
Project Requirements

Project Name: Mensa@Unibe

Team: 7 – Jan Binzegger, Marc Dojtschinov, Andreas Hohler, Sándor Török

Customer: Bledar Aga

Revision History

Version	Date	Revision Description
.01	26.09.2013	Initial documentation
.02	01.10.2013	Andi & Sándor merged, use cases
1.0	02.10.2013	All parts merged (Jan & Marc)
2.0	08.10.2013	new Use Cases added, some deleted, diagram redrawn
2.1	08.10.2013	Minor corrections
2.2	13.11.2013	Minor corrections
2.3	09.12.2013	Final version

Date: December 9, 2013

Content

1.Introduction.....	3
1.1Purpose.....	3
1.2Stakeholders.....	3
1.3System overview.....	3
1.4References.....	4
2Overall description.....	5
2.1Use cases.....	5
2.1.1 <i>List of all canteens.....</i>	<i>6</i>
2.1.2 <i>Details about menu of current day.....</i>	<i>7</i>
2.1.3 <i>Details about menu of the current week.....</i>	<i>8</i>
2.1.4 <i>Find closest canteen.....</i>	<i>9</i>
2.1.5 <i>Way to reach a given canteen.....</i>	<i>10</i>
2.1.6 <i>See current day menu of favorite canteen.....</i>	<i>11</i>
2.1.7 <i>Get notified if menu matches some criteria a canteen.....</i>	<i>12</i>
2.1.8 <i>Read English translation of a menu.....</i>	<i>13</i>
2.1.9 <i>Share a menu, where I plan to go for lunch.....</i>	<i>14</i>
2.1.11 <i>Rate menu I have eaten.....</i>	<i>16</i>
2.1.12 <i>Check how people rated a certain menu.....</i>	<i>17</i>
2.2Actor characteristics.....	18
3Specific requirements.....	18
3.1Functional requirements.....	18
3.1.1 <i>Client.....</i>	<i>18</i>
3.1.2 <i>Server.....</i>	<i>19</i>
3.2Non-functional requirements.....	19

1. Introduction

1.1 Purpose

The Mensa@Unibe application has the purpose to serve as a portable and quick accessible menu list with additional features on most Android devices.

It will provide a rating system which will enable users to share their opinion about the daily meal. This will ensure a pleasant lunchtime with a good meal.

Also it will be possible to share the menu through existing social media, as WhatsApp or Facebook. With that you can show your friends, what you recommend to eat that day.

Another purpose is the fast reachability of the nearest canteen when hungry, which will be fulfilled by including device location tracking.

1.2 Stakeholders

Our stakeholders are android-user students from the University of Bern (16'000 students 2012, average 75% Android users, 5% having no mobile phone => circa 11'400 potential users), the different canteens of Bern (10 canteens, 7 of them serve menus) and the customer himself.

Our direct customer is Bledar Aga. He needs a perfectly working app within the time schedule.

1.3 System overview

A brief system overview, what functions should be implemented in the application.

- Overview of canteens
After starting a list of canteens need to be provided.
- Details about menu of current day
After clicking on a specific canteen you should see the menu of the day, and be able to switch to the coming days.
- Find closest canteen
Provide a feature to find the closest canteen.
- Way of reach a given canteen
Provide a feature to find a specific canteen.
- Favorite canteens
Provide a possibility to mark a canteen as favorite and make sure there is quick access to it.
- Get notified if a menu matches some criteria in a canteen
- Read English translation of a menu
Provide a translation from German language.
- Identify user, save settings

Users should have a unique identifier.
The settings should be saved locally

- Share a menu
Use existing social networks (like Facebook, WhatsApp, normal text messages) to share a menu (invite other people)
- Notifications
Implement notifications for menus served in a canteens, if it matches some previously set criteria. Doing so also implement an option to delete a criteria.
- Rate a menu
Implement a rating system (stars) and comments.
- The weekly menu of all canteens have to be available offline after the synchronization process with the server took place.

1.4 References

We will refer to <https://github.com/lexruee/Mensa-Unibe-Webservice> for our menu data.

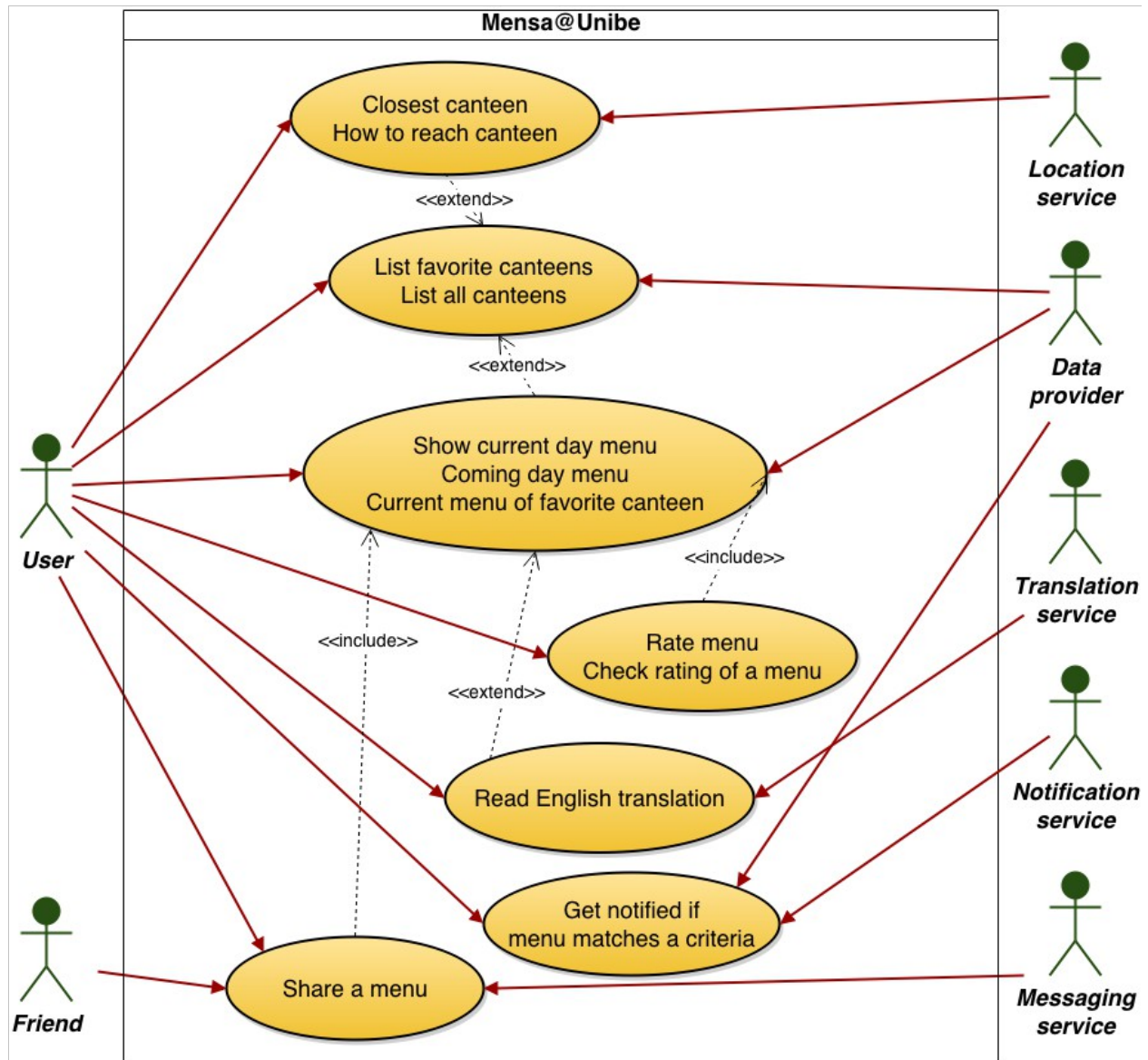
We will be using the android Support v7 Appcompat Library to provide compatibility for earlier versions of Android.

We will use the Google Play services, to enable location and map functionality in the application.

For the translation service we will use the Microsoft Bing translator java API.

2 Overall description

2.1 Use cases



2.1.1 List of all canteens

1. Actors

User, Data provider (secondary)

2. Description

As a costumer, I want to see a complete list, with all canteens of the campus.

3. Trigger

User starts the App and sees the home-screen with the list.

4. Pre-conditions

1. First start: User has an active internet connection.

5. Post-conditions

1. User sees a list of all canteens.
2. User can choose one canteen.

6. Main scenario

1. User opens the app
2. System loads data
3. System shows a list of all canteens

7. Alternative scenarios

- 2a. System has no internet connection
 - a. System tries to get a cached list of the canteens
 - b. System shows the cached list of the canteens
- 2b. System has no internet connection
 - a. System tries to get a cached list of the canteens
 - b. No cached version available
 - c. System shows error message

8. Special requirements

1. Parse the list of canteens from Data provider

2.1.2 Details about menu of current day

1. Actors

User, Data provider (secondary)

2. Description

As a user I want to see details about the menus served at a given canteen in the current day.

3. Trigger

User clicks a canteen from canteens list

4. Pre-conditions

1. User chose the canteen

5. Post-conditions

1. User sees the served menus of the current day

6. Main scenario

1. User clicks a canteen to see the served menus
2. System loads the current day menu data
3. System shows details of the served menus

7. Alternative scenarios

- 2a. User has no internet connection
 - a. System tries to get a cached version
 - b. Cached version available
 - c. Use Case resume at step 3
- 2b. User has no internet connection
 - a. System tries to get a cached version
 - b. No cached version available
 - c. System shows "no menu data is available" message

8. Special requirements

1. Parse the data about served menus

2.1.3 Details about menu of the current week

1. Actors

User, Data provider (secondary)

2. Description

As a user I want to see details about the menus served at a given canteen of the current week.

3. Trigger

User swipes from current day tab to coming days tab

4. Pre-conditions

1. The User lands on current day menu tab view

5. Post-conditions

1. User sees the served menus of the coming days

6. Main scenario

1. User wants to see the served menus
2. System shows details of the coming days menus

7. Alternative scenarios

- 1a. User has no internet connection
 - a. System tries to get a cached version
 - b. Cached version available, shows it
- 1b. User has no internet connection
 - a. System tries to get a cached version
 - b. No cached version available
 - c. System shows error message

8. Special requirements

1. Parse the data about served menus

9. Notes

- the menus are only available from Monday till Friday. The menu of the next week will be published on the weekend (to prove)
- if it is weekend and there is no data for the next week, show a message, that no meal-data is available

2.1.4 Find closest canteen

1. Actors

User, Location service (secondary)

2. Description

As a user I want to know which is the closest canteen

3. Trigger

The app shows canteen list and the device location is available

4. Pre-conditions

1. Google Play services can provide the device location
2. System has the permission to get the location

5. Post-conditions

1. User sees the distances to all canteens

6. Main scenario

1. User wants to see the closest canteen
2. System loads device location
3. System calculates the distances to all canteens with the location data
4. System shows the distances to all canteens

7. Alternative scenarios

- 2a. Google Play (GP) services are not current
 - a. System asks to update GP services
 - b. User updates GP services
 - c. Back to main scenario
- 2b. Google Play services are not current
 - a. System asks to update GP services
 - b. User declines
 - c. System shows error message
- 2c. Google Play services is not installed on the device
 - a. System asks to install GP services
 - b. User installs GP services
 - c. Back to main scenario
- 2d. Google Play services is not installed on the device
 - a. System asks to install GP services
 - b. User declines
 - c. System shows error message

8. Special requirements

1. Permission to use the location data
2. Calculate distances with coordinates

2.1.5 Way to reach a given canteen

1. Actors

User, Location service (secondary)

2. Description

As a user I want to know how to reach a given canteen

3. Trigger

User hits the "Get direction" button.

4. Pre-conditions

1. User has an active internet connection
2. Google Play services can provide the device location
3. System has the permission to get the location

5. Post-conditions

1. User sees a map with direction to chosen canteen.

6. Main scenario

1. User clicks "Get direction" button on canteen list
2. System loads given canteen and device location
3. System calculates direction between canteen and device location
4. System shows map with the way to that given canteen

7. Alternative scenarios

- 1a. User has no internet connection
 - a. System shows error message
- 2a. System can not load device location
 - a. System asks user to enable location services
 - b. User enables location services
 - c. Use Case resume at step 3
- 2b. System can not load device location
 - a. System asks user to enable location services
 - b. User declines
 - c. System shows error message

8. Special requirements

1. Use Google Maps for leading and showing the way

2.1.6 See current day menu of favorite canteen

1. Actors

User, Data provider (secondary)

2. Description

As a user I want see the current day menu of a canteen from my favorites list

3. Trigger

User clicks canteen in favorites list

4. Pre-conditions

1. User added at least one canteen to favorites list
2. Favorite canteens have menu for current day

5. Post-conditions

User sees the current menu of the given favorite canteen

6. Main Scenario

1. User starts the application
2. System lists favorite canteens
3. User clicks a canteen
4. System checks for current day menus of the favorite canteens (or retrieve cached version)
5. System shows list of current day menus of the clicked canteen.

7. Alternative Scenarios

- 1a. There are no canteens in favorites list
 - a. Use Case finish
- 4a. There is no current day menu for the canteens
 - a. System shows message that there is no current data
 - b. User refreshes menu database
 - c. Use Case resumes on step 4
- 4b. There is no current day menu for the canteens
 - a. System shows message that there is no current data
 - b. User does not refresh
 - c. Use Case finish

8. Special Requirements

System load and insert (step 4 and 5) cannot take more then 2 seconds.

9. Notes

What to do if alternative scenarios are finishing with user declines? - TBD

2.1.7 Get notified if menu matches some criteria a canteen

1. Actors

User, Notification service (secondary), Data provider (secondary)

2. Description

As a user I want to get notified if a menu served at my favorite canteen matches some criteria

3. Trigger

A menu matches some criteria set by the user

4. Pre-conditions

1. User set already at least one criteria
2. A menu matches a previously set criteria

5. Post-conditions

1. User receives a notification

6. Main scenario

1. User sets items for what to be notified
2. System saves items in interests data
3. Every morning, system looks if a menu matches a criteria from interests data
4. If a menu meets a criteria, system looks if this is a menu of the current day
5. If it is a menu of current day, system notifies user

7. Alternative Scenarios

- 3a. There is no interests data available
 - a. Use Case finish

8. Special Requirements

If there are more items, group them in one notification

9. Notes

Do not notify user if the availability of menu is already passed

Notify the user just once

Notify the user on the day, when the menu is served

2.1.8 Read English translation of a menu

1. Actors

User, Translation service (secondary)

2. Description

As a user I want to be able to read the English translation of a menu

3. Trigger

User clicks the “Translate to English” button in the menu activity

4. Pre-conditions

1. translation service is available

5. Post-conditions

1. system presents English translation of given menus

6. Main Scenario

1. User navigates to menu view
2. System presents the current menus
3. User clicks “Translate to English” button
4. System translates the given menus to English
5. System presents the English version of the menus

7. Alternative Scenarios

- 3a. There is no internet connection
 - a. System prompts user to enable internet
 - b. User enables internet
 - c. Use Case resume on step 4
- 3b. There is no internet connection
 - a. System prompts user to enable internet
 - b. User declines
 - c. Use Case finish

8. Special Requirements

9. Notes

How to get translations for menus? - TBD

2.1.9 Share a menu, where I plan to go for lunch

1. Actors

User (primary), Friend (secondary), Messaging service (secondary)

2. Description

As a user I want to suggest my friends where to go for lunch. If they want to join me, they should answer to the message

3. Trigger

User clicks share button on canteen where he plans to go for lunch or on a menu

4. Pre-conditions

1. Planned canteen is open at the specified time
2. User has at least one messaging / social app

5. Post-conditions

1. System launches the messaging app
2. System inserts menu and canteen data in the message

6. Main Scenario

1. User navigates to the current day menu of a specific canteen
2. User clicks share lunch
3. System prompts to choose app to share with
4. User chooses app
5. System inserts menu and canteen data in the message
6. User can add a personal message part
7. User sends message
8. Friend receives message

7. Alternative Scenarios

- 4a. User declines to use an app
 - a. Use Case finish
- 7a. User does not send the message
 - a. Use Case finish

8. Special Requirements

API to other Apps / social networks(?)

9. Notes

The message should contain the address or a link to the canteen to let the friend check where the location is.

2.1.10 Rate menu I have eaten

1. Actors

User, Data provider (secondary)

2. Description

As a user I want to be able to rate a menu I have eaten

3. Trigger

User clicks on add rating in rating screen

4. Pre-conditions

1. User has a unique identifier (email address)
2. There is a list with current menus

5. Post-conditions

1. System saves rating of menu
2. System updates rating data of menu

6. Main Scenario

1. User navigates to rating view of a menu
2. System presents ratings
3. User clicks on add rating
4. User rates the menu
5. User adds comment to the rating
6. User commits rating
7. System saves user ID and rating data for corresponding menu
8. System updates rating data in database
9. System shows rating of menu

7. Alternative Scenarios

- 2a. No rating data is available
 - a. System shows message that there are no ratings yet
 - b. Use Case resume on step 3
- 7a. User rated already the same menu before
 - a. System overwrites old rating and comment of user
 - b. Use Case resume on step 8

8. Special Requirements

Given the fact, that the same menus are often reappearing, the User is able also to rate a menu which will be available in the future, hence he could already ate a similar meal.

2.1.11 Check how people rated a certain menu

1. Actors

User, Data provider (secondary)

2. Description

As a user I want to be able to check how other people rated a certain menu

3. Trigger

User navigates to rating view of a menu

4. Pre-conditions

1. A menu has at least one rating

5. Post-conditions

1. System presents average rating of corresponding menu
2. System shows ratings and comments of the corresponding menu

6. Main Scenario

1. User navigates to rating view of a menu
2. System loads ratings, comments and user IDs of corresponding menu
3. System loads average rating of the menu
4. System presents data

7. Alternative Scenarios

- 2a. Corresponding menu has no rating
 - a. System shows message that there are no ratings yet
 - b. Use Case finish

8. Special Requirements

Menu rating database should contain an arithmetic mean of the overall ratings

2.2 Actor characteristics

The average user is a student or an employee of the University of Bern. He regularly eats in one of the canteens of the University. He is above the average intelligence and likes to have a fast way to get information about the served menus. He should be familiar with using an app on a smartphone.

We expect, that the most users will be normal students with common knowledge about the usage of smartphones and apps.

3 Specific requirements

3.1 Functional requirements

3.1.1 Client

- Overview of canteens
After starting a list of canteens need to be provided.
- Details about menu of current day
After clicking on a specific canteen you should see the menu of the day, and be able to switch to the coming days.
- Find closest canteen
Provide a feature to find the closest canteen.
- Way of reach a given canteen
Provide a feature to find a specific canteen.
- Favorite canteen
Provide a possibility to mark a canteen as favorite and make sure there is quick access to it.
- Get notified if a menu matches some criteria in a canteen
- Read English translation of a menu
Provide a translation from German language.
- Identify user, save settings
Users should have a unique identifier.
The settings should be saved locally
- Share a menu
Use existing social networks (like Facebook, WhatsApp, normal text messages) to share a menu (invite other people)
- Notifications
Implement Notifications for invitations/messages from friends and favorite Menus. Doing so also implement an option to disable specific notifications.

-
- Rate a menu
Implement a rating system (stars) and comments.
 - The weekly menu of all canteens have to be available offline after the synchronization process with the server took place.

3.1.2 Server

- Provide up to date information about all canteens including menus, location
- (Provide a user Database)
- Provide Rating and Comments Database

3.2 Non-functional requirements

- Novice user should be able to learn the app navigation within minutes.
- Client-Server-Communication needs to work properly and availability provided 24 hours 7 days a week. The only exception would be scheduled server maintenance.
- The storage used on the smartphone should be kept under 10 MB in the alpha version (if more feature will be added this amount can increase)
- The application needs to run stable on all android devices from minimum API Gingerbread (2.3.3) up to KitKat (4.4).
- Personal data on the server should be treated with the current security standards
- The implementation should meet the ISO/IEC 9126 standard
(http://de.wikipedia.org/wiki/ISO/IEC_9126)
- The user-event-response time should be under 0.1 seconds (Exception: data synchronization with server, loading maps, location and translation services)
- Data traffic should be kept under 1MB / Usage doesn't include traffic caused by watching the maps.