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# 1. INTRODUCTION

A. Purpose:

In this project, we will extract requirements and make a comprehensive design for Travelander+, which provides with enhanced calendar, scheduling and travel planning application for its possible users. The system aims to provide its users with planning appointments and best options for travelling by regarding environmental conditions (such as traffic, weather etc.), user specific situations and preferences and efficient usage of time and other available resources.

### A.1 Goals

**Users:**

[G1]. Allows users to view his/her calendar.

[G2]. Allows users to add new event to the user if selected time slot is available.

[G3]. Users should receive a warning if the selected time slot is occupied or not feasible by considering place and time consideration.

[G4].Allows users to edit his/her events.

[G5].Allows users to delete his/her events. (IS IT NECESSARY TO ADD???)

[G6].Allows users to add customized break time with a certain duration defined in a certain time interval

[G7].Allows users to enter personal mobility preferences.

[G8].Allows users to choose predefined mobility preferences such as preference lists enforcing minimizing carbon prints, not driving car, not using public transportation etc.

[G9].Allows users to know mobility options which minimize travelling duration under user preferences, weather and traffic constraints.

[G10].Allows users to pin particular event by regarding importance of the event.

[G11]. User should receive alerts for the pinned events.

[G12].Allows users to add periodic events in daily, weekly and monthly basis.

[G13]. Allows users to activate or deactivate particular mobility options (USER PREFERENCE A KOYMAYARAK ELİMİNE ETSEK??)

[G14].

B. Scope:

Travelander+ will be the mobile and web application that enables to manage appointments and find best mobility options for its users. Its users can be everyone who needs to plan his/her long or short term schedule. Since the system is able to take information from various sources such as maps, traffic analysis on Internet, weather forecasting etc., Travelander+ is able to adapt the appointments and mobility options for maximizing efficiency on time and minimizing the latency and usage of other resources.

## C. Definitions, Acronyms, Abbreviations

## D. Revision history

## E. Reference Documents

## F. Document Structure

# 2. OVERALL DESCRIPTION

## A. Product perspective:

here we include further details on the shared phenomena and a

domain model (class diagrams and statecharts)

## B. Product functions:

here we include the most important requirements

## C. User characteristics:

here we include anything that is relevant to clarify their needs

## D. Assumptions, dependencies and constraints:

### D.1. Domain Assumptions (BURAYA DAHA YAZILIR)

Our proposed system assumes that these assumptions hold for the domain that the system operates on:

1. During program working, operating device always receives Internet connection.
2. Information about weather forecasting and traffic conditions are published on Internet
3. Resources for the updated weather forecasting and traffic conditions always provide accurate information.
4. Information of public transportation is published on Internet.
5. Public transportation vehicles are assumed as punctual with their published programs.
6. Provided information of ticket prices, ticket seller locations and working hours, and stop locations of public transportation are always accurate.
7. Users who prefer driving have already driver license for the preferred vehicle if it is necessary (for motorbike, car etc.)
8. Users are able to ride bike when biking is activated as mobility option.
9. Shared bikes shown by the system exist in the indicated location by the system for that time instant.
10. Users are assumed to walk in (approximately) average speed. // **Buna approximately yazmalı mıyız bilmiyorum//**
11. Users do not have any disability related to walking if walking is activated as mobility option.
12. During mobile application operation, GPS is on and at working status while current position is needed.
13. GPS always provides accurate location position.
14. Each user has only one calendar
15. No user can be different places at the same time.
16. Users accurately enter location addresses and date-time of the events to the system.
17. Break duration is always equal or greater than given time interval for it.

### D.2 Dependencies

### D.3 Constraints

### D.3.1 Regulatory Policies

### D.3.2 Hardware Limitations

For the mobile application, user needs a device with:

* At least 3G Internet connection
* GPS Connection
* Compatible operating system (IOS or Android)
* Space for application

For the web page application user needs a device with:

* Wired or Wi-fi Internet connection
* Compatible Internet browser: Internet Explorer, Google Chrome, Mozilla Firefox, Opera

### D.3.3 Interfaces to other applications

System needs to communicate for up-to-date information collection of weather, traffic, transportation, car or bike share systems. Also, it needs to communicate and manage a database system for storing and updating user information.

3. SPECIFIC REQUIREMENTS:Here we include more details on all aspects in Section 2 if they can

be useful for the development team.

## A. External Interface Requirements

### A.1 User Interfaces

### A.2 Hardware Interfaces

### A.3 Software Interfaces

### A.4 Communication Interfaces

## B. Functional Requirements:

Definition of use case diagrams, use cases and associated

sequence/activity diagrams, and mapping on requirements

## C. Performance Requirements

## D. Design Constraints

### D.1 Standards compliance

### D.2 Hardware limitations

### D.3 Any other constraint

## E. Software System Attributes

### E.1 Reliability

### E.2 Availability

### E.3 Security

### E.4 Maintainability

### E.5 Portability

4. FORMAL ANALYSIS USING ALLOY:in this section you will include your Alloy model. We require

you to comment on the model by discussing the purpose of the model, what you can prove

with it and why what you prove is important given the problem at hand. You are also

required to show one or more worlds obtained by running your model.

5. EFFORT SPENT:In this section you will include information about the number of hours each

group member has worked for this document.

# 6. REFERENCES