



Plunner

Requirements Definition Document

Version 1.0

Revision History

| Date | Version | Description | Author |
|-------------|----------------|---|---------------------------------|
| 2015-11-03 | 0.1 | Initial Draft | Joan Josep Crespí Villalonga |
| 2015-11-12 | 1.0 | First complete version of the document | Giorgio Pea |

Table of contents

- [1 Introduction](#)
 - [1.1 Purpose of this document](#)
 - [1.2 Intended audience](#)
 - [1.3 Objectives of the application](#)
 - [1.4 Target of the application](#)
 - [1.5 Definitions and acronyms](#)
 - [1.5.1 Definitions](#)
 - [1.5.2 Acronyms and abbreviations](#)
 - [1.6 Actors](#)
- [2 Functional requirements](#)
 - [2.1 User stories and related requirements](#)
 - [2.2 Use cases](#)
 - [2.2.1 Company and Registered company](#)
 - [2.2.2 User](#)
 - [2.2.3 Planner](#)
 - [2.3 Sequence diagrams](#)
 - [2.3.1 A registered company logs in](#)
 - [2.3.2 A user logs out](#)
 - [2.3.3 A user joins a meeting](#)
 - [2.3.4 A registered company adds an employeeer](#)
 - [2.3.5 A user sets the distribution of his/her free timeslots for a meeting](#)
 - [2.3.6 A registered company creates a group, edits a group changing its planner, removes a group](#)
- [3 Non functional Requirements](#)
 - [3.1 Availability](#)
 - [3.2 Security and privacy:](#)
 - [3.3 Uptime and data redundancy](#)
 - [3.4 Performances](#)

1 Introduction

1.1 Purpose of this document

This document aims to show and formalize the product vision and the requirements of Plunner. These requirements are not immutable nor immutable is this document: changes can happen during the design and development of the application and so new versions of this document will be produced

1.2 Intended audience

The intended audience is:

- Customer
- Team members
- Supervisors

This document represents the guide team members of Plunner must use to design and develop the application so that the objectives of the application itself are achieved and the final customer is satisfied. In addition to that, this document binds together the final customer, the supervisors and the team members, as it represents a “de facto” contract between these parts and so can be used to check the quality and completeness of the product

1.3 Objectives of the application

Plunner aims to:

- Simplify the organization of meetings in companies
- Optimize the date and time for meetings in companies
- Automate the process of planning meetings in companies

1.4 Target of the application

Plunner targets small and medium companies. This choice affects in a significant way how Plunner is conceived and supposed to work

1.5 Definitions and acronyms

1.5.1 Definitions

| Keyword | Definitions |
|-------------------------------|--|
| Registered Company | A company that has registered to Plunner |
| User | An employee of a registered company that belongs to some groups |
| Planner of a group g | A particular user that belongs to the group g. This user manages the planning of meetings for that group(one planner per group) |
| Group | A set of employees of a registered company. This set can have no real counterpart in the real life, it's just a way Plunner organizes thinks |
| Required user for a meeting m | A user that must participate to the meeting m |
| Invited user for a meeting m | A user that is invited to participate to the meeting m |
| Schedule of a user | A set of time slots relative to a given period(a month for example) in which the user is free |

1.5.2 Acronyms and abbreviations

| Acronym or abbreviation | Definitions |
|-------------------------|---|
| DSD | Distributed Software Development. It is the course in which this project is being developed |
| FER | Faculty of Electrical Engineering and Computing, Zagreb, Croatia |
| MDH | Mälardalen University, Västerås, Sweden |
| POLIMI | Politecnico di Milano, Milan, Italy |
| UC | Use Case |
| REQ | Requirement |
| CTM | Customer |
| PMS | Project Member Suggestion |
| SYS | Required as a consequence of the system design |
| ROI | Return on the investment |

1.6 Actors

- Company(self explanatory)
- Registered company(see the above section)
- User(see the above section)
- Planner(see the above section)

2 Functional requirements

2.1 User stories and related requirements

For each requirement

- An effort is assigned in terms of hours
- A ROI is assigned with a fixed scale [0-100]
- The score assigned to a requirement is calculated as: $ROI^2/effort$

For each user story the sum of the score of its requirements(TOTSCORE) is computed and the following priorities are assigned as a consequence

- TOTSCORE \geq 1000 \rightarrow High priority(HIGH)
- $500 \leq$ TOTSCORE $<$ 1000 \rightarrow Medium priority(MED)
- TOTSCORE $<$ 500 \rightarrow Low priority(LOW)

If a requirement has a ROI \geq 90 then it is considered required

| ID | STORY | | | TOTSCORE |
|--------|--|-----------|-------------|----------------------|
| 1 | As a company I want to register and login to the service | | | 5950 HIGH |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[h] | ROI [0-100] | SCORE |
| 1 | The Service must allow a company to signup via email and password | 5 | 100 | 2000 |
| 2 | The Service must allow a registered company to login via email and password | 5 | 100 | 2000 |
| 3 | The Service must allow a registered company to recover its login credentials | 5 | 80 | 1280 |
| 4 | The Service must allow a registered company to use a two factor authentication | 10 | 30 | 90 |
| 5 | The Service must allow a remember me functionality | 10 | 20 | 40 |
| 6 | The Service must assign to a just registered company a service specific domain | 15 | 90 | 540 |

| ID | STORY | | | TOTSCORE |
|----------|---|-----------|-------------|------------------------|
| 2 | As a registered company I want to register/import and to manage my employees | | | 1722.5 HIGH |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[h] | ROI [0-100] | SCORE |
| 1 | The Service must allow a registered company to register to the service, within the company's context, its employees with their corporate email address and a password | 25 | 100 | 400 |
| 2 | The Service must allow a registered company to import to the service, within the company's, its employees using a standard protocol(LDAP) | 35 | 70 | 140 |
| 3 | The Service must allow a registered company to add and remove to the service, within the company's context, employees | 40 | 90 | 202.5 |
| 4 | The Service must allow a registered company to automatically send via mail its service specific domain to every new registered employee. This email will contain also the password the company chose for the employee | 5 | 70 | 980 |

| ID | STORY | | | TOTSCORE |
|----------|--|-----------|-------------|--------------------------|
| 3 | As a registered company I want to create and manage my groups | | | 2516.666 HIGH |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[h] | ROI [0-100] | SCORE |
| 1 | The Service must allow a registered company to organize its employees in groups | 20 | 90 | 405 |
| 2 | The Service must allow a registered company to choose for each group one of its member to become a planner | 10 | 85 | 722.5 |
| 3 | The Service must allow a registered company to change the role of the members of each group | 15 | 80 | 426.6666 |
| 4 | The Service must allow a registered company to change the name and the composition of each group | 20 | 80 | 320 |
| 5 | The Service must allow a registered company to delete groups | 10 | 75 | 562.5 |
| 6 | The Service must allow a registered company to merge groups or split groups in subgroups | 20 | 40 | 80 |

| ID | STORY | | | TOTSCORE |
|----------|---|-----------|-------------|---------------------------|
| 4 | As a user I want to login to the service within the context of the company | | | 1223.3333 HIGH |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[h] | ROI [0-100] | SCORE |
| 1 | The Service must allow users/planners to login within the context of their company using the corporate mail and the password received when they were registered | 30 | 100 | 333.33333 |
| 2 | The Service must allow users/planners to recover their login credentials | 10 | 70 | 490 |
| 3 | The Service must allow the remember me functionality for users/planners | 10 | 40 | 160 |
| 4 | The Service must allow a user/planner to use a two factor authentication(this decision is made by the user/planner 's company) | 15 | 60 | 240 |

| ID | STORY | | | TOTSCORE |
|----------|--|-----------|-------------|---------------------------|
| 5 | As a user i want to upload from a file/import from an external service my schedule and i want to manage it | | | 1582.8333 HIGH |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[h] | ROI [0-100] | SCORE |
| 1 | The Service must allow users to upload schedules as files of a standard format | 20 | 70 | 245 |
| 2 | The Service must allow users to import schedules from external services using, when is possible, as standard protocol like CalDav(otherwise using specific apis) | 30 | 90 | 270 |
| 3 | The Service must allow users to keep schedules imported from external services in sync with those services | 30 | 80 | 213.33333 |
| 4 | The Service must allow users to keep track of the schedules uploaded/imported | 50 | 60 | 72 |
| 5 | The Service must allow users to remove schedules | 10 | 60 | 360 |
| 6 | The Service must allow users to enable or disable schedules | 10 | 65 | 422.5 |

| ID | STORY | | | TOTSCORE |
|----------|---|-----------|-------------|-----------------------|
| 6 | As a user I want to indicate the time slots when i'm free | | | 675 MEDIUM |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[h] | ROI [0-100] | SCORE |
| 1 | The Service must allow users to indicate in their profile (in a calendar like view, using dragging) time slots in which they're free. | 30 | 90 | 270 |
| 2 | The Service must allow to change the free time slots | 20 | 90 | 405 |

| ID | STORY | | | TOTSCORE |
|----------|---|-----------|-------------|-----------------------|
| 7 | As a user I want to export a planned meeting of my groups to my calendars | | | 960 MEDIUM |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[H] | ROI [0-100] | SCORE |
| 1 | The Service must be able to write a planned meeting to external calendaring services | 15 | 60 | 240 |
| 2 | The Service must be able to generate a file with the user general schedule. This schedule will contain also the planned meeting | 5 | 60 | 720 |

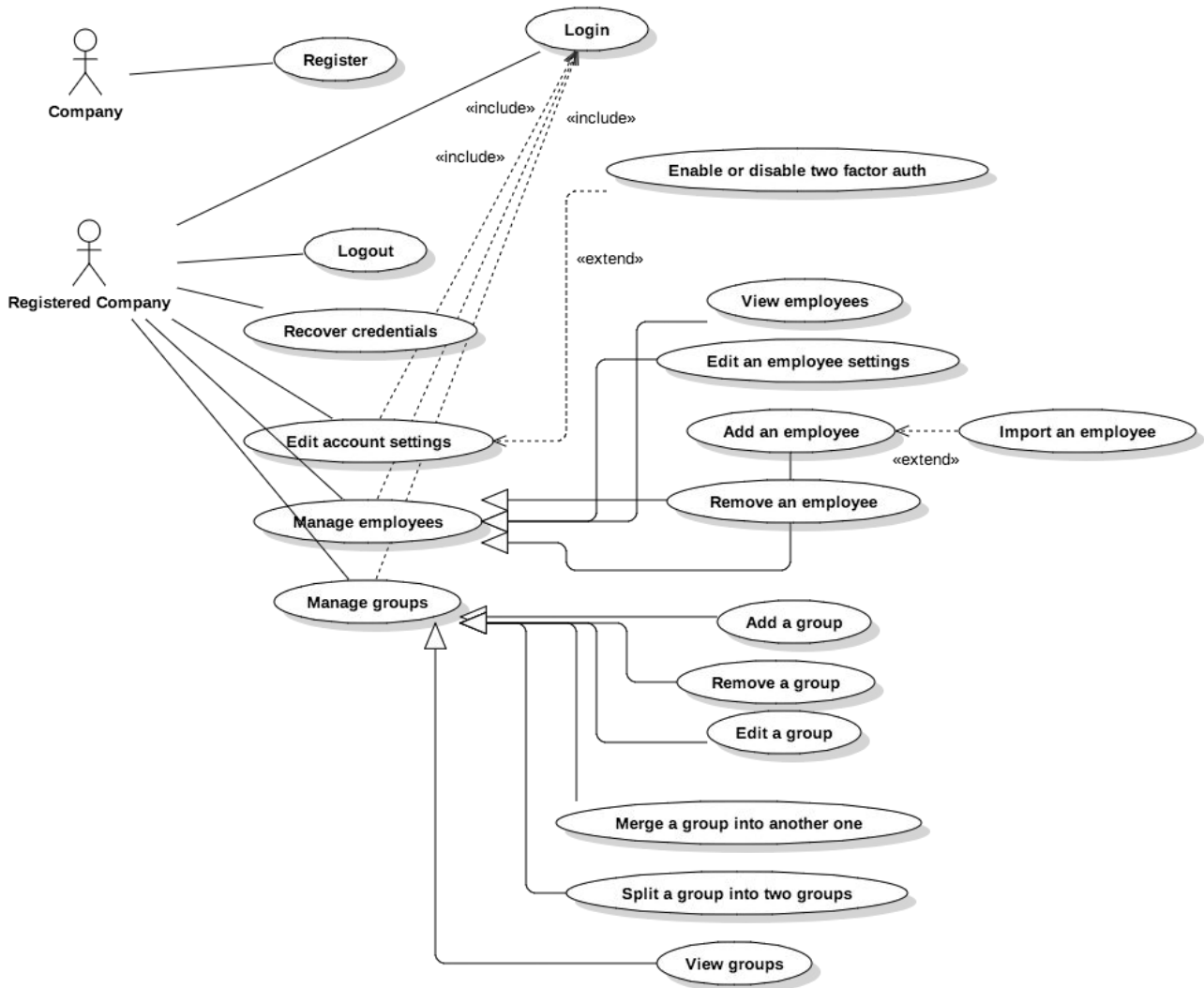
| ID | STORY | | | TOTSCORE |
|----------|---|-----------|-------------|--------------------------|
| 8 | As a user I want to receive notifications about meetings planned for my groups | | | 386.66666 LOW |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[H] | ROI [0-100] | SCORE |
| 1 | The Service must be able to send to users notifications about the status of a meeting to be planned in which they're involved | 15 | 70 | 326.66666 |
| 2 | The Service must be able to send to users notifications about the necessity of an input to help planning a meeting | 15 | 30 | 60 |

| ID | STORY | | | TOTSCORE |
|----------|---|-----------|------------|---------------------------|
| 9 | As a planner I want to plan meetings for a group | | | 1719.6666 HIGH |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[H] | ROI[0-100] | SCORE |
| 1 | The Service must allow planners to plan a meeting, specifying a title, brief description, temporal interval and some tags | 30 | 100 | 333.33333 |
| 2 | The Service must allow planners to plan a meeting specifying which users of their group are required and/or invited | 20 | 80 | 320 |
| 3 | The Service must support meetings to be planned with a given frequency(for example a group has to plan a meeting every two weeks) | 20 | 70 | 245 |
| 4 | The Service must support meetings to be planned taking in consideration of the different time zones of the users | 10 | 80 | 640 |
| 5 | The Service must support meetings to be planned trying to maximize the number of users that have to participate to different meetings in the same temporal interval (e.g i join to 2 groups and their planners plans two meetings in the same week)(this reasoning applies of course to non mandatory participants) | 50 | 80 | 128 |
| 6 | The Service must support meetings to be planned with given constraints (for example, the number of invited users has to be > k) | 30 | 40 | 53.333333 |

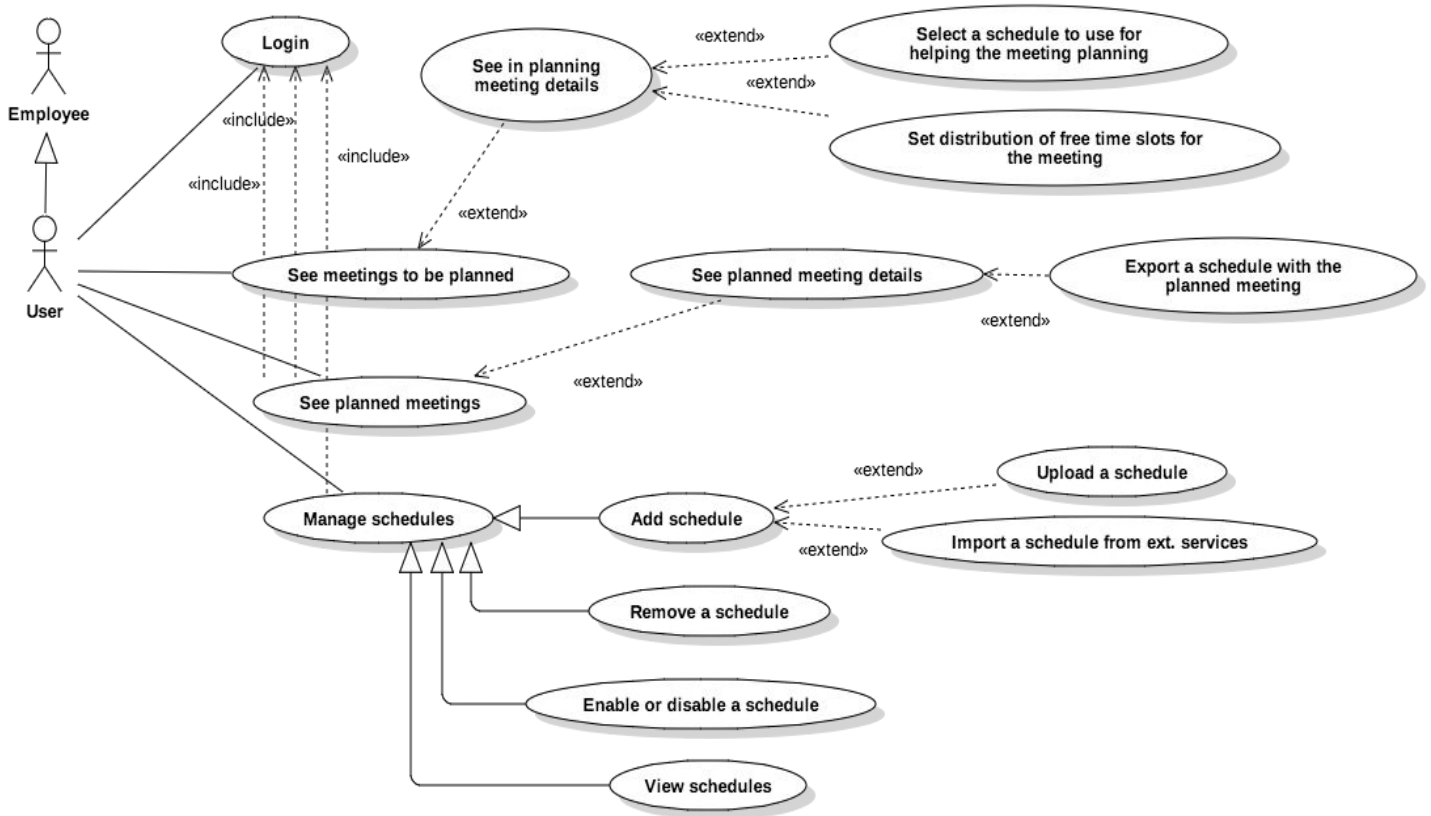
| ID | STORY | | | TOTSCORE |
|-----------|--|-----------|----------------|----------------------|
| 10 | As a planner I want to manage meetings | | | 1645 HIGH |
| REQ ID | REQUIREMENT DESCRIPTION | EFFORT[H] | ROI [0-100] | SCORE |
| 1 | The Service must allow planners to drop a meeting to be planned | 10 | 80 | 640 |
| 2 | The Service must allow planners to change the title, the description, the tags, the users of a meeting to be planned | 20 | 80 | 320 |
| 3 | The Service must allow planners to change the temporal interval of a meeting to be planned | 10 | 80 | 640 |
| 4 | The Service must allow planners to change the constraints of a meeting to be planned | 20 | 30 | 45 |

2.2 Use cases

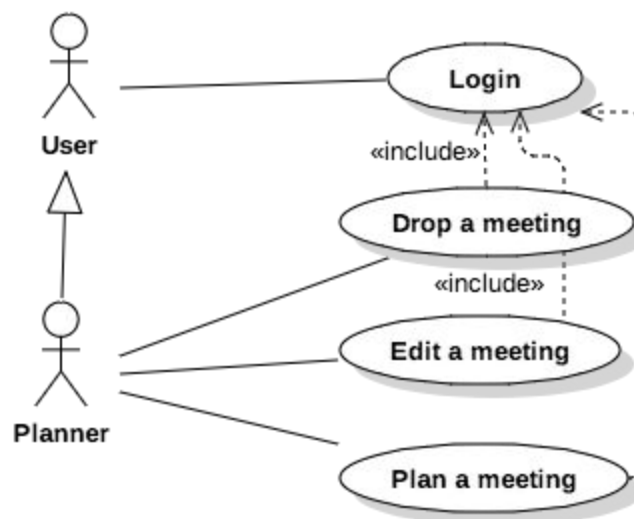
2.2.1 Company and Registered company



2.2.2 User

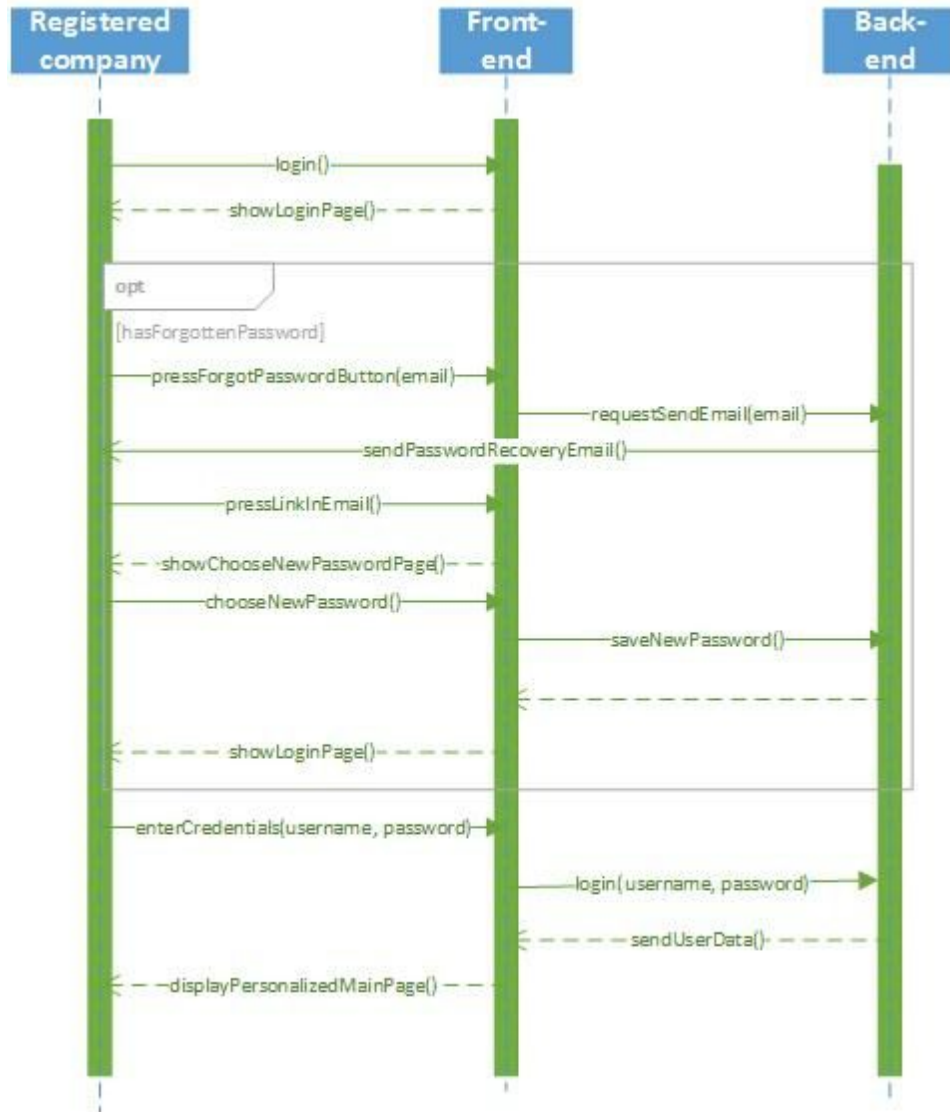


2.2.3 Planner

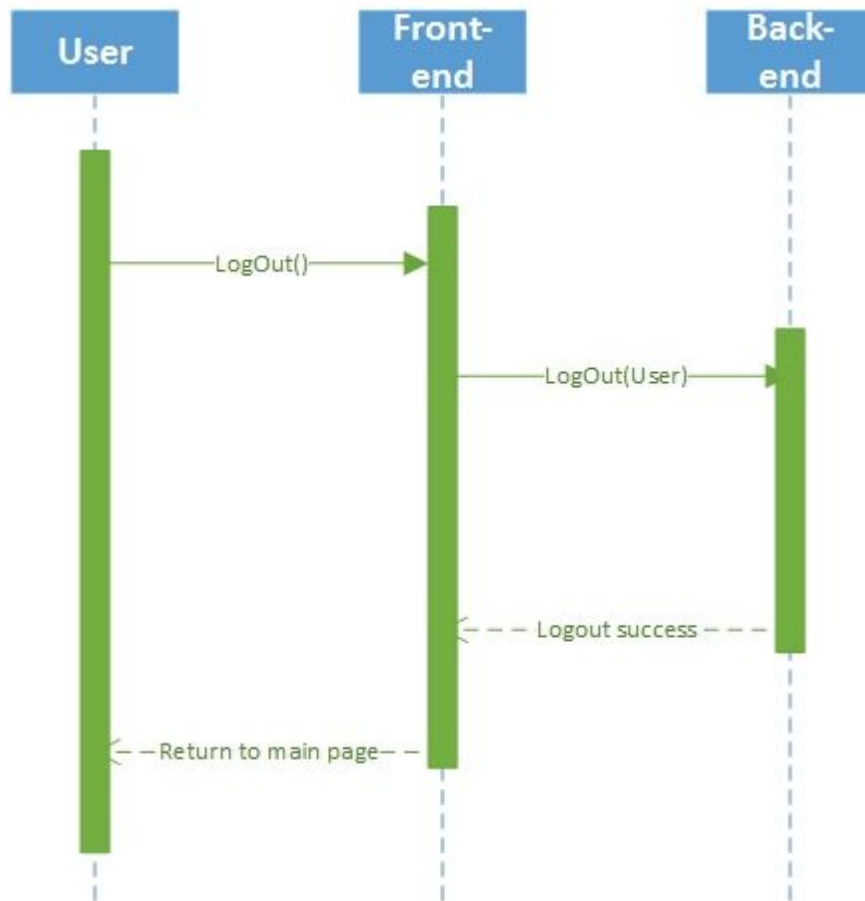


2.3 Sequence diagrams

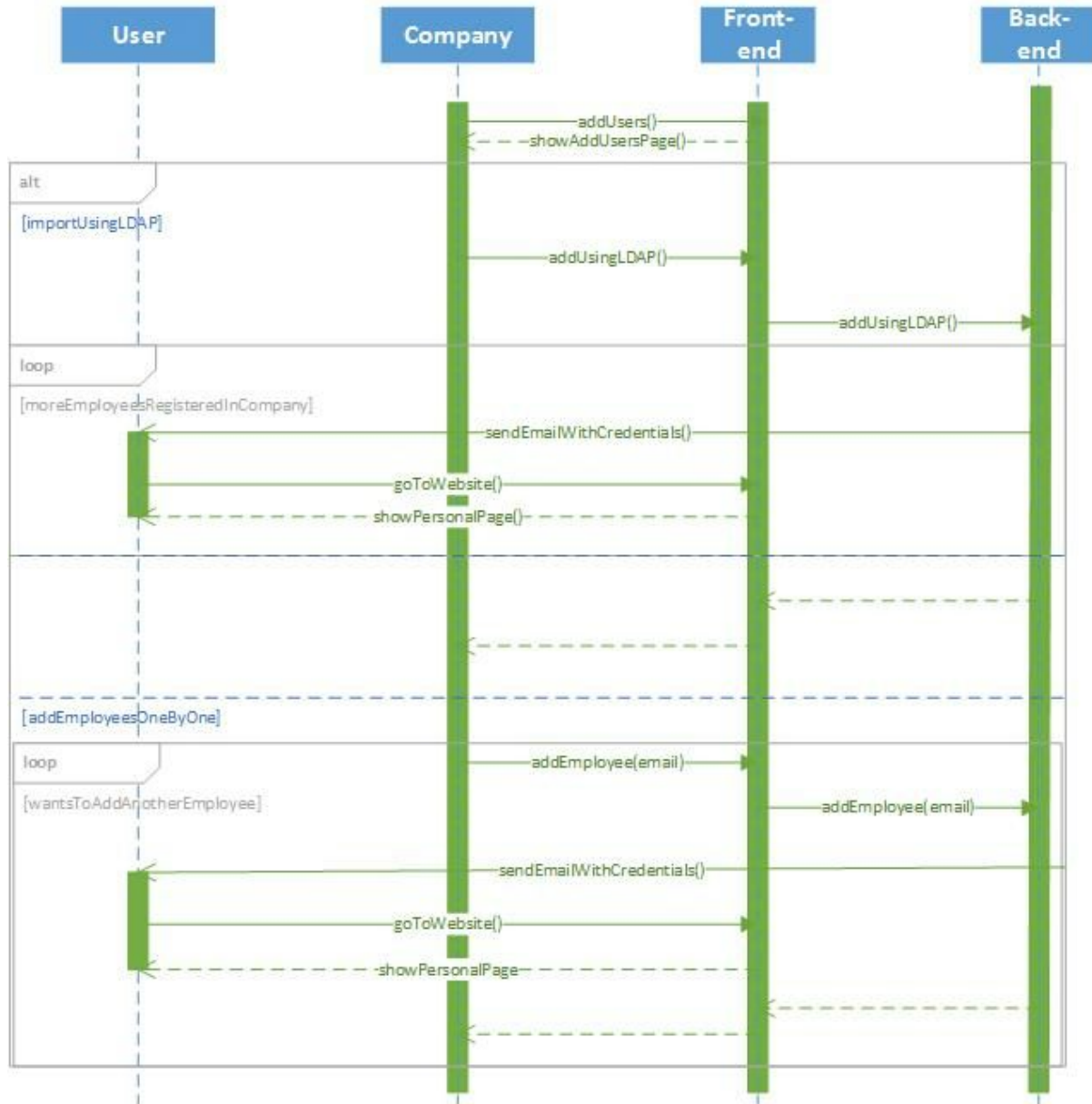
2.3.1 A registered company logs in



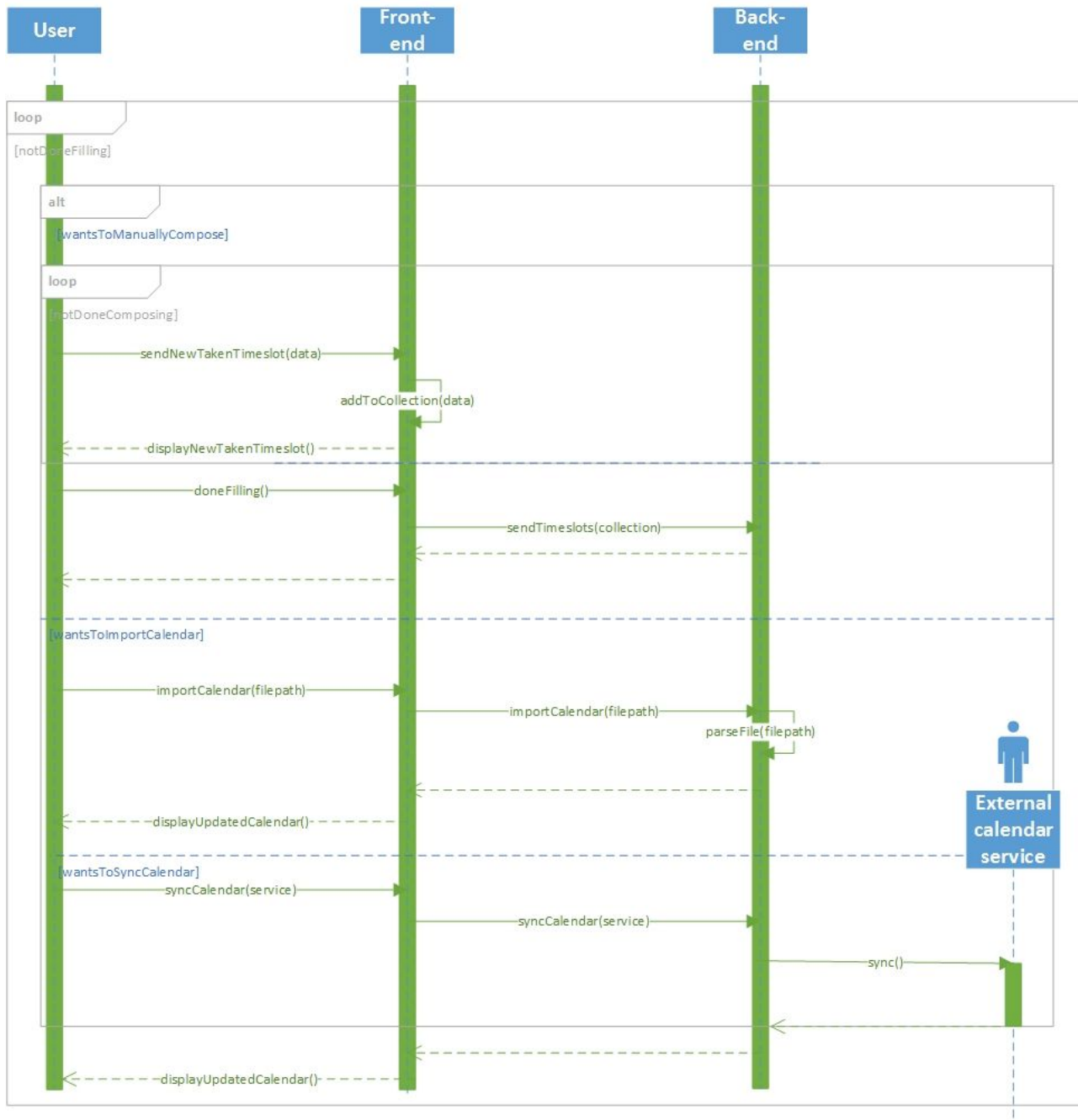
2.3.2 A user logs out



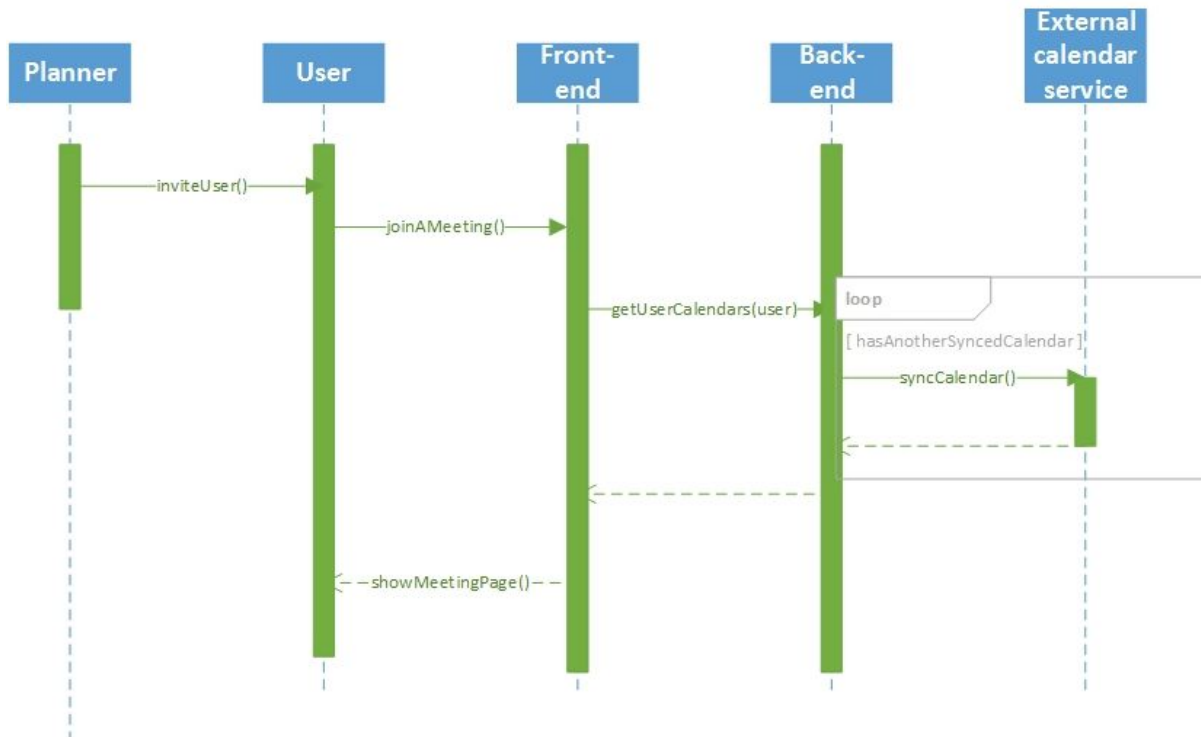
2.3.3 A user joins a meeting



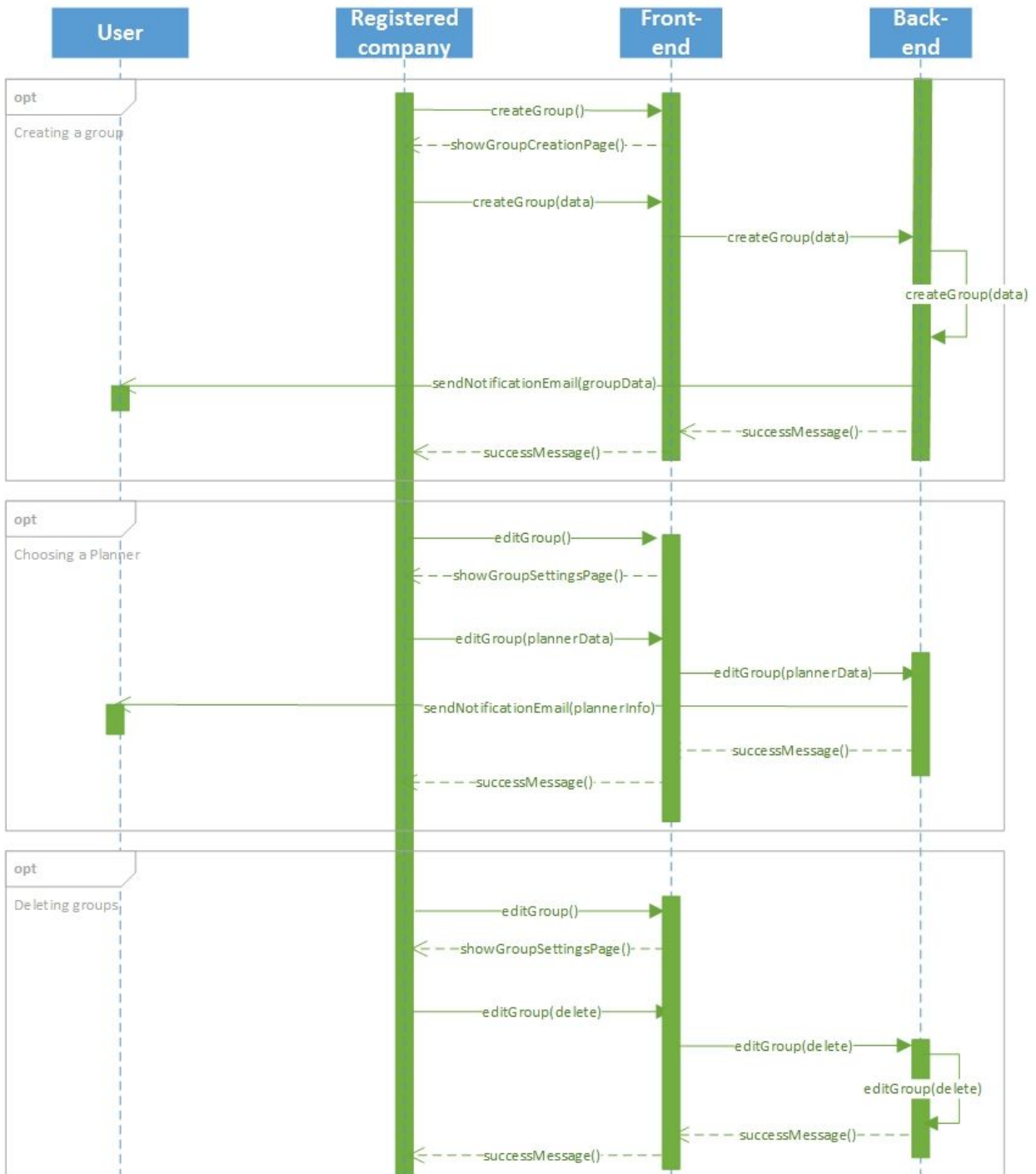
2.3.4 A registered company adds an employee



2.3.5 A user sets the distribution of his/her free timeslots for a meeting



2.3.6 A registered company creates a group, edits a group changing its planner, removes a group



3 Non functional Requirements

3.1 Availability

Considering that:

1. Companies can have offices and employees in different part of the world
2. Companies may need to plan a(virtual) meeting that involves employees from different offices in different locations with different timezone

Plunner must be available 24 hours a day, 7 days a week

3.2 Security and privacy:

Plunner must manipulate and retrieve from external services only the data that is necessary to accomplish the planning of meetings so that the privacy of the registered companies and their employees is guaranteed.

The data Plunner exchanges via web with users and registered companies maybe manipulated and used in a fraudulent way, to deny this scenario **Plunner must use secure communication protocols**

3.3 Uptime and data redundancy

Meetings are a fundamental part of the life of a company, a long lasting failure in the system that manages these meetings and helps plan them will be a big problem. Given that **Plunner must have an uptime of 99.99% and its database must be replicated at least one time**

3.4 Performances

Plunner must be able to manage an high volume of requests(1000/h)