin's device sends the details of the non-NITC Google account selected by the primary user/super admin to the system backend.	The system uses the Google API to check if the selected Google account is mapped to a NITC mail ID. The system sends a verification unsuccessful message to the login portal.

Includes - None

Notes/Issues - None

3.2.3 Use Case #3 (View Suggestions – U3)

Author – Venkata Akhil Chinthala

Purpose - To show the top-rated snacks or dinner items (depending on the time the user accesses the app) on a particular day. The average ratings are calculated based on the ratings from all the users of Track2Eat from the last three months at most.

Requirements Traceability – F3

Priority - Medium

Preconditions -

1. The primary user must have logged into the app.
2. The primary users have to rate a few dishes on the menu.

Postconditions - The primary user will be able to see the list of suggested snacks or dinner.

Actors – Primary user

Flow of Events

Basic Flow

Actor's Actions	System's Response
The primary user opens the home page.	The system displays the top-rated meals for snack or dinner, depending on the time when the primary user opened the app.

Alternative Flow

Actor's Response	System's Response
The primary user gets notifications with food suggestions (like snacks 30 min before snacks time and dinner 30 min before dinner time).	The system displays the top-rated meals for snack or dinner, depending on the time when the primary user opened the app.

Exceptions

Actor's Response	Systems Response
The primary user opens the home page.	The system displays a message "Sorry, no suggestions available" (this happens when no food is rated by the users yet)

Extends – None

Includes – U5

3.2.4 Use Case #4 (View Mess Menus – U4)

Author – Venkata Akhil Chinthala

Purpose - To view the mess menus by the primary user

Requirements Traceability – F2, F4, F9

Priority - High

Preconditions -

1. The primary user must have logged into the account.
2. The super admin must have added mess details.

Postconditions - The primary user will be able to go through the mess menus.

Actors – Primary user

Extends – None

Flow of Events

Basic Flow

Actor's Response	System's Response
The primary user opens the homepage of the app and clicks the menu navigation button.	The system displays all the mess menus for the day.
The primary user clicks on 'Edit Filter' (By the day, By meal, By mess, By rating/cost) and selects his choices and clicks confirm.	The system displays the food menu according to the chosen preferences

Alternative Flow

Actor's Response	System's Response
The primary user opens the homepage of the app and clicks the menu navigation button.	The system displays all the mess menus for the day.
The primary user clicks on 'Edit Filter' (By the day, By meal, By mess, By rating/cost) and selects his choices and clicks confirm.	The system displays a message "No food available" (this happens when the chosen filters do not have anything to show)

Includes - None.

Excludes - None.

3.2.5 Use Case #5 (Choose Messes – U5)

Author – Venkata Akhil Chinthala

Purpose - To provide the primary user with the option to choose particular messes of his preference

Requirements Traceability – F9

Priority - Medium

Preconditions -

1. The primary user must have logged into the account.
2. The super admin must have added mess details.

Postconditions - The primary user must be able to see the mess menu of his/her choice

Actors – Primary user

Extends – None

Flow of Events

Basic Flow

Actor's Response	System's Response
The primary user clicks on "edit filters" from the menu page or three dots icon from the home page.	The system displays all the available options of messes.
The primary user can make multiple choices of his/her wish	The system displays the list of foods/suggestions from the messes chosen by the primary user.

Alternative Flow

Actor's Response	System's Response
The primary user clicks on "edit filters" from the menu page or three dots icon from the home page.	The system displays all the available options of messes
The primary user can make multiple choices of his/her wish	The system displays a message "No food available" (this happens when the chosen messes don't have anything to show)

Exception

Actor's Response	System's Response
The primary user clicks on "edit filters" from the menu page or three dots icon from the home page.	The system displays 'No messes added' when no messes have been added yet by the super admin.

Includes – None

3.2.6 Use Case #6 (Choose Days of the Week - U6)

Author – Venkata Akhil Chinthala

Purpose - To provide the primary user show the menu of the particular day of the week

Requirements Traceability – F2

Priority - Medium

Preconditions -

1. Primary user must have logged into the account.
2. The super admin must have added mess details.
3. The mess representative must have updated mess details.

Postconditions - The primary user must be able to see the menu of a particular day that is selected by him/her.

Actors – Primary user

Extends – None

Flow of Events

Basic Flow

Actor's Response	System's Response
The primary user clicks on 'Edit Filters' from the menu page.	The system displays all the days of the week under the heading '
The primary user can choose any day of his/her choice from the dropdown menu.	The system displays the menu of the chosen day by the primary user

Alternative Flow

Actor's Response	System's Response
The primary user clicks on 'Edit Filters' from the menu page.	The system displays all the days of the week
The primary user can choose any day of his/her choice from the dropdown menu.	The system displays a message "No food available" (this happens when the chosen day doesn't have anything(menu) to show)

Includes – None

3.2.7 Use Case #7 (View Guest Charges – U7)

Author – Induru Revanth Kumar Reddy

Purpose - To view guest charges of all hostel blocks by the primary user

Requirements Traceability – F2

Priority - Medium

Preconditions -

1. The primary user must have logged into the account.
2. The super admin must have added mess details.
3. The mess representatives must have updated mess food details.

Postconditions - The primary user must be able to see guest charges of all food items

Actors – Primary user

Flow of Events

Basic Flow

Actor's Response	System's Response
The primary user opens the home page or menu page and selects a dish from the list of dishes.	The system displays the guest charges corresponding to the dish.

Alternative Flow

Actor's Response	System's Response
The primary user opens the home page or menu page and selects a dish from the list of dishes.	The system displays 'NA' (Not Available) in the place of guest charges if it has not been added yet by the mess representative.

Includes - None

Extends – None

3.2.8 Use Case #8 (View Ratings– U8)

Author – Induru Revanth Kumar Reddy

Purpose - To view the average rating of a food item, rated by all the primary users within the last three months at most.

Requirements Traceability – F4

Priority - High

Preconditions -

1. The primary user must have logged into the account.
2. The super admin must have added mess details
3. All the mess representatives must have updated their mess food details.
4. Primary users must have given ratings to the food.

Postconditions - The primary user must be able to see ratings of all food items

Actors – Primary user

Flow of Events

Basic Flow

Actor's Response	System's Response
The primary user opens the home page or menu page and selects a dish from the list of dishes.	The system displays the average rating of that food item from all primary users calculated within the last three months.

Alternative Flow

Actor's Response	System's Response
The primary user opens the home page or menu page and selects a dish from the list of dishes.	The system displays a message "No ratings yet" (this is shown when no primary user has rated the food yet)

Includes - None

Extends – None

3.2.9 Use Case #9 (Give Ratings – U9)

Author – Induru Revanth Kumar Reddy

Purpose - To give a rating of any food item by the primary user

Requirements Traceability – F4

Priority - High

Preconditions -

1. The primary user must have logged into the account.
2. The super admin must have added mess details.
3. All the mess representatives must have updated their mess food details.

Postconditions - The primary user must be able to give a rating to any food item

Actors – Primary user

Flow of Events

Basic Flow

Actor's Response	System's Response
The primary user clicks on a food item from the home page or menu page.	The system displays the rating page with an option to rate the food out of five stars.
The primary user gives his rating.	The system stores their rating in the database.

Alternative Flow

Actor's Response	System's Response
The primary user clicks on a food item from the home page or menu page.	The system displays the rating page with the previous rating given by the primary user.
The primary user gives his new rating.	The system stores their rating in the database.

Includes - None

Extends – None

3.2.10 Use Case #10 (Filter Food by Price – U10)

Author – Battini Balaram

Purpose – To filter the food based on price.

Requirements Traceability – F6

Priority – Medium

Preconditions –

1. The primary user must have logged into the account.
2. The super admin must have added mess details.
3. All the mess representatives must have updated their mess food details.

Postconditions – The primary user will be able to see the food items filtered based on the price.

Actors – Primary user

Flow of Events

Basic Flow

Actor's Actions	System's response
Primary user clicks on 'Edit filters' from the menu page.	The system displays options to select a filtering from high-to-low or low-to-high.
After selecting the filters, the primary user clicks "Confirm".	The system goes through the database and shows a list of foods based on the combined filters selected.

Alternative Flow

Actor's Actions	System's response
Primary user clicks on 'Edit filters' from the menu page.	The system displays options to select a filtering from high-to-low or low-to-high.

After selecting the filters, the primary user clicks “Confirm”.	Notifies the primary user that no food is available that matches the given filters (because no food matches the given filters/ guest charges are not available for any food).

Extends – None

Includes – None

3.2.11 Use Case #11 (Filter Food by Rating – U11)

Author – Battini Balaram

Purpose – To filter the food based on ratings.

Requirements Traceability – F5

Priority – Medium

Preconditions –

1. The primary user must have logged into the account.
2. The super admin must have added mess details.
3. All the mess representatives must have updated their mess food details.

Postconditions – The primary user will be able to see the food based on the filters.

Actors – Primary user

Flow of Events

Basic Flow

Actor’s Actions	System’s response
Primary user clicks on ‘Edit filters’ from the menu page.	The system displays options to select a filtering from high-to-low or low-to-high.
After selecting the filters, the primary user clicks “Confirm”.	The system goes through the database and shows a list of foods based on the combined filters selected.

Alternative Flow

Actor's Actions	System's response
Primary user clicks on 'Edit filters' from the menu page.	The system displays options to select a filtering from high-to-low or low-to-high.
After selecting the filters, the primary user clicks "Confirm".	Notifies the primary user that no food is available (because no food matches the given filters/ no food is rated).

Extends – None

Includes – None

3.2.12 Use Case #12 (Filter Food by Meal – U12)

Author – Battini Balaram

Purpose – To filter the food based on meals.

Requirements Traceability – F5

Priority – Medium

Preconditions –

1. The primary user must have logged into the account.
2. The super admin must have added mess details.
3. All the mess representatives must have updated their mess food details.

Postconditions – The primary user will be able to see the food based on the filters.

Actors – Primary user

Flow of Events

Basic Flow

Actor's Actions	System's Response
Primary user clicks on 'Edit filters' from the menu page.	The system displays options for snacks/dinner.
After selecting, the primary user clicks "Confirm".	The system goes through the database and shows all the foods based on the filters selected.

Alternative Flow

Actor's Actions	System's Response
Primary user clicks on 'Edit filters' from the menu page.	The system displays options for snacks/dinner.
After selecting, the primary user clicks "Confirm".	The system goes through the database and displays no food available for the selected filters (this happens when selected messes do not have that meal)

Extends – None

Includes – None

3.2.13 Use Case #13 (Update Menu – U13)

Author – Battini Balaram

Purpose – To Update the Mess menu whenever there is change.

Requirements Traceability – F6

Priority – Medium

Preconditions –

1. The super admin must have granted the mess representative status to the student.
2. The student must have logged into the mess representative account.

3. The super admin must have added mess details.

Postconditions – The primary users will be able to see the updated menu.

Actors – Mess Representative

Flow of Events –

Basic Flow

Actor's Actions	System's Response
The mess representative goes to the mess representative page.	System displays the option for day and meal to update the menu
The mess representative chooses the day and meal and makes changes to that meal and uploads a photo of the updated meal.	System updates the database according to the changes made by the mess representative.

Alternative Flow

Actor's Actions	System's Response
The mess representative goes to the mess representative page.	System displays the option for day and meal to update the menu
The mess representative chooses the day and meal and To update the guest charges only, the mess representative makes the required changes to the guest charges.	System updates the database according to the changes made.

Extends – None

Includes – None

3.2.14 Use Case #14 (Add Mess Details – U14)

Author – Battini Balaram

Purpose – To add the details of a new mess when it starts functioning.

Requirements Traceability – F7, F8

Priority – Medium

Preconditions – The super admin must have logged into their account.

Postconditions –

1. The primary users will be able to see the added mess details.
2. One of the students will get mess representative status.
3. The Primary users will be able to see the description of the added mess

Actors – Super admin

Flow of Events –

Basic Flow

Actor's Actions	System's Response
Super admin goes to the add mess page and enters the mess details (mess name, mess rep name, mess rep email, mess location link and mess manager contact number) and clicks "Add".	System will add the mess details to the database and grant the mess rep status to the newly added mess rep.

Alternative Flow

Actor's Actions	System's Response
Super admin goes to the add mess page and clicks the "Add" button without filling in all the details	System notifies the super admin to enter all the details.

Exceptions

Actor's Actions	System's Response
Super admin enters the details of an already existing mess	System notifies the super admin that the mess exists already.

Super admin enters the details of a student who is already a mess rep for another mess.	System notifies the super admin that the mess rep exists already.

Extends – None

Includes – U17

3.2.15 Use Case #15 (Edit Mess Details – U15)

Author – Thadi Umesh Chandra Reddy

Purpose – To edit the details of the mess.

Requirements Traceability – F7, F8

Priority – Medium

Preconditions – The super admin must have logged into the account.

Postconditions –

1. The primary users will be able to see the edited mess details.

2. Existing mess rep status of the student (primary user) may be revoked and given to another student (primary user).

Actors – Super admin

Flow of Events –

Basic Flow

Actor's Actions	System's Response
Super admin goes to the edit/delete page.	The system will display all the available messes.
Super admin selects the mess which he/she wants to edit and clicks "Edit icon".	The system will display the current details of the mess.
Super admin makes changes which he wishes to and clicks "confirm".	The system will update that in the database.

While entering details Super admin enters the details of another new student as a mess rep instead of the same one.	System will revoke the mess rep status for the previous mess rep and grant mess rep status to the new student.

Alternative Flow

Actor's Actions	System's Response
Super admin does not click the "confirm" button.	System will not add changes to the mess details in the database.

Exceptions

Actor's Actions	System's Response
Super admin enters the same mess details again and clicks "confirm"	Nothing changes.
While entering new mess rep details the super admin enters the details of an already existing mess rep.	System notifies the super admin that the student is already a mess rep.

Extends – None

Includes – U17, U18

3.2.16 Use Case #16 (Delete Mess Details – U16)

Author – Thadi Umesh Chandra Reddy

Purpose – To delete the details of the mess if it stops functioning.

Requirements Traceability – F7, F8

Priority – Medium

Preconditions – The super admin must be logged into their account.

Post conditions –

1.The primary users will not be able to see the deleted mess details.

2. Mess rep status will be revoked from the student who is the mess representative for that particular mess which is deleted.

Actors – Super admin

Flow of Events –

Basic Flow

Actor's Actions	System's Response
Super admin goes to the edit/delete page.	System will display all the available messes.
Super admin selects the mess which he wants to delete and clicks the "delete icon"	System will ask for confirmation.
Super admin clicks yes.	System will delete the mess details from the database and the mess rep status for that mess rep will be revoked.

Alternative Flow

Actor's Actions	System's Response
Super admin goes to the edit/delete page.	System will display all the available messes.
Super admin selects the mess which he wants to delete and clicks the "delete icon"	System will ask for confirmation.
Super admin clicks no.	Nothing changes.

Extends – None

Includes – U18

3.2.17 Use Case #17 (Grant Mess Rep status – U17)

Author – Thadi Umesh Chandra Reddy

Purpose – To grant mess representative status to a student.

Requirements Traceability – F7

Priority – High

Preconditions –

1. The super admin must be logged into their account.
2. The super admin must have entered the details of the student while adding mess details.
3. The student (primary user) must not have the mess rep status previously to any mess.

Post conditions – Mess representatives should get access to the update menu.

Actors – System

Flow of Events –

Basic Flow

Actor's Actions	System's Response
Super admin enters the new mess rep details while adding mess details or editing mess details.	System will grant mess rep status to the student whose details are entered.

Alternative Flow

Actor's Actions	System's Response
Super admin enters the details of an already existing mess rep	System notifies the super admin that the mess rep already.

Exceptions

Actor's Actions	System's Response
Super admin clicks the "add mess" button	System notifies the super admin to fill in the

without filling in the details	details of the mess.

Extends – None

Includes – None

3.2.18 Use Case #18 (Revoke Mess Rep status – U18)

Author – Thadi Umesh Chandra Reddy

Purpose – To revoke the mess representative status of a student (primary user) .

Requirements Traceability – F7

Priority – High

Preconditions –

1. The super admin must have logged into the account.
2. The super admin must be deleting a mess or editing mess details.

Post conditions – The primary users will be able to see the Edit mess details.

Actors – System

Flow of Events –

Basic Flow

Actor's Actions	System's Response
Super admin deletes the mess.	System will revoke the mess rep status of that mess representative.
Super admin entered the other student details while editing the mess and clicks edit.	System will revoke the mess rep status of the previous mess representative.

Extends – None

Includes – None

3.2.19 Use Case #19 (Logout – U19)

Author – Thadi Umesh Chandra Reddy

Purpose - To logout of the account

Requirements Traceability – F10

Priority - High

Preconditions -

1. The primary users and super admin must have an account in the app.

2. The primary users and super admin must be logged into the account.

Post conditions -

The primary users will successfully be able logout from the account.

Actors – Primary users and super admin

Extends – None

Flow of Events

Basic Flow

Actor's Actions	Systems Response
The primary users and super admin clicks on "logout icon"	The system will display the message "Are you sure you want to log out?".
The primary user clicks on "Yes"	The system will log out from the account.

Alternative Flow

Actor's Actions	Systems Response
The primary users and super admin	The system will display the message "Are you

clicks on “logout icon”	sure you want to log out?”.
The primary user clicks on “No”	The system will not log out from the account and redirects to the home page (primary user) or super admin dashboard.

Exceptions – None

Includes – None

3.2.20 Use Case #20 (View Mess Representatives – U20)

Author – Vishnu Ajay

Purpose – To view the details of current mess representatives of each mess.

Requirements Traceability – F11

Priority – Medium

Preconditions – The super admin must have logged into the account.

Postconditions – The super admin will be able to see the list of mess representatives.

Actors – Super admin

Flow of Events –

Basic Flow

Actor’s Actions	System’s Response
Super admin enters the super admin dashboard page and clicks on “View Mess Reps”.	The system will view the list of mess representatives with their name, email ID, and the mess they belong to.

Exceptions

Actor’s Actions	System’s Response
Super admin enters the super admin	System shows “No mess representatives

dashboard page and clicks on “View Mess Reps”.	added yet”. (This happens when the database has no mess representatives added yet).

Extends – None

Includes – None

3.2.21 Use Case #21 (Filter Food – U21)

Author – Battini Balaram

Purpose – To filter the food based on all available filters that include days of the week, price, meal, ratings, mess. Multiple filters can be set together.

Requirements Traceability – F5,F9,F2

Priority – Medium

Preconditions –

1. The primary user must have already registered on the app.
2. The primary user must have logged into the account.
3. The super admin must have added mess details.
4. All the mess representatives must have updated their mess food details.

Postconditions – The primary user will be able to see the food based on the filters.

Actors – Primary user

Flow of Events

Basic Flow

Actor’s Actions	System’s Response
The primary user clicks on Menu from the navigation bar and clicks ‘Edit filter’ and selects the filters based on his choice.	The system goes through the database and shows all the Foods based on the filters selected.

Alternative Flow

Actor's Actions	System's Response
The primary user clicks on Menu from the navigation bar and clicks 'Edit filter' and selects the filters based on his choice.	Notifies the primary user that no food is available that matches the given filters.

Extends – None

Includes – U5, U6

3.2.22 Use Case #22 (View Mess Details– U22)

Author – Battini Balaram

Purpose - To view the mess details by the primary user

Requirements Traceability – F12

Priority - Medium

Preconditions -

1. The primary user must have logged into the account.
2. The super admin must have added mess details.

Postconditions - The primary user will see the mess details.

Actors – Primary user

Flow of Events

Basic Flow

Actor's Actions	System's Response
The primary user clicks the mess name from ratings page	The system displays the mess details.

Includes - None.

Excludes - None.

4 Other Non-functional Requirements

4.1 Performance Requirements

- **Communication Protocols:** For communication between android smartphones and web servers, the TCP and UDP protocols are explored. UDP is a quicker protocol than TCP, however, it lacks the reliability of TCP. TCP is used because dependability is a subject that cannot be overlooked. As a result, the HTTP protocol, which works with TCP, is employed in the project.
- **System:** The software will work on any Android device running version 4.1 (Jelly Bean) or higher. It will be approximately 50 megabytes in size. The application will adjust its size according to the size of the screen and/or window it is running in. All of the functions must be completed in less than three seconds.
- **Response Time:** Within 3 seconds, the application should load and be usable. It should update the interface within 2 seconds of an interaction. The application will function normally until the user starts switching between three or more processes.
- **Workload:** The current application is implemented for 5000 customers approximately. The capacity can be extended in the future if needed.

4.2 Safety and Security Requirements

- Cross-Site Scripting, Broken Authentication, and Session Management are all handled properly. The illegal access is dealt with by the IDS/IPS (Intrusion Detection System/Intrusion Prevention System).
- If a catastrophic failure, such as a disc crash, causes extensive damage to a large portion of the database, the recovery method restores a previous copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed-up log, up to the time of failure.

4.3 Software Quality Attributes

4.3.1 Scalability

The above app could be scaled by increasing the size of the database based on the requirements of the institution and student participation. The intention of the system is to serve 10,000 queries/day.

4.3.2 Reliability

The application is expected to work without issues over the long term with the help of a robust backend and database that can handle multiple queries.

4.3.3 Maintainability

The development team will follow best practices for clean code and software modularity in order to better maintain the application.

4.3.4 Portability

Since the app is built on Flutter, iOS integration will be easy to implement later on. For now, the app shall run on almost all Android devices.

4.3.5 Reusability

The application is at heart a very good mess management system too. It can probably be reused into an app for mess managers and their inventory later on because the inherent code is similar.

4.3.6 Usability

The application is built on Flutter and will be user-friendly.

4.3.7 Availability

The app works round-the-clock in terms of displaying the mess details. However, the entire system (mess) is not expected to run all the time since there are stipulated mess timings.

5 Other Requirements

There is no other requirement needed for this project.

Appendix A - Activity Log

Group Meetings

Date	Mode	Duration	Attended by	Outcomes
29-01-2022	Google Meet	1830-1900	Team members	Work split-up
03-02-2022	Cisco Webex	1215-1240	Team leads and project owners	Progress check
03-02-2022	Google Meet	1600-1630	Team members	Use case diagram improvements
04-02-2022	Google Meet	1700-1730	Team members	Use cases discussion
17-02-2022	Google Meet	1700-1830	Team members	Overall modifications and new UI screens

Contributions

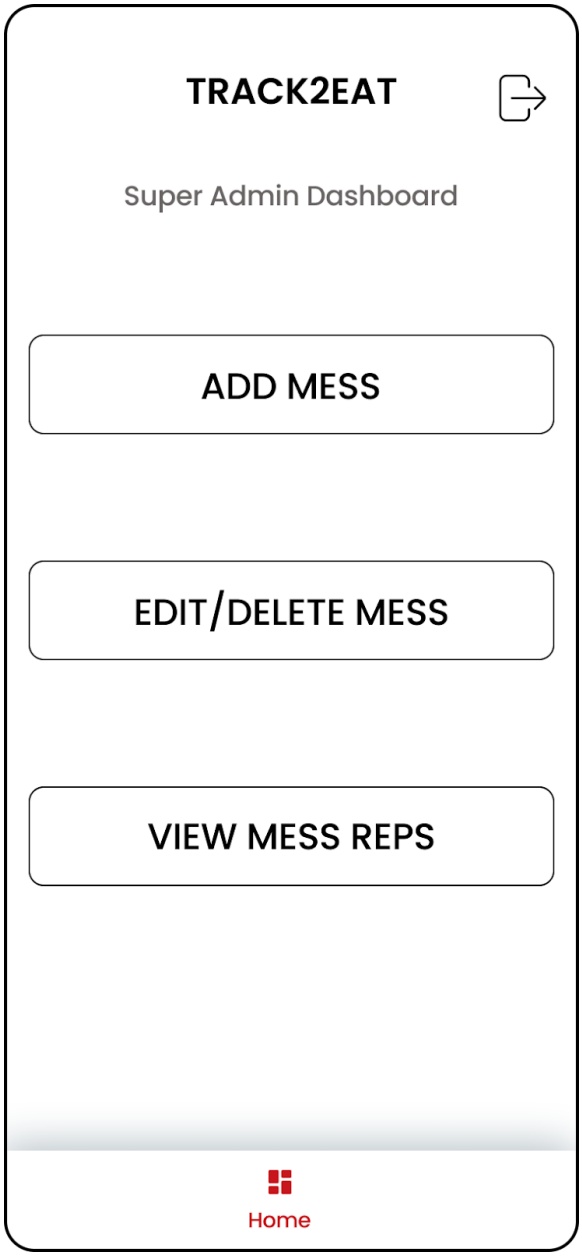
Section	Contributor(s)
Introduction	Induru Revanth Kumar Reddy
Overall Description	Thadi Umesh Chandra Reddy
Specific Requirements	Induru Revanth Kumar Reddy, Vishnu Ajay
Functional Requirements	Battini Balaram, Venkata Akhil Chinthala
Other Non-Functional Requirements	Battini Balaram, Venkata Akhil Chinthala
Other Requirements	Induru Revanth Kumar Reddy, Vishnu Ajay
Graphical User Interface	Thadi Umesh Chandra Reddy, Vishnu Ajay, Battini Balaram, Venkata Akhil Chinthala
High-level Interface Diagram	Thadi Umesh Chandra Reddy
Use Case Diagram	Battini Balaram, Venkata Akhil Chinthala
Appendix C	Induru Revanth Kumar Reddy

Use Case Numbers	Team Member

1, 2, 20	Vishnu Ajay
3, 4, 5, 6	Venkata Akhil Chinthala
7, 8, 9	Induru Revanth Kumar Reddy
10, 11, 12, 13, 14, 21, 22	Battini Balaram
15, 16, 17, 18, 19	Thadi Umesh Chandra Reddy

Appendix B - User Interfaces

Super Admin Dashboard (Super Admin)

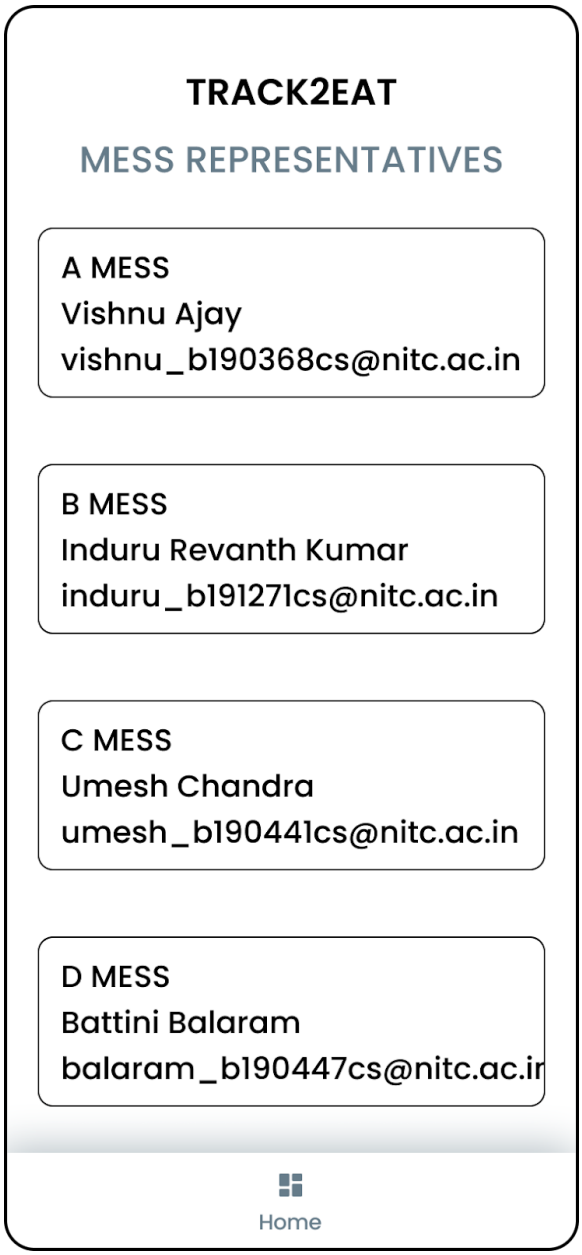


→ U14

→ U15, U16

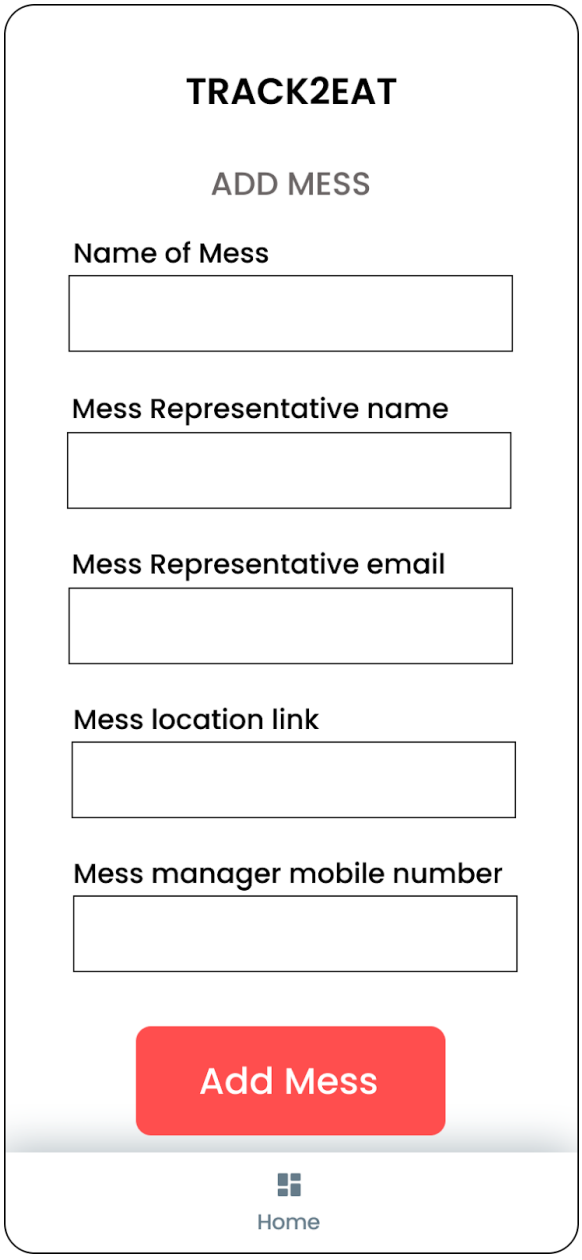
→ U20

View Mess Representatives (Super Admin)



→ U20

Add Mess Details (Super Admin)

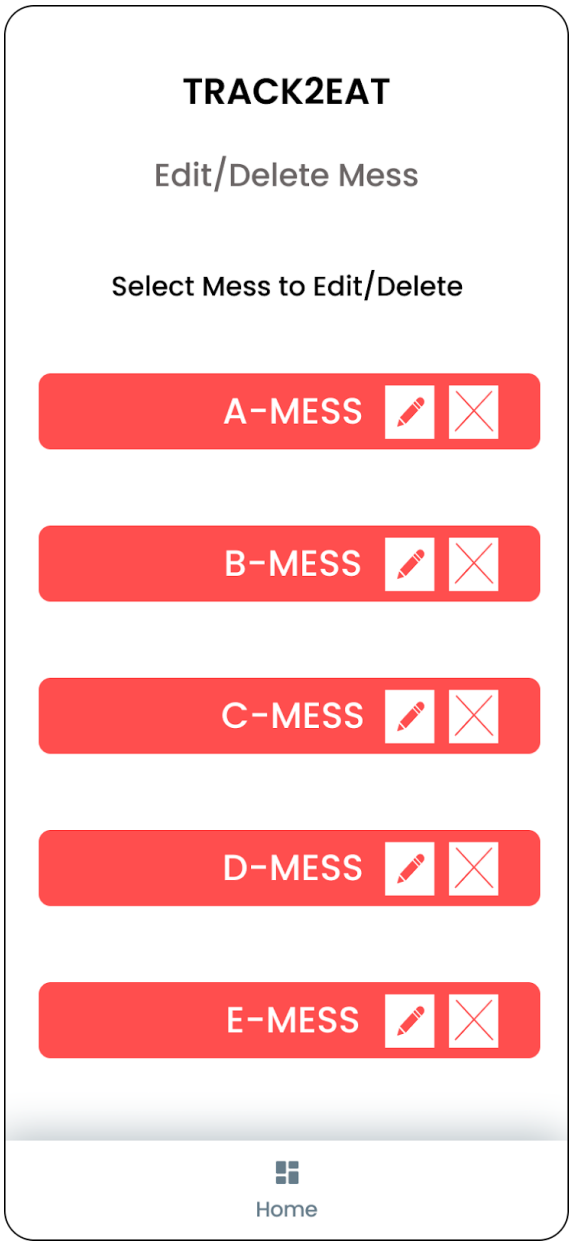


→ U17

→ U14

Edit/Delete Mess (Super Admin)

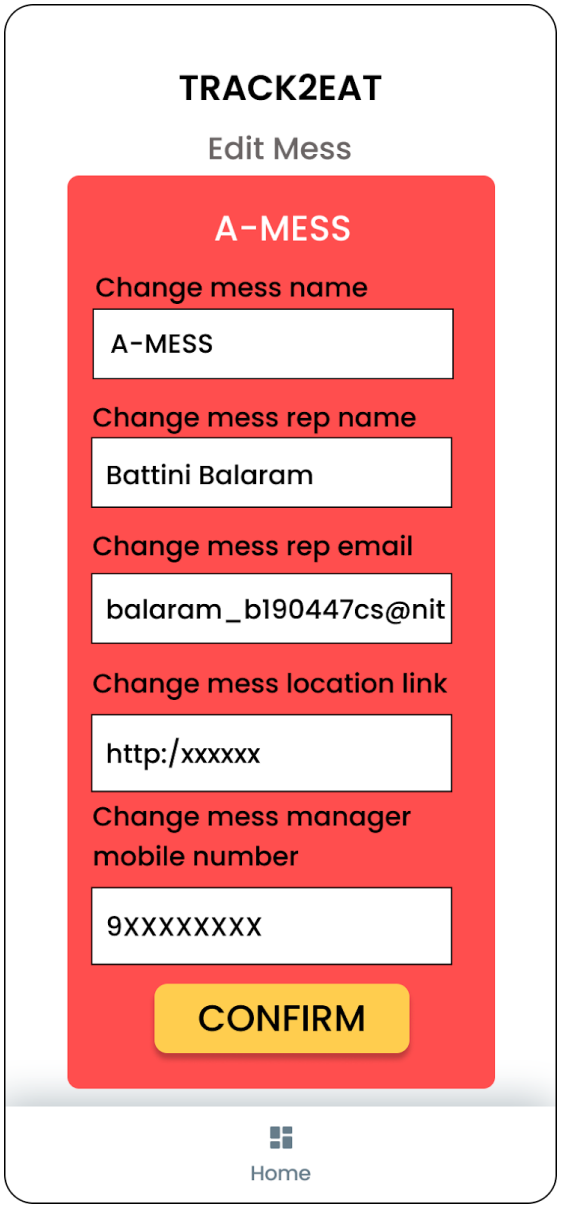
Click on the pencil icon to edit details, the cross icon to delete the mess completely. Clicking the pencil icon gives an enlarged view of the details and the user can click on confirm to return to this screen. Clicking the cross icon shows a confirmation dialog box.



→ U17, U16

Edit Mess After Selection (Super Admin)

Click the back button on your device to go back to the list of messes to edit/delete.

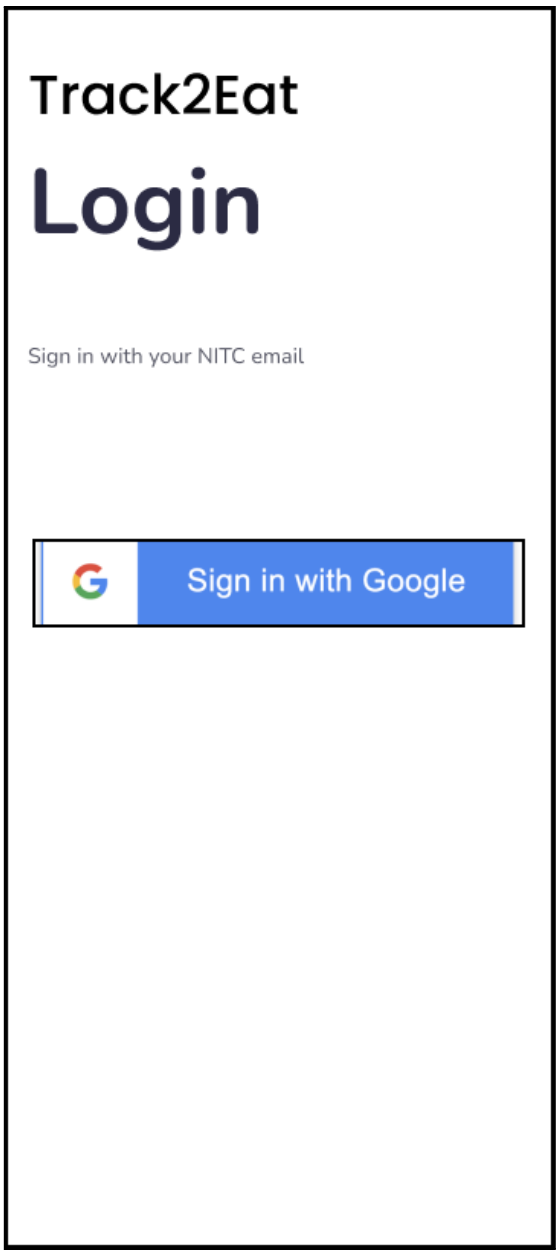


→ U17

Delete Mess Confirmation Dialog Box (Super Admin)

→ U16

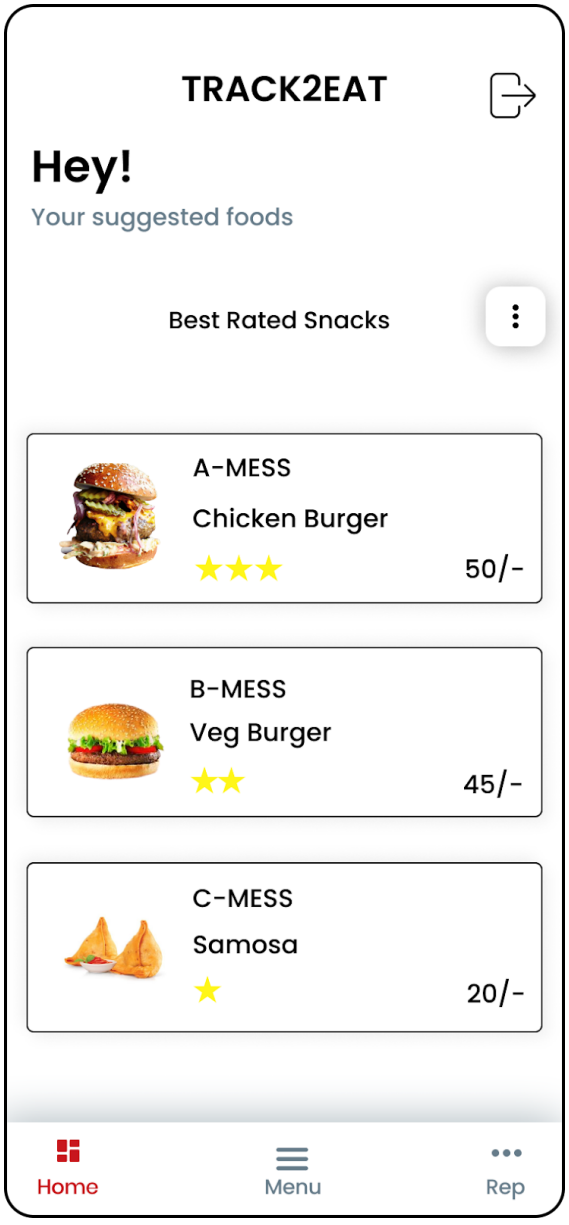
Login Page (Primary User, Mess Rep and Super Admin)



→ U1, U2

Home Page (Primary User and Mess Rep)

Note that the three dots icon on the navigation bar is present only for the mess representatives. Other primary users do not get the three dots button on their navigation bars. Click the icon on the top right corner to log out from the app.



→ U3

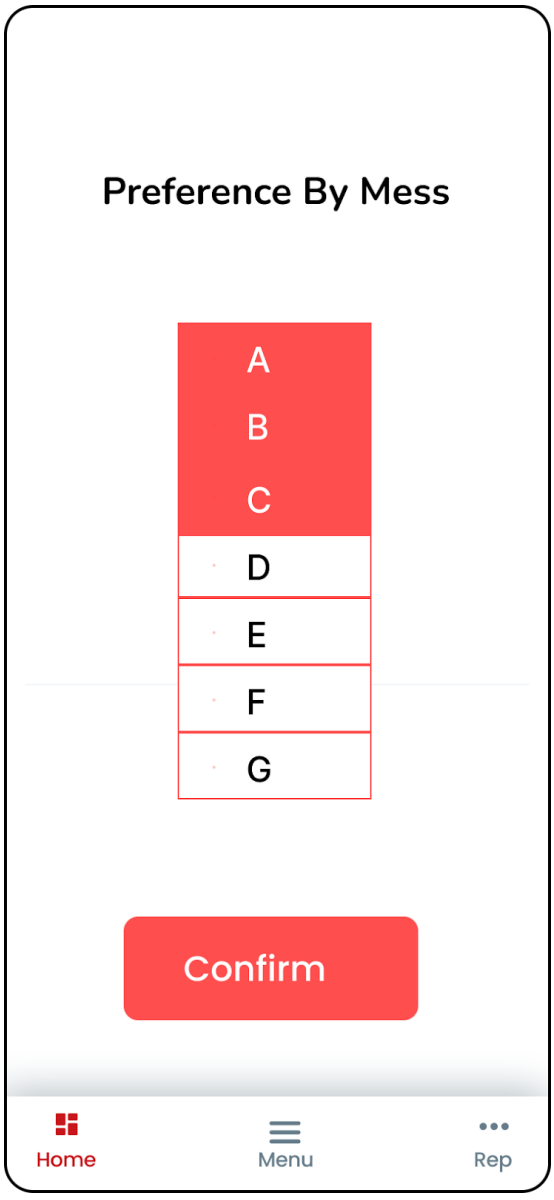
→ U9

→ U8

→ U7

Suggestions - Edit Mess Preference (Primary User and Mess Rep)

Note that the three dots icon on the navigation bar is present only for the mess representatives. Other primary users do not get the three dots button on their navigation bars.
You can arrive at this page by clicking on the three dots from the home page. Click Confirm to go back to the home page.

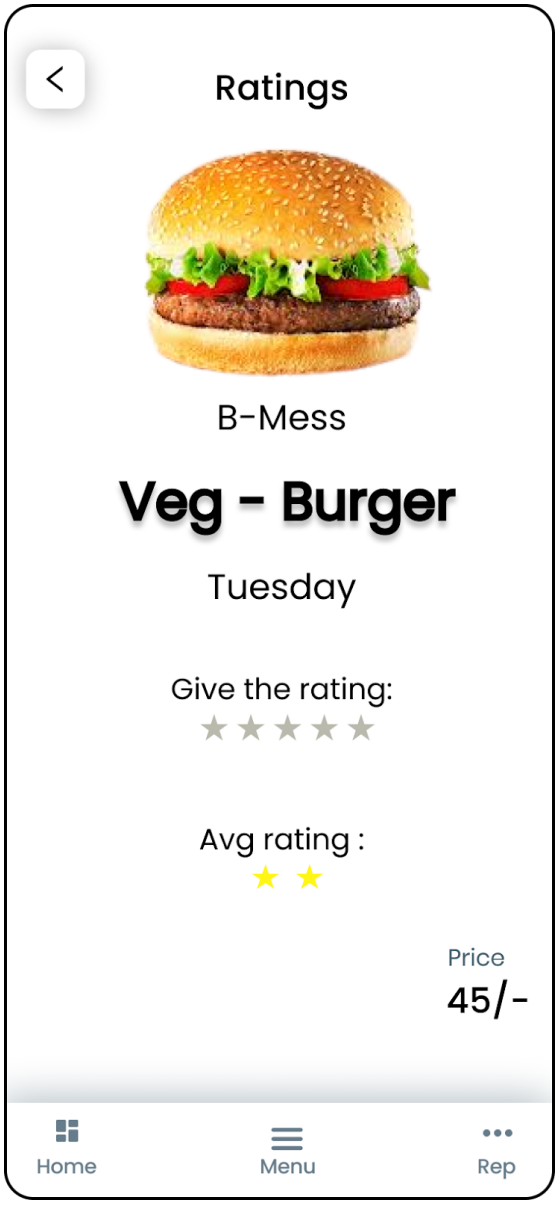


→ U3

→ U5

Ratings Page (Primary User and Mess Rep)

Note that the three dots icon on the navigation bar is present only for the mess representatives. Other primary users do not get the three dots button on their navigation bars.
You can arrive at this page by clicking on any of the food items from the home page/menu page. Click the top left corner to go back.



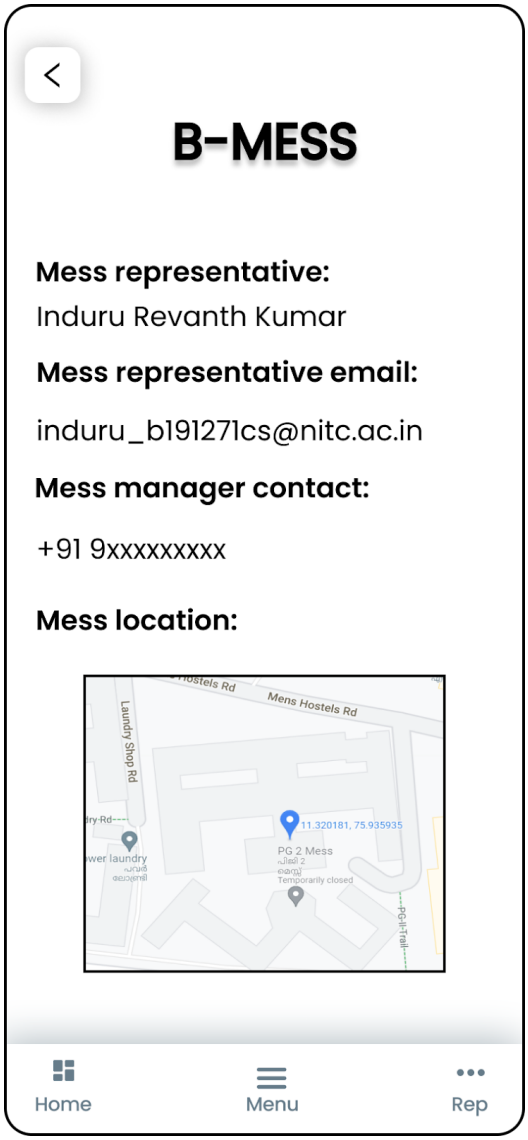
→ U9

→ U8

→ U7

View Mess Details (Primary User and Mess Rep)

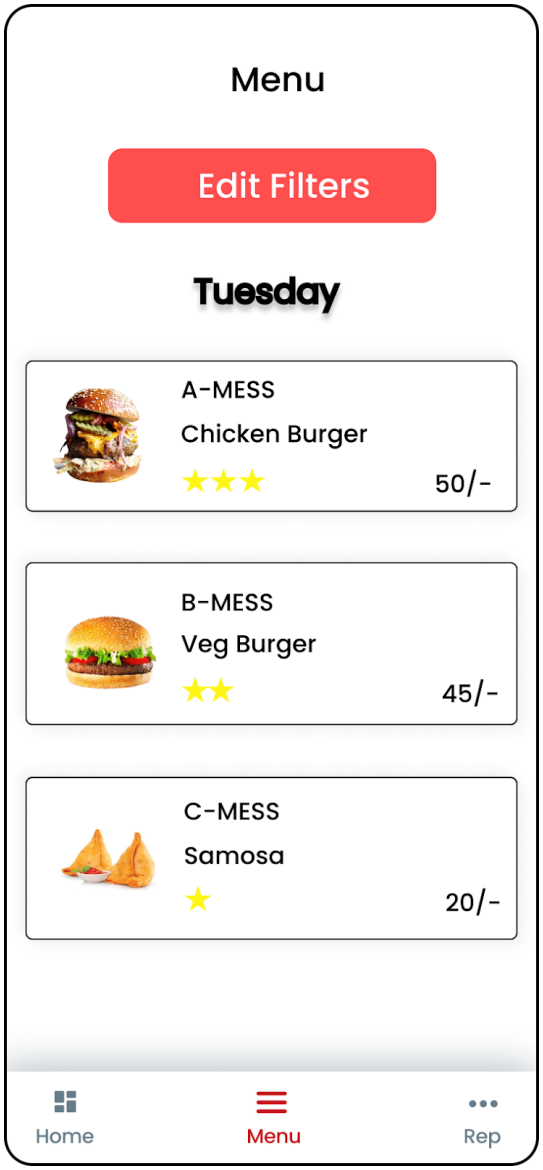
Note that the three dots icon on the navigation bar is present only for the mess representatives. Other primary users do not get the three dots button on their navigation bars.
You can arrive at this page by clicking on the mess name from the rating page. Click the back button on the top left corner to go back.



→ U22

Menu Page (Primary User and Mess Rep)

Note that the three dots icon on the navigation bar is present only for the mess representatives. Other primary users do not get the three dots button on their navigation bars.

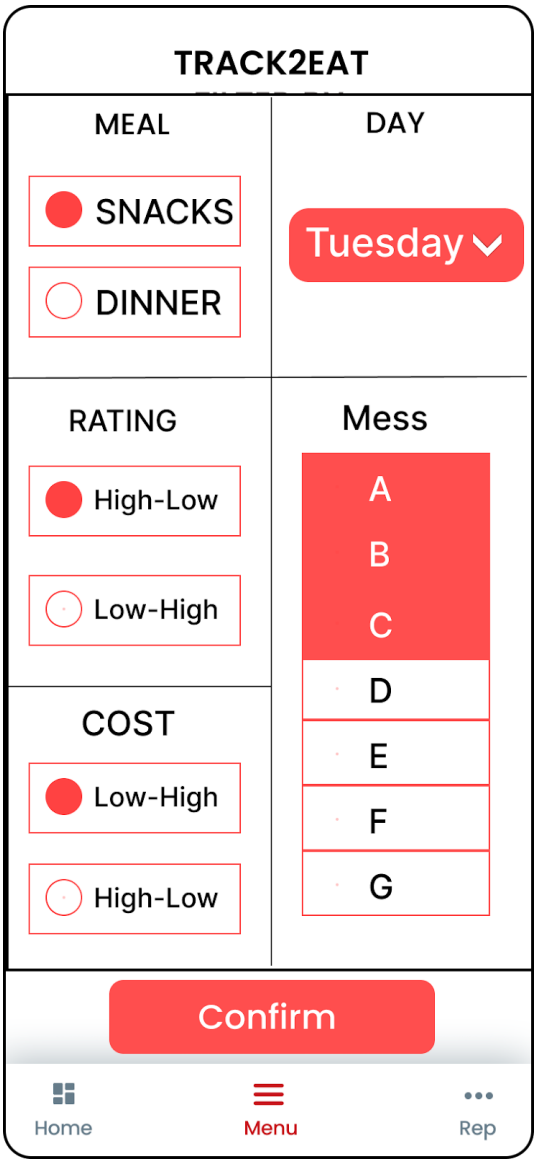


→ U4

→ U21

Filter Page (Primary User and Mess Rep)

Note that the three dots icon on the navigation bar is present only for the mess representatives. Other primary users do not get the three dots button on their navigation bars. The Choose messes list is a multiple choice one, which is scrollable. Choose day is a drop-down menu



→ U21

→ U12

→ U11

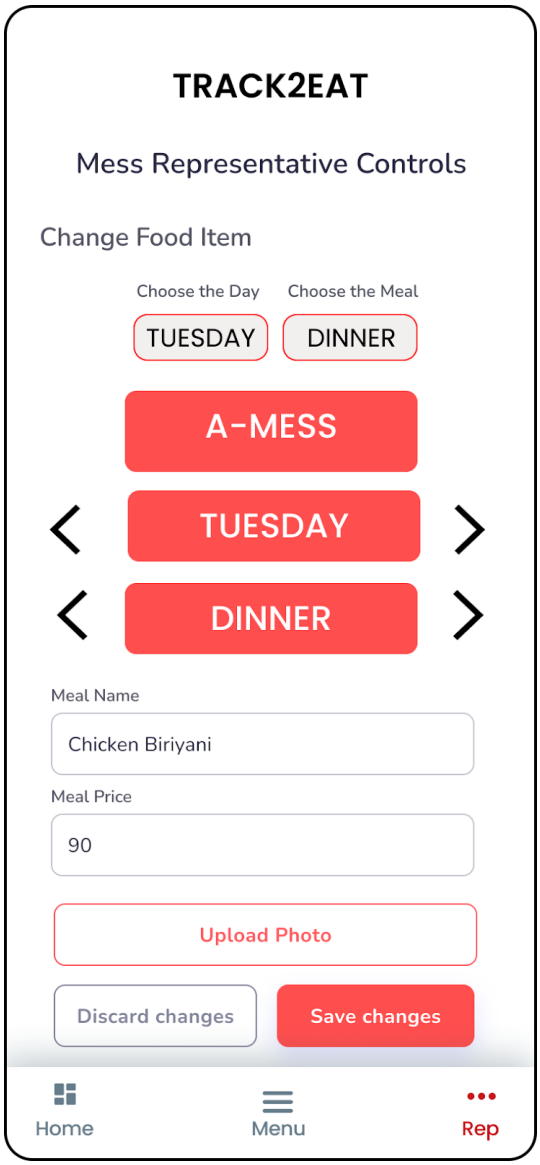
→ U10

→ U6

→ U5

Update Menu (Mess Rep)

Use the arrow buttons to select the required day and meal type (snacks/dinner).



→ U13

Logout Confirmation (Primary User, Mess Rep and Super Admin)

Click on the icon at the top right corner of the primary user home page or super admin dashboard to access this page.

→ U19

Appendix C - Changes in Version 1.1

Section Based on V 1.0	Changes Made
1.1	Last sentence edited.
1.2	Spelling changes
1.3	Last sentence deleted.
1.4.2	Added new acronyms
1.4.3	Added new abbreviation
2.1	Deleted diagram
2.3	Added more details to the database section and a new storage requirements section, deleted security description.
2.4	Removed ‘Agile’ methods.
3.1	Deleted
3.2	Deleted some FR added new functional requirements
3.3	Changed use case diagram
3.3	Proper alignment of the flow of event tables
3.3.1	Removed use case “Register”
3.3.2	Edited Login use case to sign-in using Google.
3.3.3	Changed use case “Authenticate password” to “Authenticate NITC Google Account”
3.3.4	Removed use case “Forgot password”
3.3.5	Changed flow of events for view suggestions
3.1	We removed 3.1 from previous document and replaced 3.2 with 3.1 subsequently
3.3.4	Removed use case “Forgot Password”

3.3.23	Added new use case “Logout”
3.3.24	Added new use case “View Mess Representatives”
3.3.26	Added new use case “Filter food”
NA	Added new use case “View mess details”
3.3	Made a modification to the use cases U(5,9,16,17,18,19,20).
3.2	Removed F1, F10
4.2	Deleted SQL Injection
4.3.1	Deleted correctness
4.3.6	Deleted extensibility
5.1, 5.2	Deleted database requirements and storage requirements.
Appendix A	Made changes
NA	Appendix B and C added.