**Goals**

The aim of the system is to give the user the following functionalities:

* registration to the service and preferences set up;
* anytime management of personal and mobility preferences;
* create and schedule a new event choosing time and location;
* edit previously added event data;
* change travel options on automatically created trips to/from event;
* choose primary event on event overlapping cases;
* mobility companies’ tickets purchase via built-in browser;
* find sharing services’ means on the map;
* provide high customizability of personal preferences regarding user daily routines.

and to provide on its own these other ones:

* manage in a clever way trips to/from user events, relying on the map of the surroundings, time of the day, public and private transports’ timetables and stops, shared means, traffic, weather forecast, possible strikes and user preferences;
* notify the user on time of upcoming trips;
* alert the user of trips’ changes between the first reminder and the departure time;
* warn the user of overlapping events creation;
* warn the user of impossibility to arrange trip that takes him in time to future event.

**Domain properties and assumptions**

We suppose that the following conditions are true in the analysed world:

* the geographical area of the city is included in the coverage area of most common mobile communication technologies (3g, 4g) offered by main telecommunications companies,
* users can access to the functionalities provided by the system if and only if they register to it,
* there are not users with privileges. Every registered user can access to the same features of the other ones. The system is safe even without supervisors,
* users must be subscripted to a sharing service if they want to use it,
* APIs used by the application will always be updated on traffic status, eventual incidents and weather conditions,
* sharing services’ APIs signals their means if and only if the means are where the APIs say and they are not occupied or booked.
* users always have a working internet connection,
* half an hour is enough warning time for users to start a trip.

**Functional requirements**

The aim of the system is to give the user the following functionalities:

* Initial settings, always adjustable:
  + set user personal info:
    1. google account to synchronize calendar and maps,
    2. house location, work location, new location,
    3. default location to reach after appointments, to be chosen between the favourites (usually home).
    4. user break times and amount of time to keep free from trips in every break to have lunch or dine,
    5. time of the day after which bike (owned or shared) and public transports will not be considered anymore in planning the trip.
  + set desired user transport means:
    1. car possession, bike possession,
    2. car sharing account(s), bike sharing account(s),
    3. public and private transports (possibility to insert season ticket),
    4. maximum walking distance (to destination or sharing vehicle).
* Scheduled event creation:

1. set day(s),
2. time of beginning and end,
3. location.

* Calendar consultation & edit:
  1. see future scheduled events and meetings,
  2. modify events previously added.
* Planned trips consultation & edit:
  1. desire to minimize carbon footprint,
  2. choose between any other trip possibilities in case the one recommended by Travlendar+ is not suitable,
  3. purchase tickets for public transports before the trip,
  4. presence of passengers,
  5. show the best travel option selected by the app on various factors,
  6. consult the map showing the best route to reach the destination, the sharing vehicle or the public transport stop.
* On arrival of scheduled meeting:
  1. notification service telling the user he needs to leave to the next meeting.

**Non-functional requirements**

* It’s always possible to delete or reschedule appointments or travel reservation if it doesn’t affect other arrangements and other companies policies.
* Warnings and reminders are sent via popup notifications.
* We assume that we’ve agreements with the companies that provides travel tickets, that permit us to let the user buy his ticket directly on the Travlendar+ app.
* Some apps can be integrated. For instance Travlendar+ supports payments with PayPal

Constrains

* Two meetings cannot be at the same time or overlapped in some ways.
* A user cannot use two means of transport at the same time.