



Plunner

Requirements Definition Document

Version 1.1

Revision History

Date	Version	Description	Author
03/11/2015	0.1	Initial Draft	Joan Josep Crespi Villalonga
12/11/2015	1.0	First complete version of the document	Giorgio Pea
07/12/2015	1.1	Revision, correction, insertion and deletion of some requirements	Giorgio Pea

Table of contents

- 1 [Introduction](#)
 - 1.1 [Purpose of this document](#)
 - 1.2 [Intended audience](#)
 - 1.3 [Scope](#)
 - 1.4 [Definitions and acronyms](#)
 - 1.4.1 [Definitions](#)
 - 1.4.2 [Acronyms and abbreviations](#)
2. [Background and Objectives](#)
 - 2.1 [Background](#)
 - 2.2 [Project Goals](#)
 - 2.3 [Customer and Target](#)
- 3 [Functional requirements](#)
 - 3.1 [Actors](#)
 - 3.2 [User stories and related requirements](#)
 - 3.3 [Use cases](#)
 - 3.3.1 [Organization and Registered organization](#)
 - 3.3.2 [Member](#)
 - 3.3.3 [Planner](#)
 - 3.4 [Sequence diagrams](#)
 - 3.4.1 [A registered organization logs in](#)
 - 3.4.2 [An organization wants to add a group](#)
 - 3.4.3 [A Planner plans a meeting](#)
 - 3.4.4 [A member joins a meeting to be planned](#)
 - 3.4.5 [A Member imports a schedule from an external service\(via CalDav protocol\)](#)
- 4 [Non functional Requirements](#)
 - 4.1 [Availability](#)
 - 4.2 [Security and privacy:](#)
 - 4.3 [Uptime and data redundancy](#)
 - 4.4 [Performances](#)

1 Introduction

1.1 Purpose of this document

The purpose of this document is to present and formalise the requirements that Plunner has to satisfy in order to achieve its goals

1.2 Intended audience

The intended audience is:

- The team behind the project: since this document enumerates and describes the requirements of the application, the team will follow it during the design and development process, so that the final product will achieve the goals described below
- The supervisors of the project: the information contained in this document can be used by the supervisors to understand the future processes in which the project will be involved, the present and future choices of the team about the project, and the quality of the project itself
- The customer: since this document enumerates and describes the requirements of the application, it represents a sort of contract that binds the customer with the team and so can be used to the quality and completeness of the product

1.3 Scope

This document describes and present the requirements of the application. More precisely, functional and nonfunctional requirements of the project are presented and described using Member stories, along with the general use cases of the application; the presentation and description of such elements is done with the help of some UML diagrams (use case diagram, sequence diagram)

1.4 Definitions and acronyms

1.4.1 Definitions

Keyword	Definitions
Registered Organization	An organization that has registered to Plunner
Member	A member of a registered organization. This member has been registered into Plunner by its organization
Planner of a group g	A particular Member that can manage the planning of meetings for group g(one planner per group)
Group	A set of Members of a registered organization. This set can have no counterpart in the real life, it's just a schema Plunner imposes to simplify things
Required Member for a meeting m	A Member that must participate to the meeting m
Invited Member for a	A Member that is invited to participate to the meeting m

meeting m	
Schedule of a Member	A set of time slots relative to a given period(a month for example) in which the Member is free

1.4.2 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

2. Background and Objectives

2.1 Background

In businesses and organizations meetings are essential for producing value and guarantee the quality and correctness of a product or a service. Organizing these meetings can be tedious and time consuming since different needs have to be harmonized in order to find a suitable date and time. In addition to that, the tools usually used to organize meetings are not enough powerful or intuitive for the needs of modern businesses or organizations

2.2 Project Goals

Plunner is an application that aims to solve the problems underlined above, by providing a flexible and intuitive way to plan and organize meetings for businesses and organizations. Plunner has automation, optimization and simplicity in mind, so that:

- meetings can be planned by importing schedules from calendaring applications(like Google Calendar) or by composing in-app schedules
- meetings times and dates are determined by optimizing the number of participants
- all the functionalities of the application can be accessed using a simple, intuitive and responsive web interface/ mobile application

(The mobile application of Plunner may be not developed in time, the primary focus is on its web version)

2.3 Customer and Target

The customer of the project is *Mr. Michael Young*. He is from Oregon, United States. The team will keep in contact with him using email.

In general, Plunner targets small and medium businesses with the chance, in the future, to expand to large businesses and corporations. This choice impacts on the design and the functionalities of the whole application

3 Functional requirements

3.1 Actors

- Organization(self explanatory)
- Registered organization(see Definitions)
- Member(see Definitions)
- Planner(see Definitions)

3.2 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 Member 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 ≥ 90 then it is considered required

ID	STORY	TOTSCORE		
1	As an organization 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 an organization to signup via email and password	5	100	2000

2	The Service must allow a registered organization to login via email and password	5	100	2000
3	The Service must allow a registered organization to recover its login credentials	5	80	1280
4	The Service must allow a registered organization to use a two factor authentication	40	30	90
5	The Service must allow a remember me functionality	10	20	40
6	The Service must assign to a just registered organization a service specific domain	15	90	540
7	The service must verify company email	5	35	245
8	The service must allow to see and edit personal information	5	70	980
9	the service must allow to change the password	5	70	980

ID	STORY			TOTSCORE
2	As a registered organization 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 organization to register to the service, within the organization's context, its employees with their corporate email address and a password	25	100	400
2	The Service must allow a registered organization to import to the service, within the organization's, its employees using a standard protocol(LDAP)	35	70	140
3	The Service must allow a registered organization to add and remove to the service, within the organization's context, employees	40	90	202.5
4	The Service must allow a registered organization to automatically send via mail its service specific domain to every new registered employee. This email will contain also the password the organization chose for the employee	5	70	980

ID	STORY			TOTSCORE
3	As a registered organization 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 organization to organize its employees in groups	20	90	405
2	The Service must allow a registered organization to choose for each group one of its member to become a planner	10	85	722.5
3	The Service must allow a registered organization to change the role of the members of each group	15	80	426.6666
4	The Service must allow a registered organization to change the name and the composition of each group	20	80	320
5	The Service must allow a registered organization to delete groups	10	75	562.5
6	The Service must allow a registered organization to merge groups or split groups in subgroups	20	40	80

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

5	The service must allow to see and edit personal information	5	60	720
6	the service must allow to change the password	5	60	720

ID	STORY	TOTSCORE		
5	As a Member 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 Members to upload schedules as files of a standard format	20	70	245
2	The Service must allow Members to import schedules from external services using, when is possible, as standard protocol like CalDav(othwerwise using specific apis)	30	90	270
3	The Service must allow Members to keep schedules imported from external services in sync with those services	30	80	213.33333
4	The Service must allow Members to keep track of the schedules uploaded/imported	50	60	72
5	The Service must allow Members to remove schedules	10	60	360
6	The Service must allow Members to enable or disable schedules	10	65	422.5

ID	STORY	TOTSCORE		
6	As a Member 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 Members to indicate in their profile (in a calendar like view, using dragging) time slots in which they're busy.	30	90	270
2	The Service must allow to change the busy time slots	20	90	405

ID	STORY			TOTSCORE
7	As a Member 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
4	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 Member general schedule. This schedule will contain also the planned meeting	5	60	720

ID	STORY			TOTSCORE
8	As a Member 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 Members 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 Members notifications about the necessity of an input to help planning a meeting	15	30	60

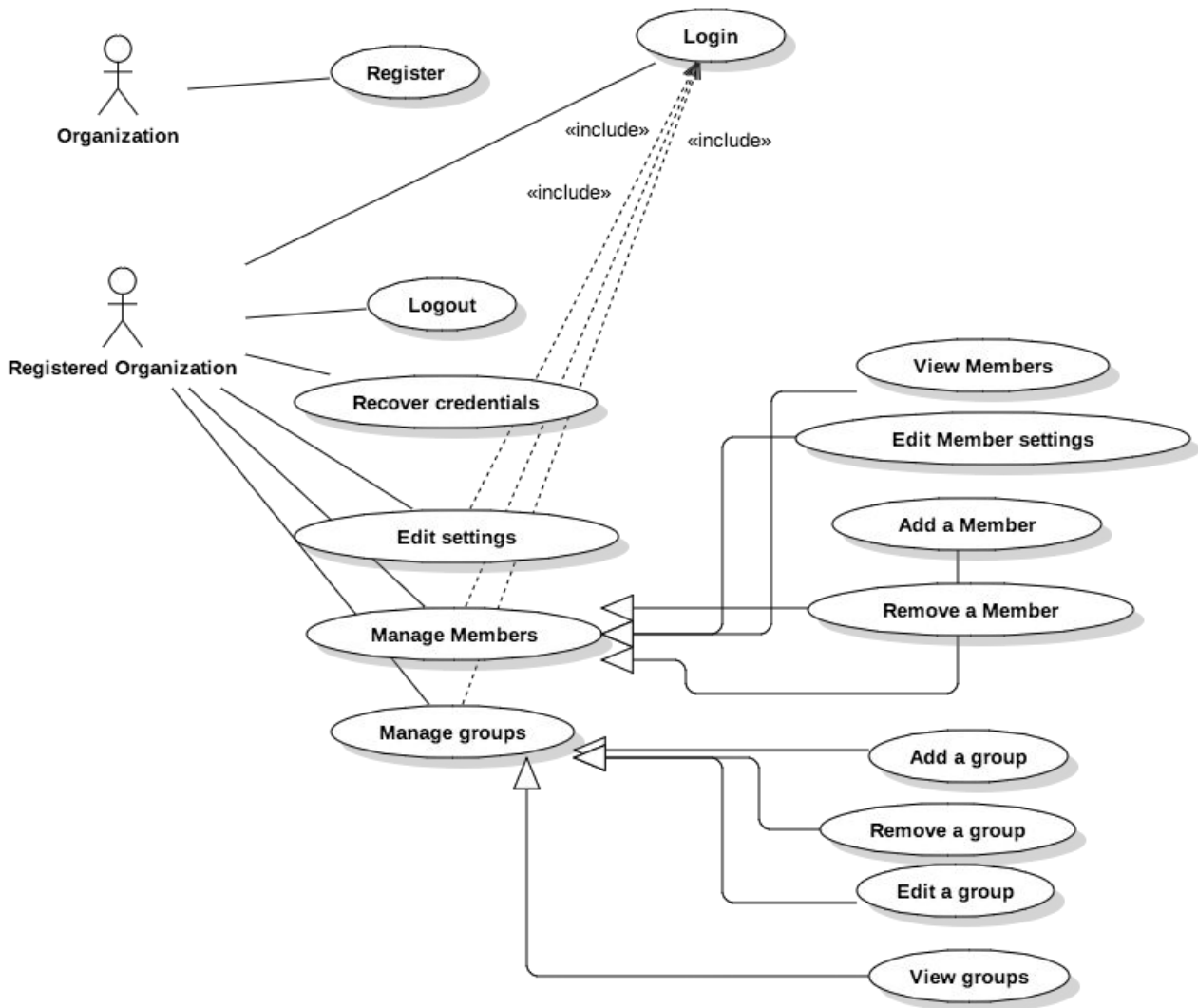
ID	STORY			TOTSCORE
9	As a planner I want to plan meetings for a group			1719.6666 HIGH
REQ ID	REQUIREMENT DESCRIPTION	EFFORT[H]	ROI[0-100]	SCORE
1	The Service must allow planners to plan a meeting, specifying a title, brief description, temporal interval and some tags	30	100	333.33333

2	The Service must allow planners to plan a meeting specifying which Members 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 Members	10	80	640
5	The Service must support meetings to be planned trying to maximize the number of Members 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 Members has to be > k)	30	40	53.333333

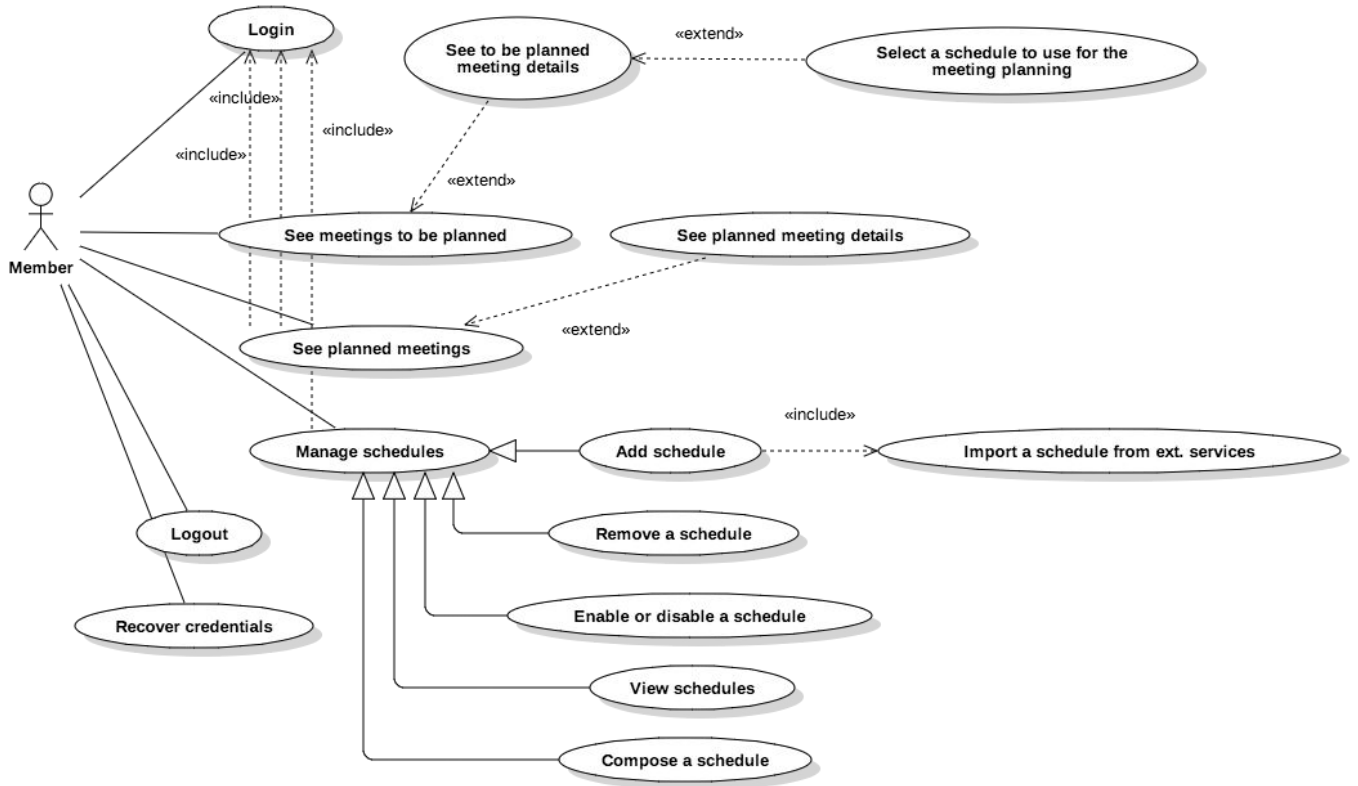
ID	STORY			TOTSCORE
10	As a planner I want to manage meetings			1645 HIGH
REQ ID	REQUIREMENT DESCRIPTION	EFFORT[H]	ROI [0-100]	SCORE
1	The Service must allow planners to drop a meeting to be planned	10	80	640
2	The Service must allow planners to change the title, the description, the Members of, the place of a meeting to be planned or already 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

3.3 Use cases

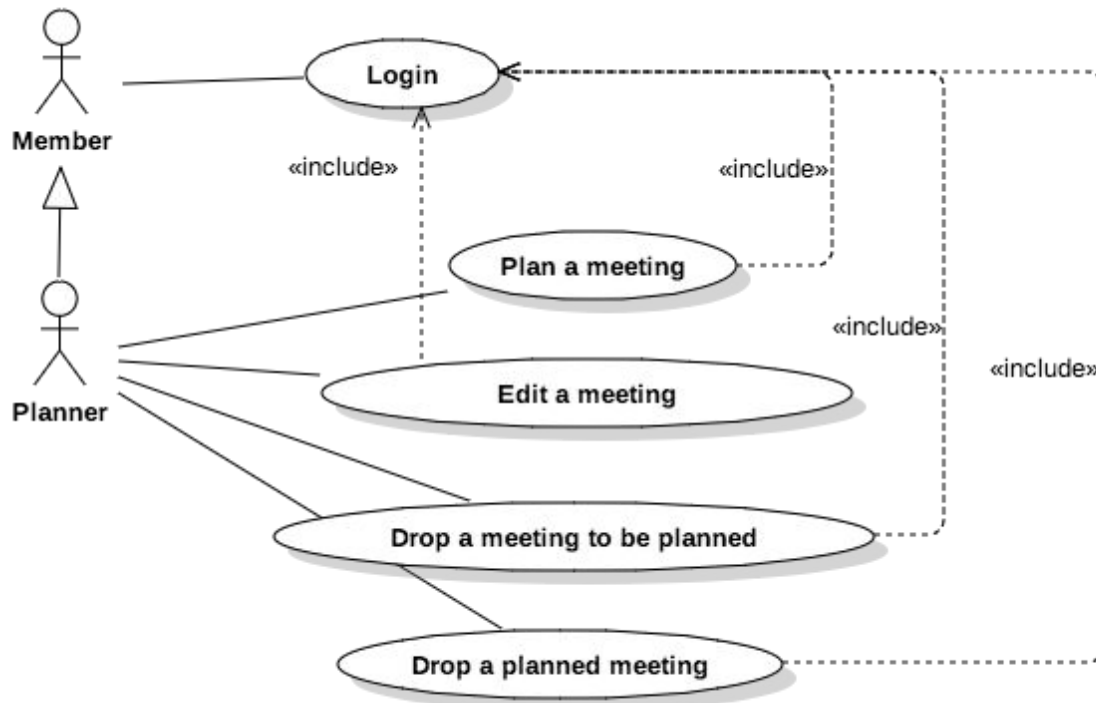
3.3.1 Organization and Registered organization



3.3.2 Member

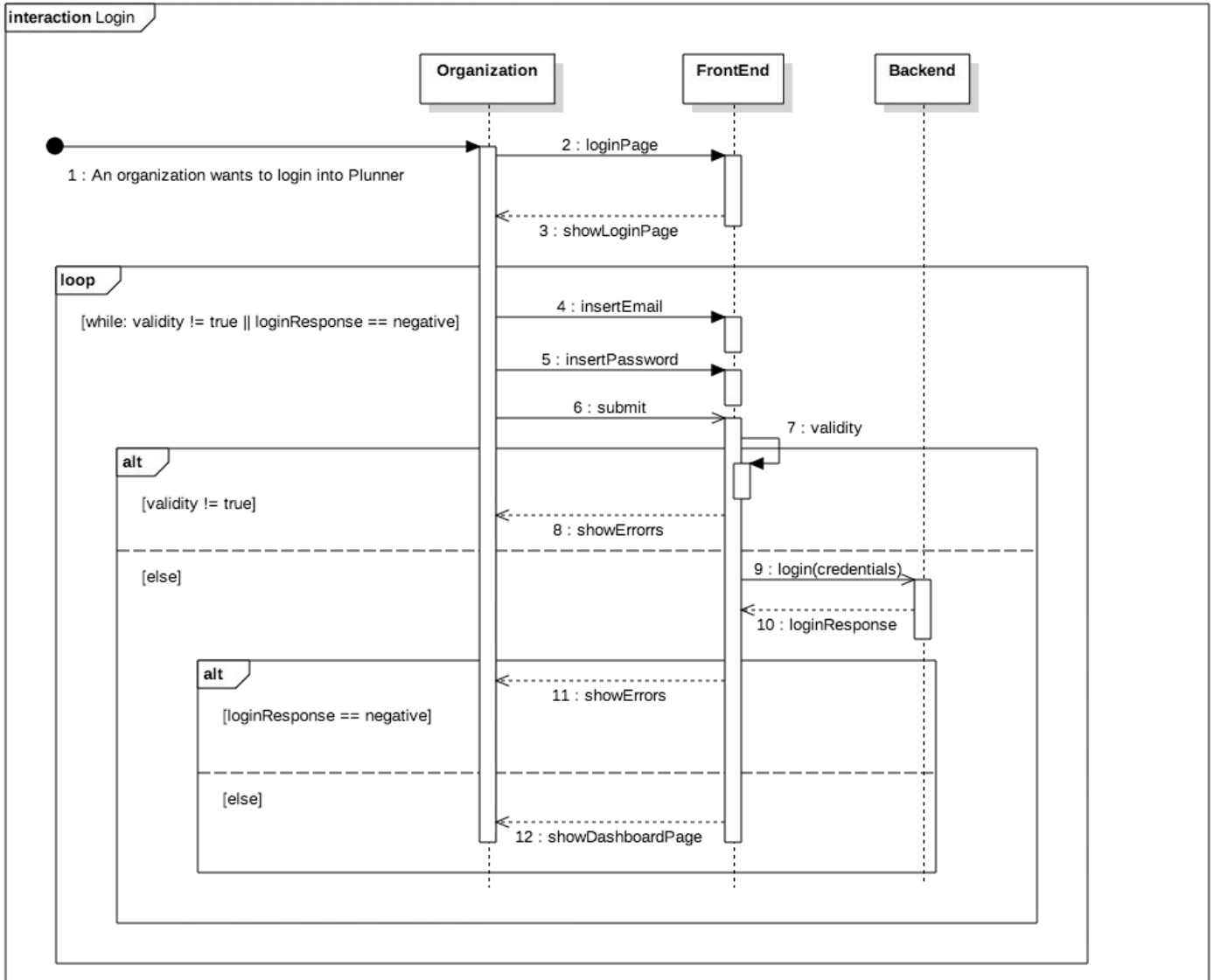


3.3.3 Planner

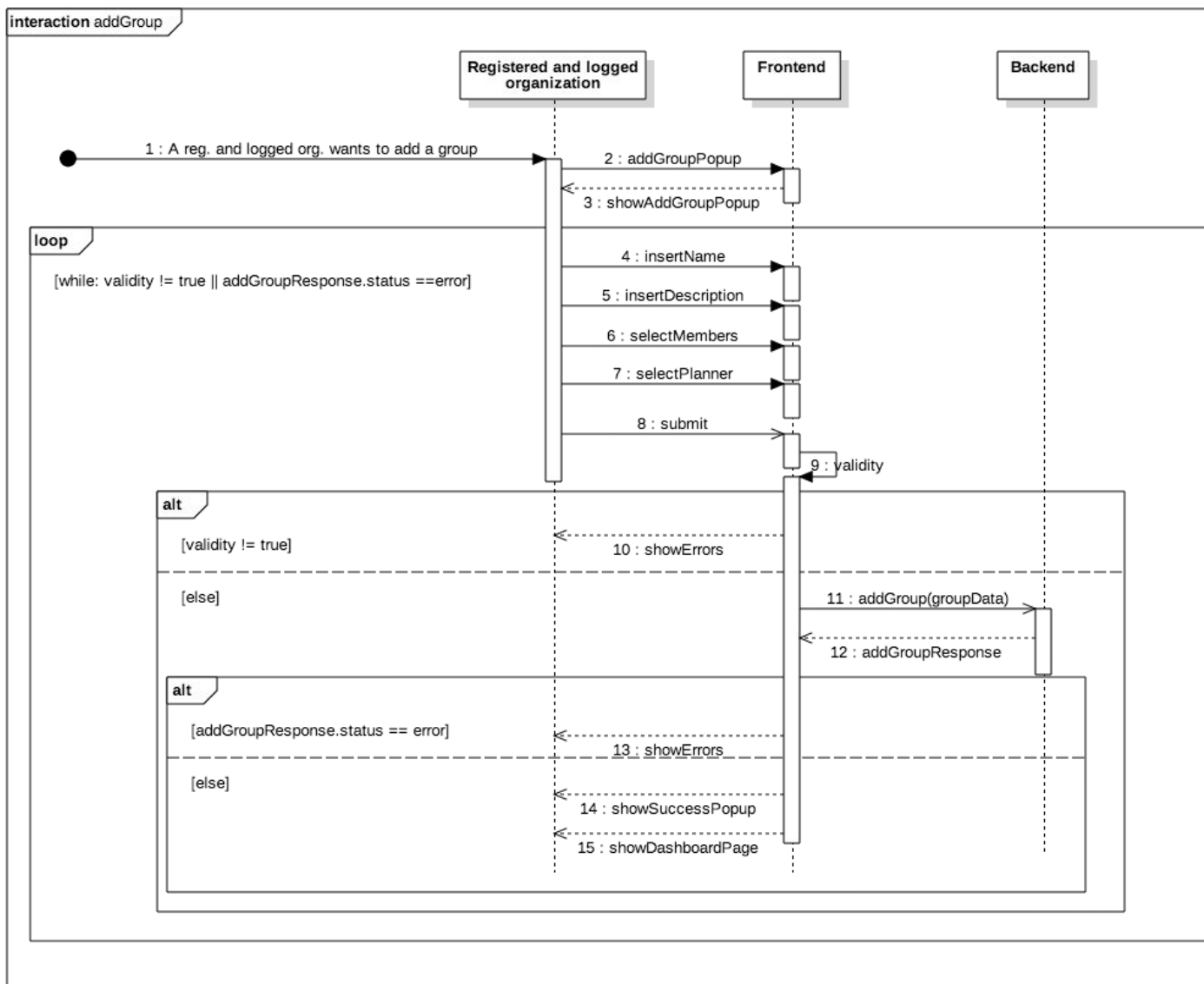


3.4 Sequence diagrams

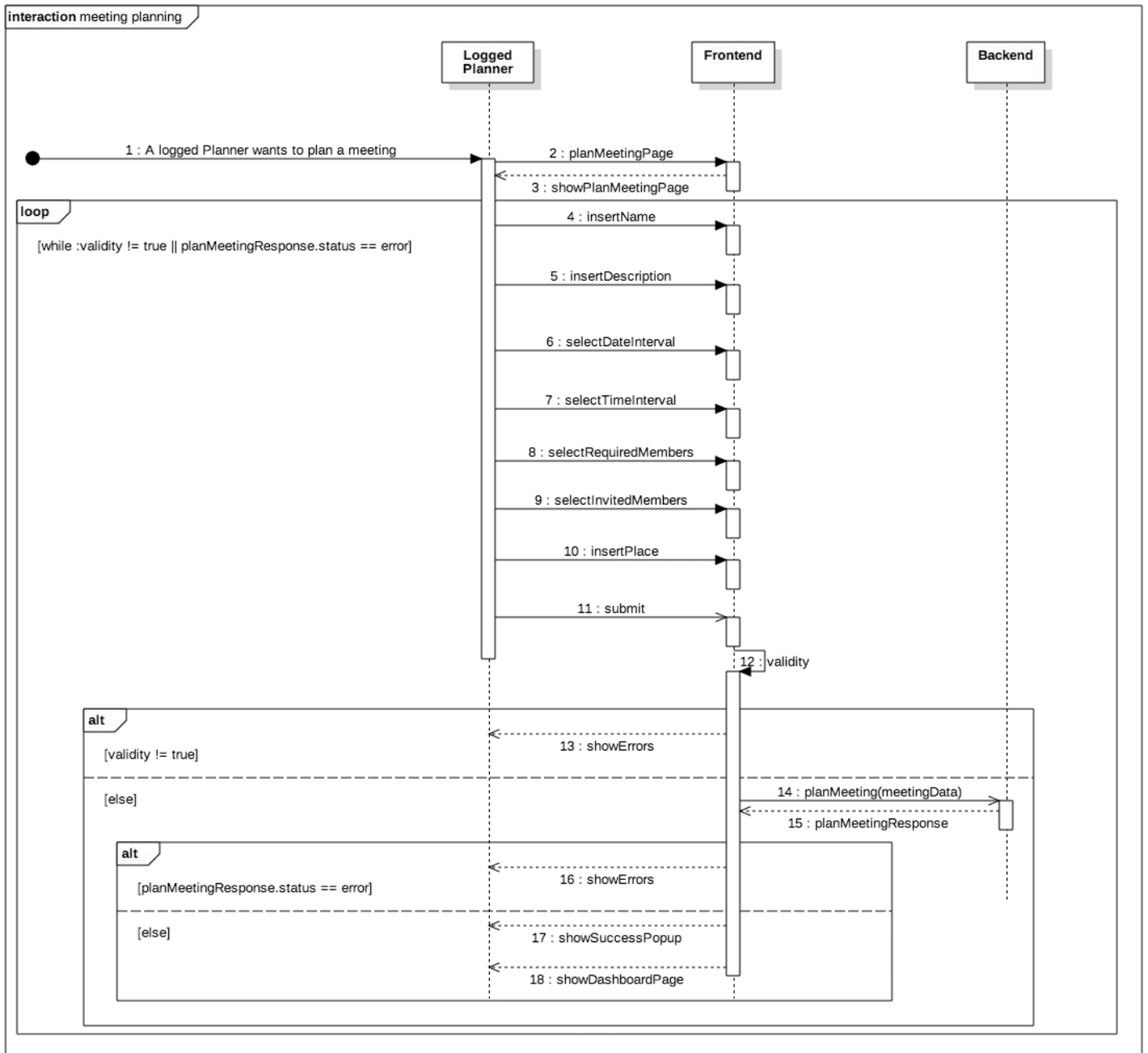
3.4.1 A registered organization logs in



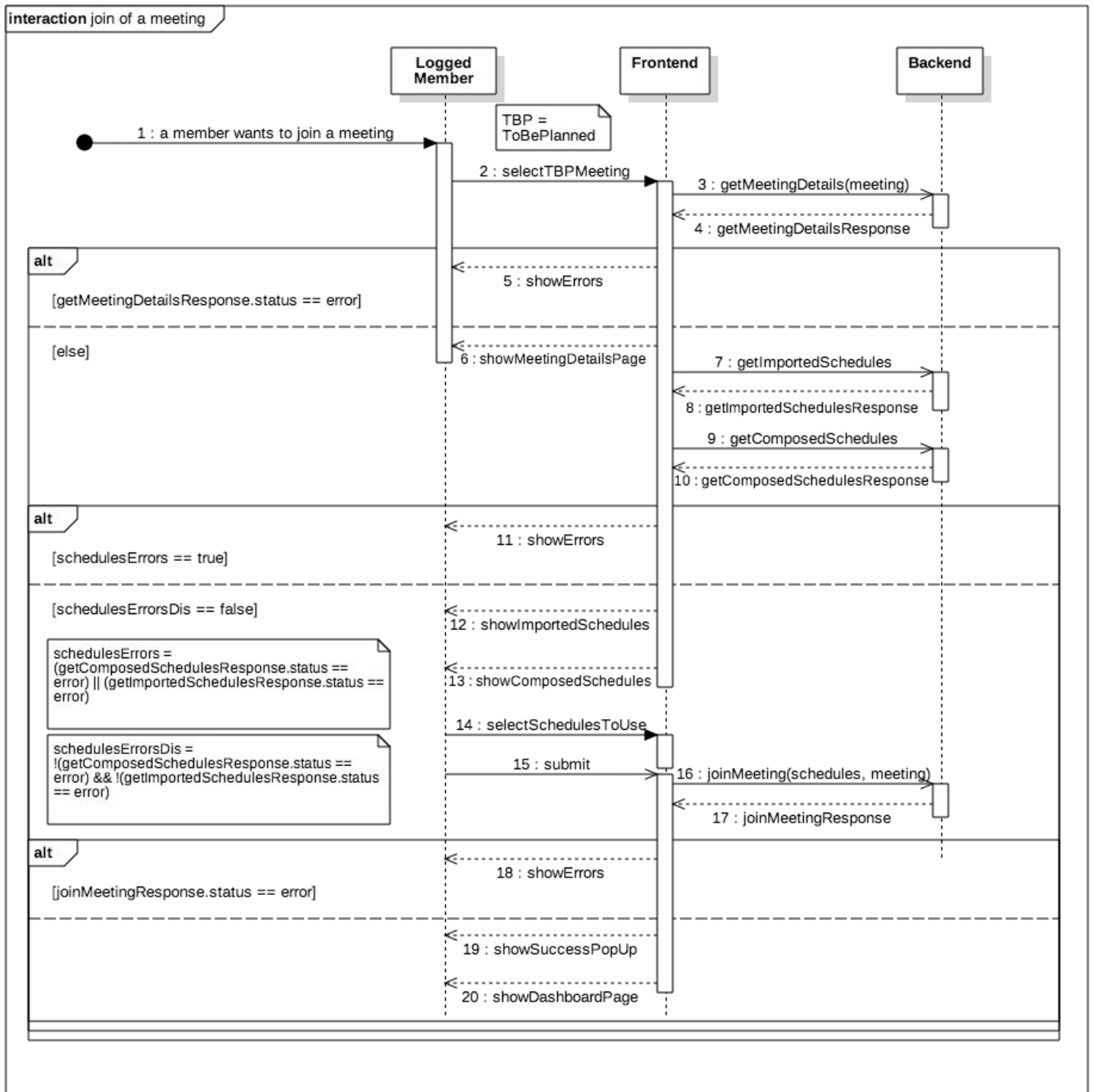
3.4.2 An organization wants to add a group



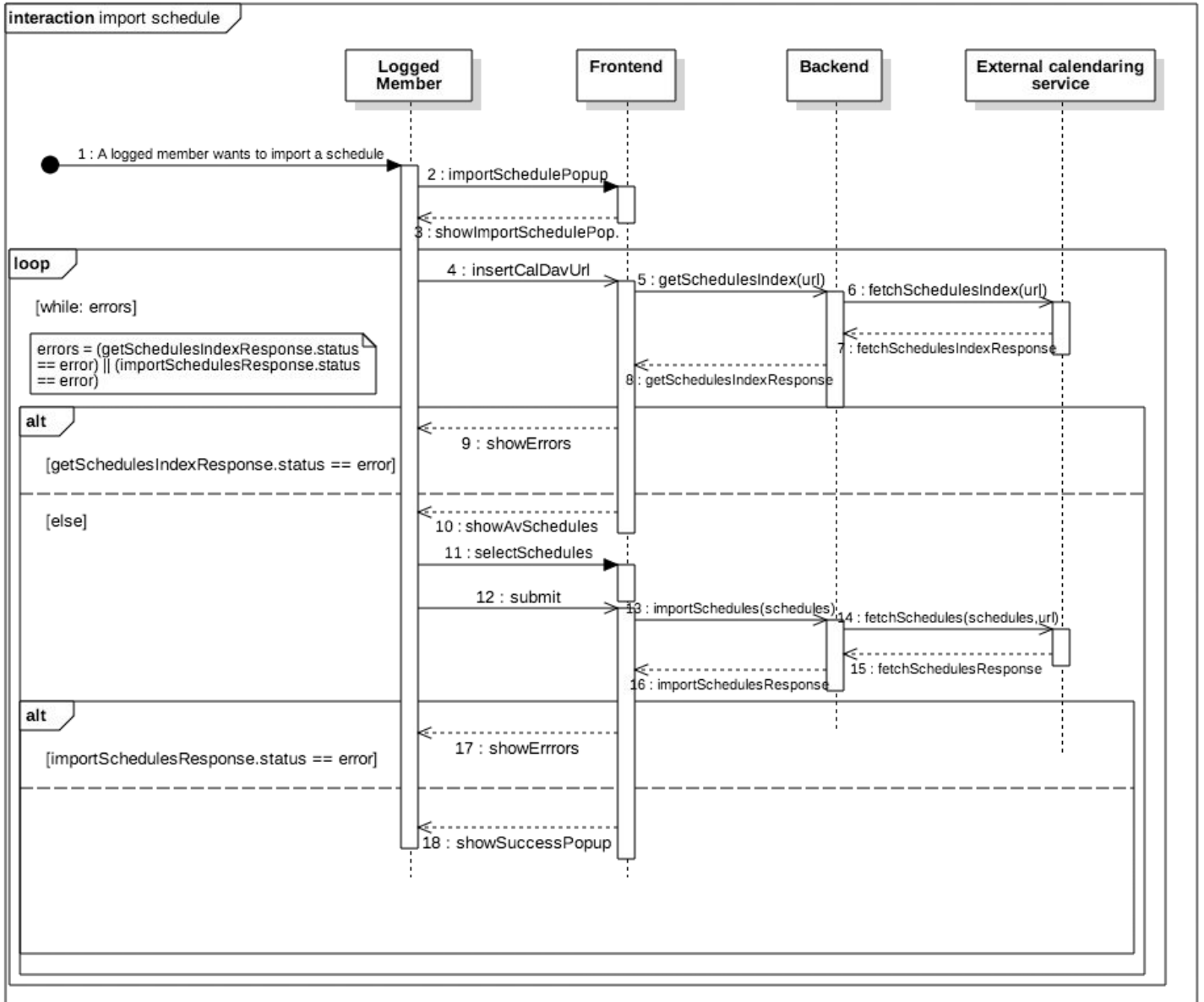
3.4.3 A Planner plans a meeting



3.4.4 A member joins a meeting to be planned



3.4.5 A Member imports a schedule from an external service(via CalDav protocol)



4 Non functional Requirements

4.1 Availability

Considering that:

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

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

4.2 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 organizations and their members is guaranteed.

The data Plunner exchanges via web with Members and Registered Organizations may be manipulated and used in a fraudulent way, to deny this scenario **Plunner must use secure communication protocols**

4.3 Uptime and data redundancy

Since meetings are crucial instruments for businesses and organizations to produce value, Plunner should guarantee high availability and data redundancy. Since this application will be created in the context of the DSD course, the team will not build nor require any dedicated infrastructure for it and so estimating and proving exact value for data redundancy and uptime is not possible; however, in the case that there's the chance to build and test a dedicated infrastructure an uptime of at least 99.99% is desirable along with at least one db replication.

4.4 Performances

Since the user base of the application is potentially use Plunner must be able to manage an high volume of requests. Since this application will be created in the context of the DSD course, the team will not build nor require any dedicated infrastructure for it and so estimating and proving exact value for performances is not possible; however, in the case that there's the chance to build and test a dedicated infrastructure, is desirable that Plunner can manage at least 1000 requests/h