



Plunner
Requirements Definition Document
Version 1.3

Plunner	Version: 1.3
Requirements Definition Document	Date: 18/01/2016

Revision History

Date	Version	Description	Author
03/11/2015	0.1	Initial Draft	Joan Josep Crespí 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
10/12/2015	1.2	Deletion of some requirements	Giorgio Pea
18/01/2016	1.3	Final checking and revision	Giorgio Pea

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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 for this document 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	Definition
The Service	Another way to refer to the Application or to Plunner
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 team T	A particular Member that can manage the planning of meetings for team T(one planner per team)
Team	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
Schedule of a Member	A set of time slots relative to a given period(a month for example) in which the Member is busy
Meeting to be planned	A meeting that has been created by a Planner but whose starting time has not been decided yet by the Service
Planned Meeting	A meeting that has been created by a Planner and whose starting time has been decided by the Service

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1.4.2 Acronyms and abbreviations

Acronym or abbreviation	Definition
DSD	Distributed Software Development. The course in whose context this project is made
CalDAV	Calendaring Extensions to WebDAV, an Internet standard allowing a client to access scheduling information on a remote server.
WebDAV	Web Distributed Authoring and Versioning, an extension of the Hypertext Transfer Protocol (HTTP) that allows clients to perform remote Web content authoring operations
ROI	Return on the investment

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2. Background and Objectives

2.1 Background

In businesses and organizations meetings are essential for producing value and guaranteeing 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 a web application which 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 optimization and simplicity in mind, so that:

- Meetings can be planned by importing schedules from external calendaring services using CalDAV or by composing in-app schedules.
- Meetings' times and dates are determined automatically by optimizing (maximizing) the number of participants.
- All the functionalities of the application can be accessed using a simple, intuitive and responsive web interface.

2.3 Customer and Target

The customer of the project is Mr. Michael Young, Associate Professor at the University of Oregon, United States. The project's team will keep contact with him using emails in order to get suggestions about the project and also to perform a validation process.

Plunner's targets consist in small and medium businesses and organizations 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.

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3 Functional requirements

3.1 Actors

- Organization(self explanatory)
- Registered organization(see Definitions)
- Member(see Definitions)
- Planner of a team T(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	10	30	90

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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 members	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 members with an 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 members using a standard protocol(LDAP)	35	70	140
3	The Service must allow a registered organization to add/remove a Member and to manage its credentials	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 member. This email will contain also the password the organization chose for the member	5	70	980

ID	STORY	TOTSCORE
3	As a registered organization I want to create and manage Teams	2516.666 HIGH

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REQ ID	REQUIREMENT DESCRIPTION	EFFORT[h]	ROI [0-100]	SCORE
1	The Service must allow a registered organization to organize its members in teams	20	90	405
2	The Service must allow a registered organization to choose for each team one of its member to become a planner	10	85	722.5
3	The Service must allow a registered organization to change the planner of each team	15	80	426.6666
4	The Service must allow a registered organization to change the name and the composition of each team	20	80	320
5	The Service must allow a registered organization to delete teams	10	75	562.5
6	The Service must allow a registered organization to merge teams or split teams in subteams	20	40	80

ID	STORY	TOTSCORE		
4	As a Member I want to login to the service within the context of my organization	1223.3333 HIGH		
REQ ID	REQUIREMENT DESCRIPTION	EFFORT[h]	ROI [0-100]	SCORE
1	The Service must allow Members to login within the context of their organization using the mail and the password their organization used to register them	30	100	333.33333
2	The Service must allow Members to recover their login credentials	10	70	490
3	The Service must allow the Remember me functionality for Members	10	40	160
4	The Service must allow Members to use a two factor authentication	15	60	240
5	The Service must allow a Member to see and edit personal information	5	60	720
6	The Service must allow a Member to change the login password	5	60	720

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ID	STORY			TOTSCORE
5	As a Member i want to import schedules from external services and manage them			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, the CalDAV protocol	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 imported schedules	50	60	72
5	The Service must allow Members to remove imported schedules	10	60	360
6	The Service must allow Members to enable or disable imported schedules	10	65	422.5

ID	STORY			TOTSCORE
6	As a Member I want to compose a schedule			675 MEDIUM
REQ ID	REQUIREMENT DESCRIPTION	EFFORT[h]	ROI [0-100]	SCORE
1	The Service must allow Members to compose a schedule by specifying a name and a series of time slots of a given period in which they are busy	30	90	270
2	The Service must allow to remove, change and keep track of composed schedules	20	90	405

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ID	STORY	TOTSCORE		
7	As a Member I want to export a planned meeting for my teams to my schedules	960 MEDIUM		
REQ ID	REQUIREMENT DESCRIPTION	EFFORT[h]	ROI [0-100]	SCORE
1	The Service must be able to write a planned meeting to schedules imported from external calendaring services	15	60	240
2	The Service must be able to generate a file with the Member's 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 teams	386.6666 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 of a team t I want to create meetings for that team	1719.6666 HIGH		
REQ ID	REQUIREMENT DESCRIPTION	EFFORT[h]	ROI[0-100]	SCORE
1	The Service must allow a Planner of a team t to create a meeting for that team, specifying a title, a brief description, a duration and a set of possible meeting times	30	100	333.33333
2	The Service must allow a Planner of a team to create a meeting for that team, specifying which Members of the team are required and/or invited	20	80	320

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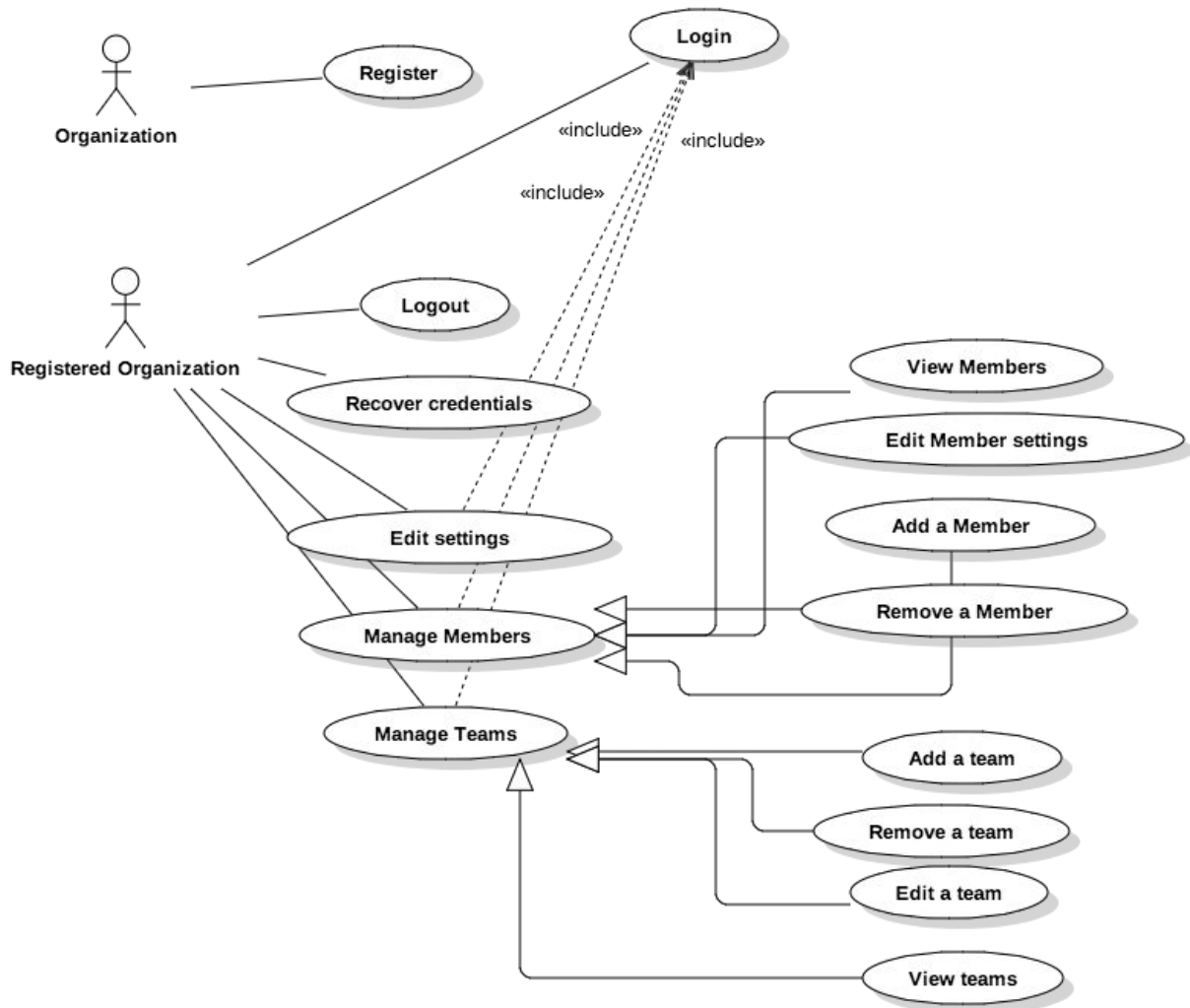
3	The Service must support the creation of meetings planned with a given frequency (for example a team has to plan a meeting every two weeks)	20	70	245
4	The Service must support meetings to be planned taking in consideration the different time zones of the Members	10	80	640
5	The Service must decide a starting time for a meeting by maximizing the number of participants, taking also in consideration the duration of the meeting	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 $\geq k$)	30	40	53.333333

ID	STORY			TOTSCORE
10	As a planner I want to manage meetings that I created			1645 HIGH
REQ ID	REQUIREMENT DESCRIPTION	EFFORT[h]	ROI [0-100]	SCORE
1	The Service must allow planners to cancel a meeting they created, this applies both to the case of planned or to be planned meetings	10	80	640
2	The Service must allow planners to change the title and the description of a created meeting; this applies both to the case of planned meetings or to be planned meetings	20	80	320
3	The Service must allow planners to change the possible times and the duration of a created meeting; this applies only to meetings to be planned	10	80	640
4	The Service must allow planners to change the constraints of a created meeting	20	30	45

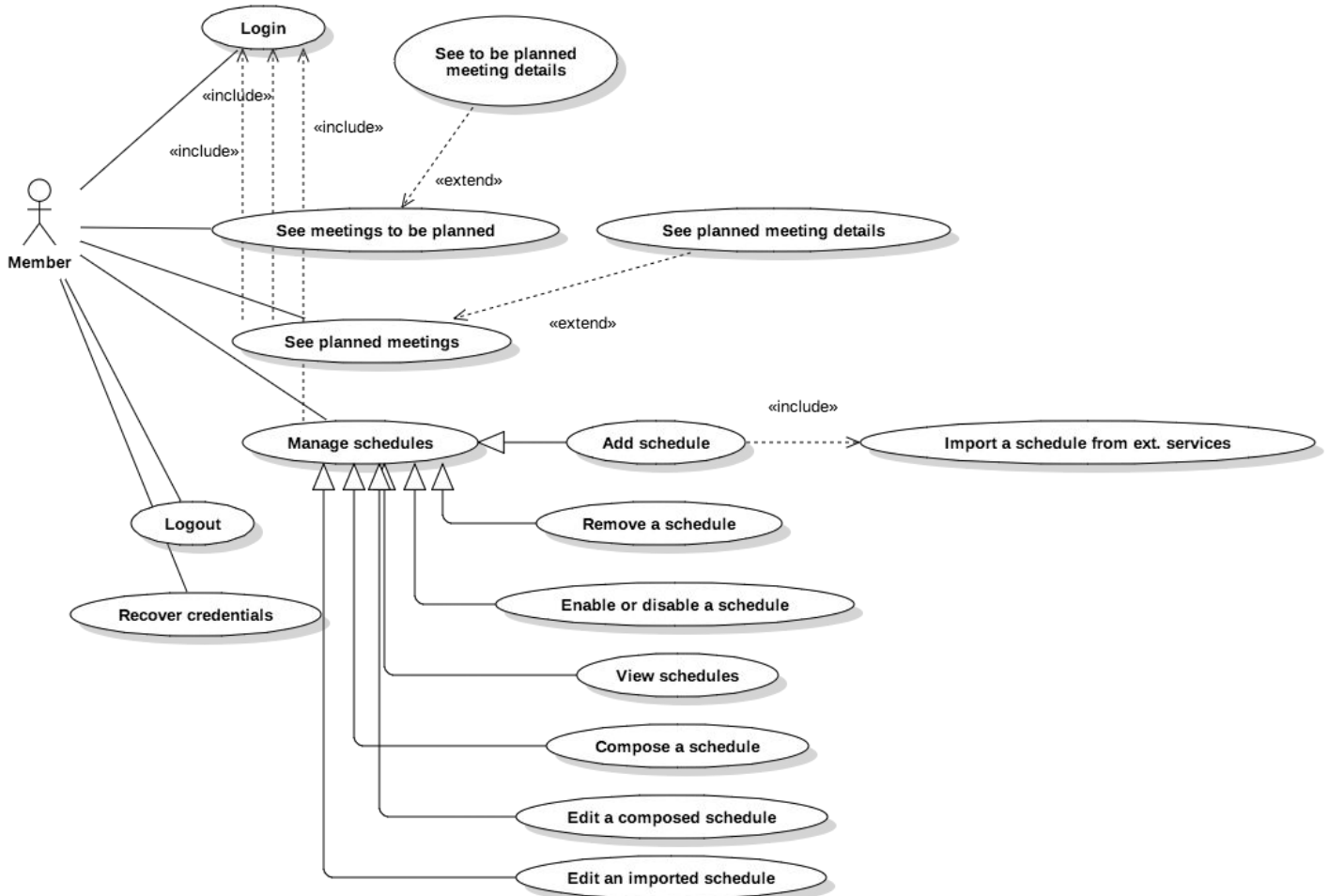
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3.3 Use cases

3.3.1 Organization and Registered organization

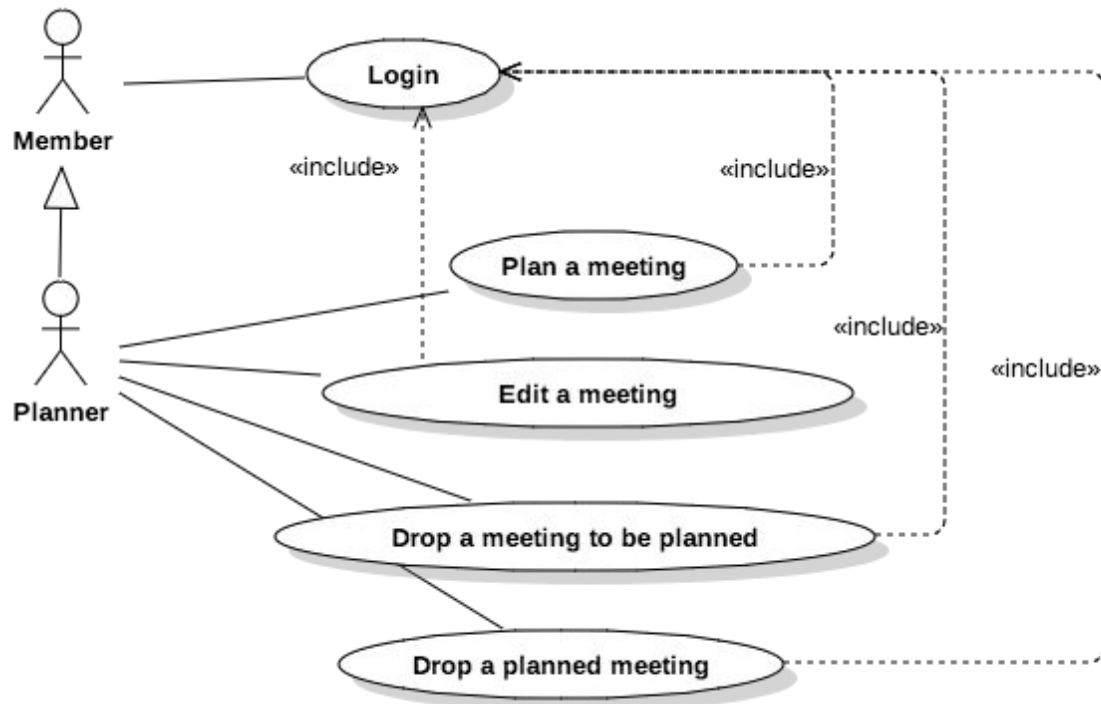


3.3.2 Member



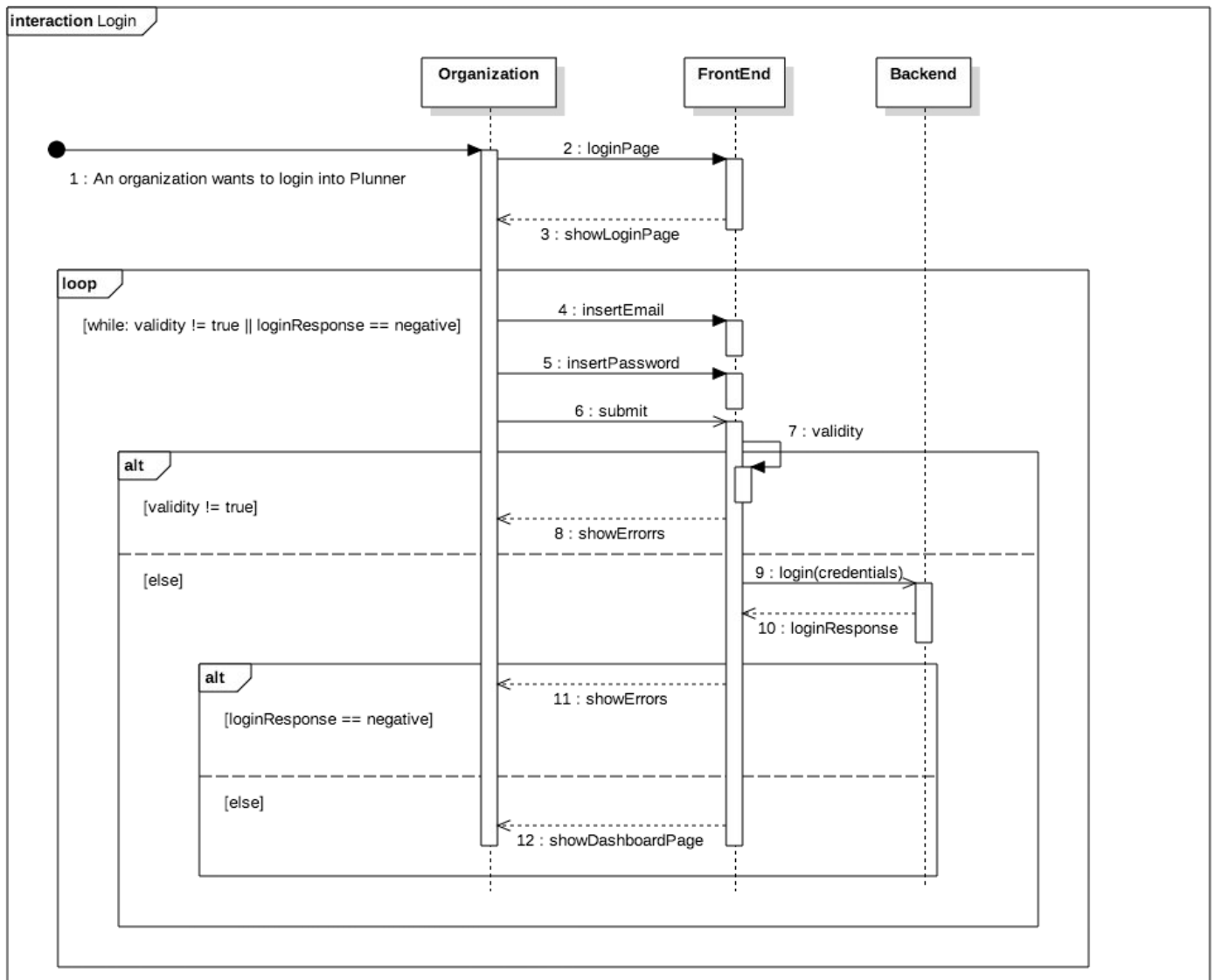
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3.3.3 Planner



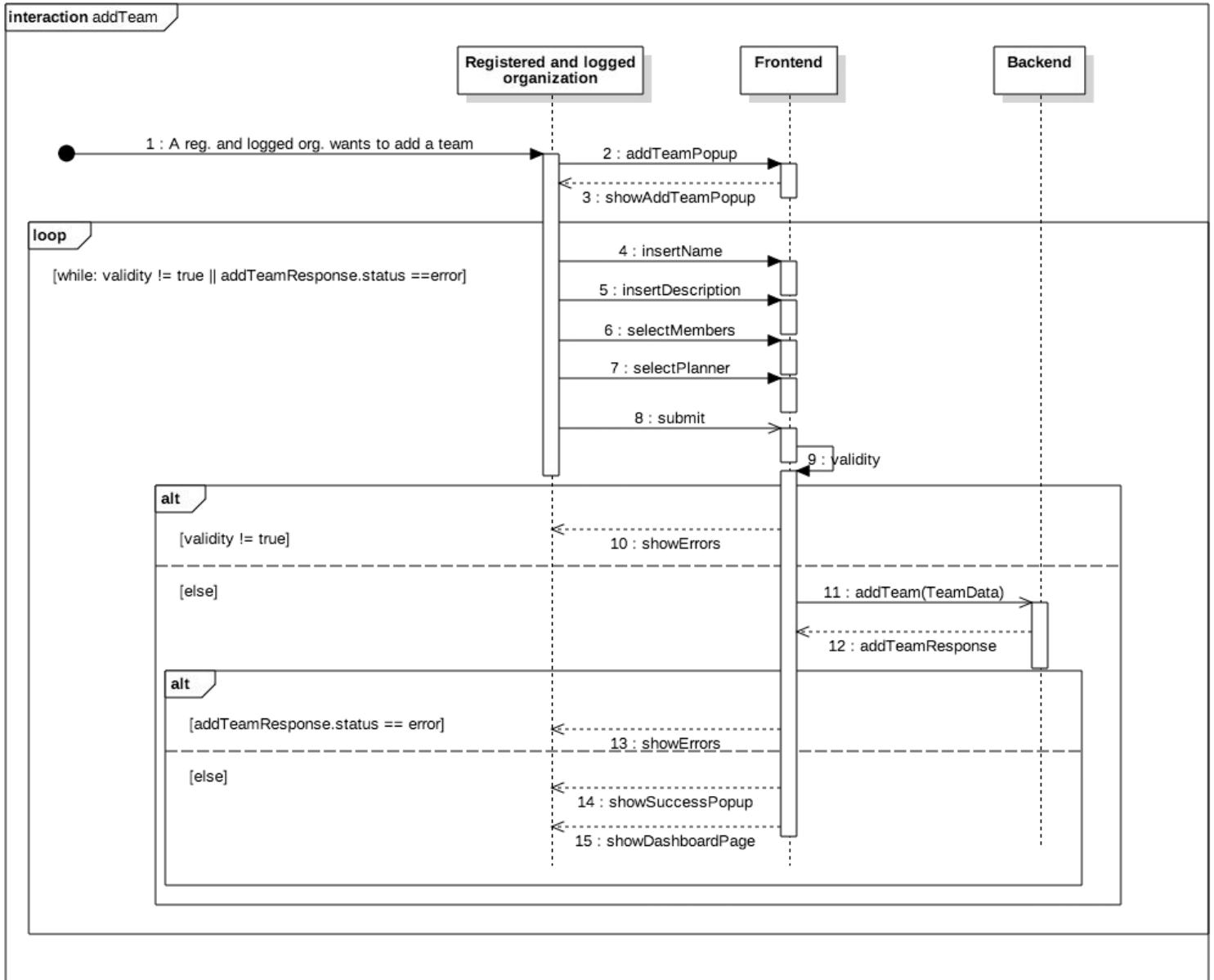
3.4 Sequence diagrams

3.4.1 A registered organization logs in



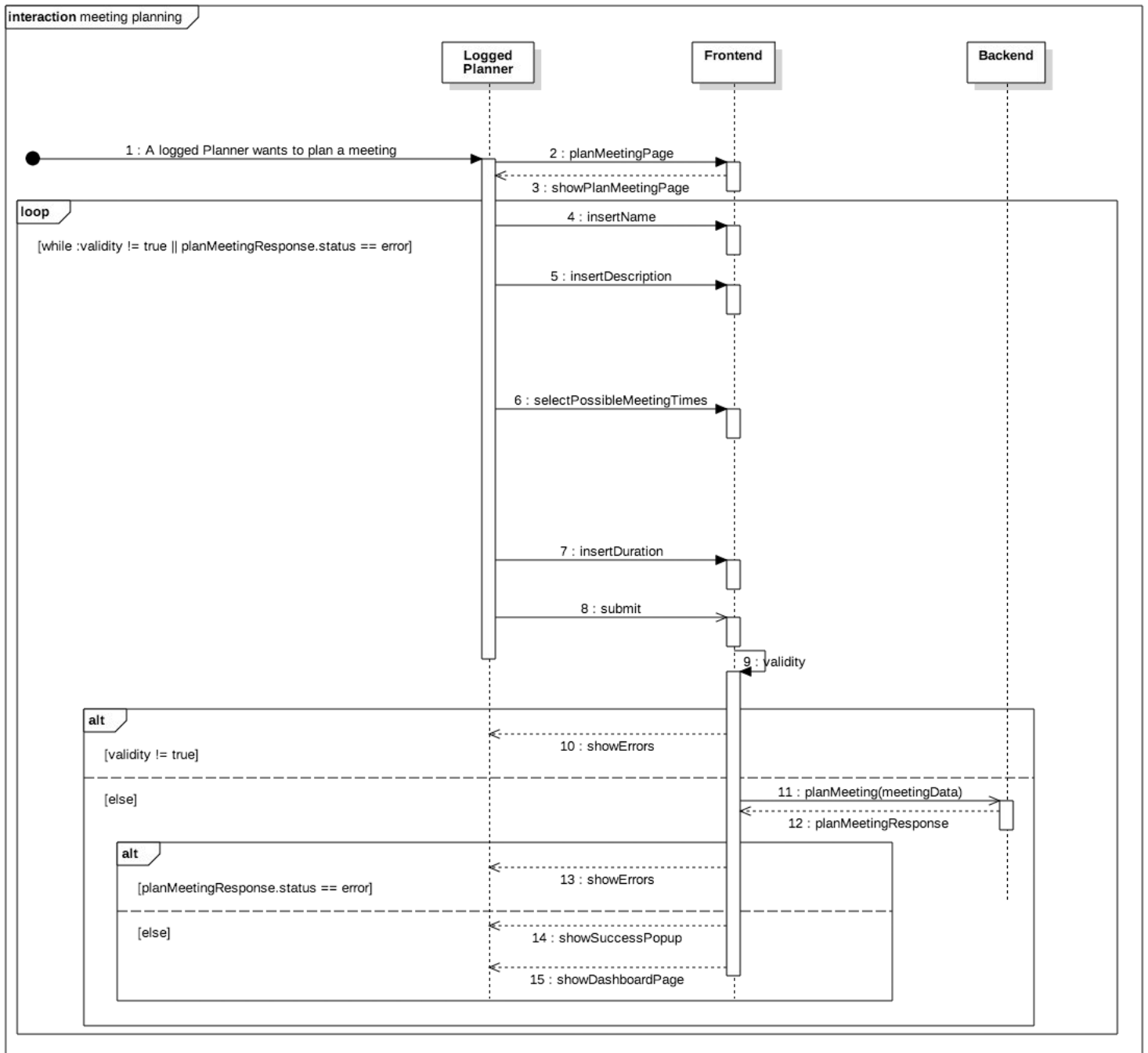
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3.4.2 An organization wants to add a Team

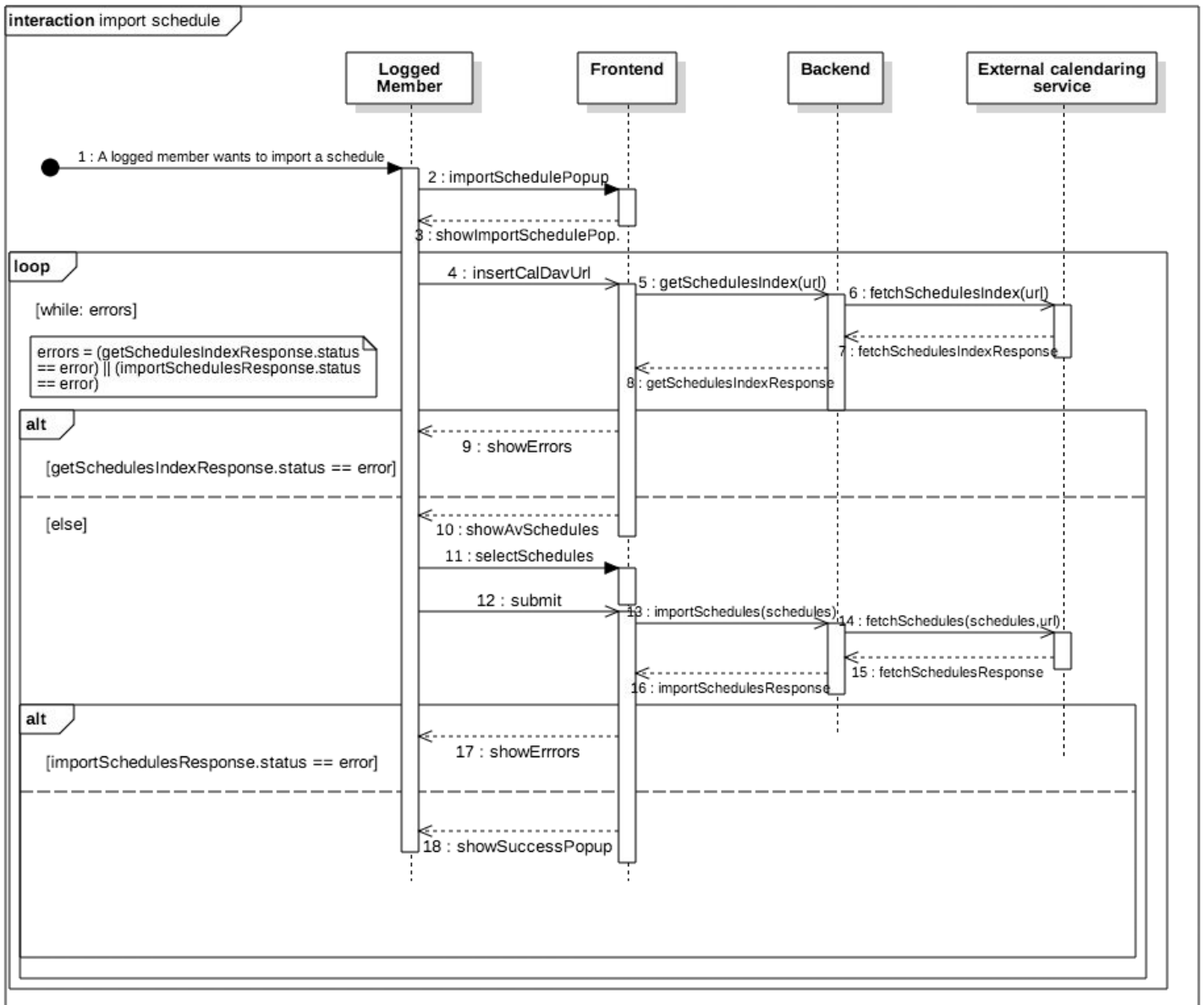


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3.4.3 A Planner plans a meeting



3.4.4 A Member imports a schedule from an external service(via the CalDAV protocol)



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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 be able neither to build nor to use a dedicated infrastructure for it and so estimating and proving exact values 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 database replication.

4.4 Performances

Since the user base of the application is potentially high, 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 be able neither to build nor to use a dedicated infrastructure for it and so estimating and proving exact values 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.