1 Introduction

1.1. Purpose

This document is written for the developers of the software and the financial stakeholders and its objective is to guide the development phase in such way to respect all the requirements deriving from the RASD document.

1.2. Scope

This document specifies all the software components included in the system. It explains how components must be deployed and how they interact at run-time. It also gives an idea of the design decisions taken during the design phase itself.

1.3. Definitions, Acronyms, Abbreviations
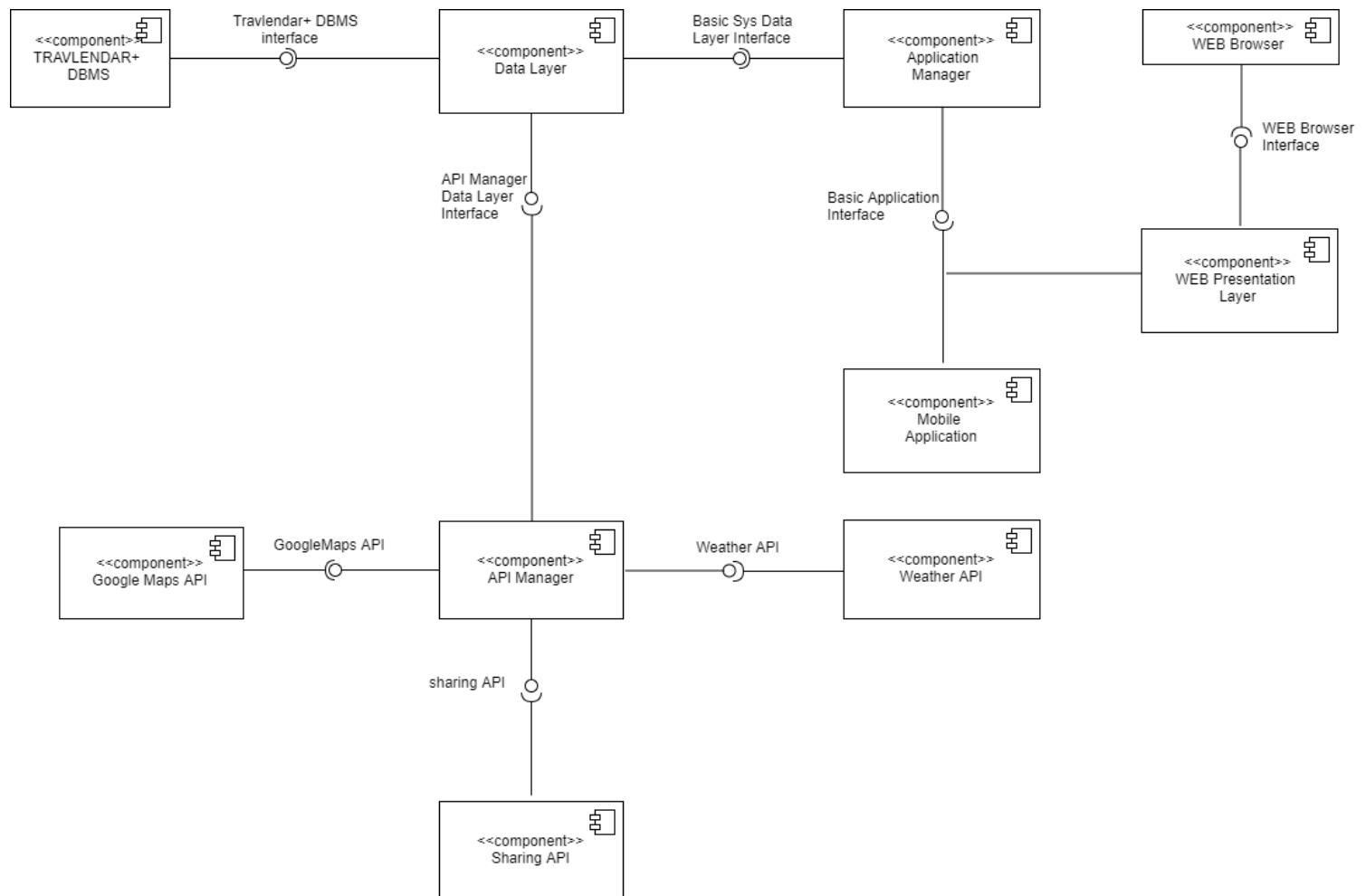## 1.4. Reference Documents
1.5. Document Structure

2. Architectural Design

2.1. Overview

This section is addressed to the architectural design of Travlendar+. In the following subsections are show the most relevant part of the system-to-build. Here we also have an deepening of the software components of the system and the interfaces about them.

2.2. Component view

Travlendar+ DBMS

This is the data base management system which will manage all the important information of the system. Some of these are the users profiles and their calendars. Obviously the DBMS will provide an interface which allow the Data Layer to perform queries over the data. Devi aggiungere a fine specifica come scegli il data layer!!

Google Maps API

This component represents the part of software that include all the services provided by Google and Waze to build an application aware of the Users position and able to calculate all the alternatives routes. The application software takes the data provided from these and provide the one with the

longest time estimate (it is better to arrive 2 minutes before than 2 minutes late) and offers an interface with the route, arriving time, duration. If you use public transports it also provide the timetables of them or if you use taxi/uber it provide the starting point and the starting time of the ride. This component will be used by the API manager and the Application Manager.

Weather API

This component represents the part of the software that include all the service provided by MeteoAM to build an application that can advise you when weather conditions are not favourable. This component will be used by the API manager and the Application Manager.

Sharing API

This component represents the part of the software that include all the service about sharing (car, motorbike or bike). It offers an interface that provide to the users all the available sharing alternatives. This component will be used by the API manager and the Application Manager.

WEB Browser

Is the component representing the software through which a user can access the web application.

Data Layer

This piece of software will deal with the DBMSs, giving them the possibility to recover or to store relevant information to the system to build. Data Layer is useful to use an unique interface to access in different kind of data which are stored in different databases. !!!!!!NON CAPISCO LA PARTE DOPO!!!!!!!

API Manager

This component of the system is used to handle all the calls coming from web/mobile application. Of course to answer this calls the API Manager has

to use other components which are Data Layer and Google/Sharing/Weather API.

In this sections I will deepen some part of the applications.

Application Manager

The basic application manager is divided in three sub-components which are: Communication Manager, Calendar Manager and the User Manager. This subdivision because the Application Manager has to provide a way to notify the user, has to handle user' credentials and has to handle user' calendars.
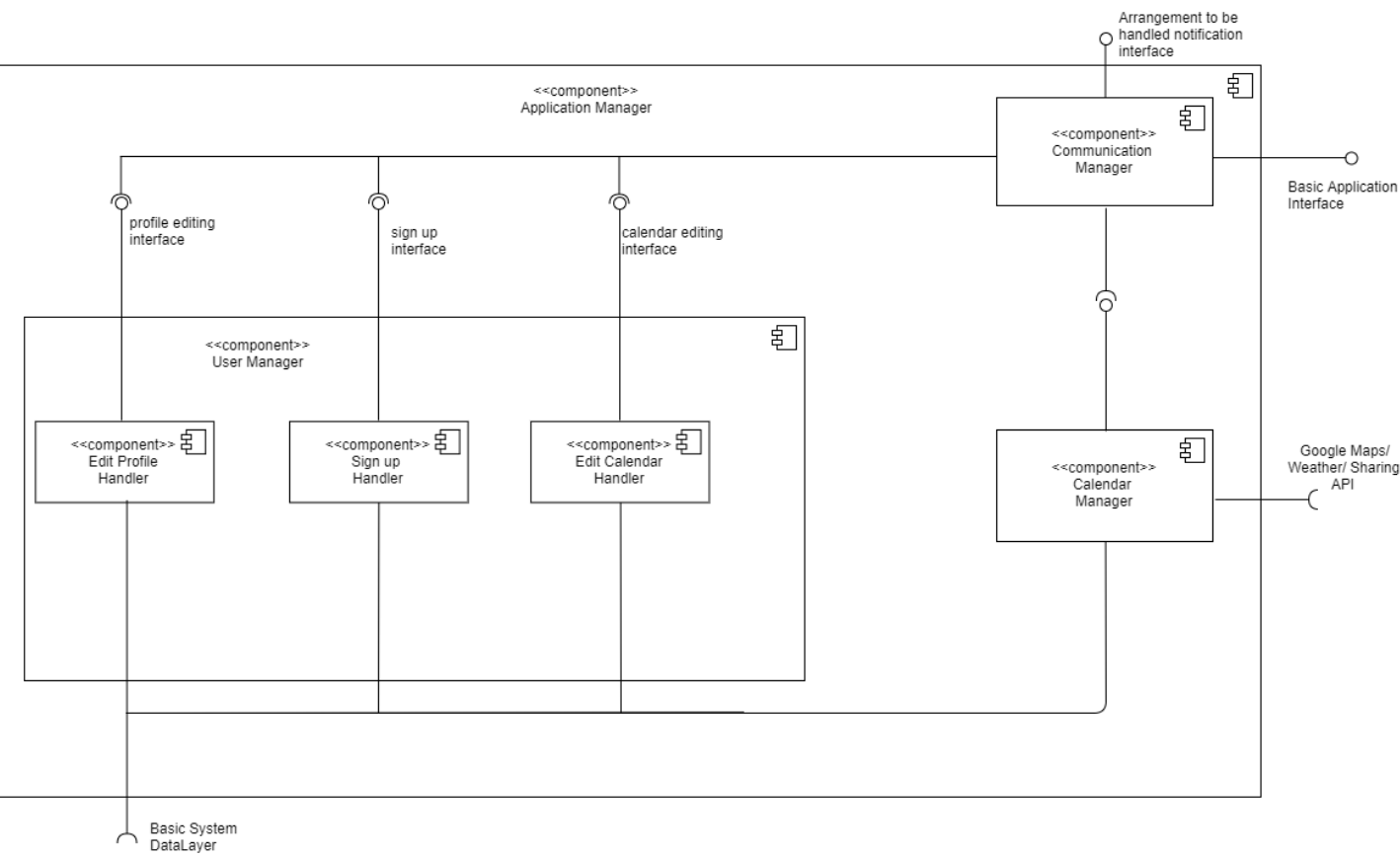
Communication Manager

This part of the Application Manager receives all operations requests from mobile application and from web presentation layer. It also handles all the notifications which must be sent to the users due to planning their appointments.

Calendar Manager

This sub component handles all the arrangements belonging to calendar' planning. So it has to store the events through the Basic System Data Layer and calculate if it is a possible event. It can delete/create an event in the calendar. Calcolo percorsi migliori non come edit!!!!

User Manager

The User Manager is in turn decomposed edit profile handler, sign up handler and edit calendar handler. This decomposition is due to the fact it has to offer three different services. Obviously to make possible this three operation these will use the basic system data layer.

Edit Profile Handler

This component is made to edit user' profiles.

Sign up Handler

To this component is entrusted the registration of new Travlendar+' users.

Edit Calendar Handler

This component will handle all the creation/deletion and modification operations make by the users in their calendar.

Data Layer

The data layer has two sub-components according in order to separate requests' management coming from API Manager and from the Application Manager.
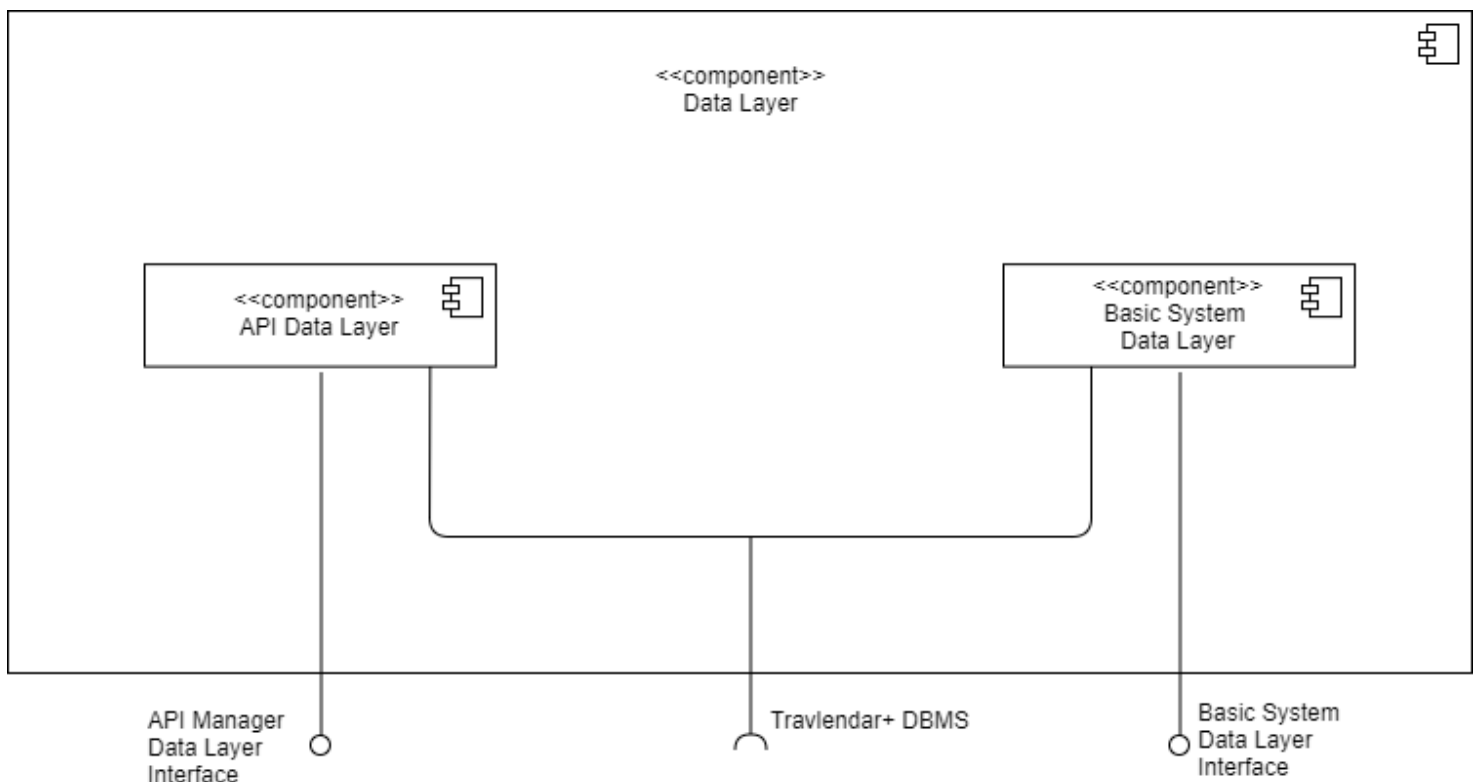
API Data Layer

This component has to manage all the request coming from the API manager which cannot perform operations of behalf of a calendar.
!!!!!!SUCOOOOOOO!! riceve una richiesta dall'appMan e la traduce in query per il dbms.

Basic System Data Layer

To this component is entrusted the management of the request coming from the Application Manager. This component has access to Travlendar+ DBMS because the Application Manager has to handle requests related to the users. Security come ulteriore livello di sicurezza non diretto accesso al dbms ma un ulteriore passaggio dal server.

2.3.   Deployment View

Here I will describe the deployment of the component previously described.