**DOMAIN ASSUMPTIONS:**

* [D1] The user is always connected via Internet and the connection is stable.
* [D2] Information about weather, transport means, maps and travel times are provided by external APIs.
* [D3] Data provided by external APIs are correct.
* [D4] The process of ticket payment is made through an external public transport service.
* [D5] If the payment is fulfilled without errors, the tickets are correctly received.

**FUNCTIONAL REQUIREMENTS:**

* + [R1] The user must be logged into the system to access application features.
  + [R2] The user must be able to choose the option of creating a new appointment.
  + [R3] The user must be able to choose the option of editing a selected appointment.
  + [R4] The user must be able to choose the option of deleting a selected appointment.
  + [R5] The system must be able to provide the user with an overview of his calendar and the user must be able to view all appointments fixed in a certain period.
  + [R6] The user must be able to select a chosen day from the overview of his calendar.
  + [R7] The user must be able to select a specific appointment in his calendar.
  + [R8] The system must ask the user to provide all information needed for the creation of a new appointment, such as place and time of start and overall duration.
  + [R9] The system must check if the information provided by the user are correct.
  + [R10] The system must check if an appointment overlaps with other events and must eventually notify it to the user.
  + [R11] The system must give the user access to all details of a selected appointment and the user must be allowed to edit the information needed.
  + [R12] The user must be able to set advanced information for a created appointment.
  + [R13] The user must be able to set an appointment as flexible, specifying the interval of time.
  + [R14] The user must be able to set an appointment as repeatable, specifying the desired days.
  + [R15] The system must schedule any flexible or repeatable appointment in the correct way, avoiding overlapping with other appointments.
  + [R16] The appointment intended to be modified must have been previously successfully created and not already deleted.
  + [R17] The user must confirm the creation of the new appointment.
  + [R18] The user must confirm any appointment modification.
  + [R19] The system must save the user modifications in memory and the calendar must be updated.
  + [R20] The system must remove a deleted appointment from the memory and delete every alert related to it.
  + [R21] The user must be able to switch between different possible calendar, such as daily calendar, weekly calendar and monthly calendar.
  + [R22] The system must be able to provide information about the scheduled travels for a chosen day, showing the transport means and the estimated time required from each travel.
  + [R23] The system must choose the best option between the possible travel alternatives according to the preferences expressed in the user profile settings and the information about external weather.
  + [R24] The user must be able to select a specific travel in his daily schedule.
  + [R25] The system must provide detailed information about the travels selected by the user, such as the trace route on the map and the weather conditions.
  + [R26] The system must provide the user with an overview of the possible travel alternatives for the chosen travel, specifying all details for each one.
  + [R27] The user must be able to filter the travel alternatives furnished by the system according to defined parameters, such as time of travelling or overall cost.
  + [R28] The user must be able to choose a favourite travel option different from the displayed default one.
  + [R29] The user must be able to select a specific movement in a travel.
  + [R30] The system must provide detailed information about the movements selected by the user, such as the specific trace route on the map and the price of the ticket.
  + [R31] The user must be able to choose an alternative transport mean for a selected movement, if there are any.
  + [R32] The system must update the daily schedule according to the travel option chosen by the user and the user must be able to see the new updated schedule.
  + [R33] The system must give to the user the possibility of buying the ticket for the selected travel.
  + [R34] The system must save a copy of the bought tickets.
  + [R35] The user must be able to access to a ticket page from the home page.
  + [R36] The system must provide a list of all the bought tickets and the user must be able to select and view a specific one in full screen.
  + [R37] The user must be able to access the preferences panel of his account.
  + [R38] The system must give the user the possibility of setting various preferences, such as owned and preferred travel means, address of Home and other general travel preferences.
  + [R39] The user must be able to edit the provided preferences when needed.
  + [R40] The system must give the user the possibility of adding an alert to an appointment while it is being created or modified.
  + [R41] The user must be able to choose a desired interval of time for the warning alert.
  + [R42] The user must confirm the alert creation and the system must save the insertion in the memory.
  + [R43] The user must be able to modify or remove the inserted alert when needed.
  + [R44] In case of any alert modification made by the user, the user must confirm the modification and the system must save all changes.

**GOALS:**

1. **[G1] Allow a user to create a new appointment in his calendar.**
   * [R1] The user must be logged into the system to access application features.
   * [R5] The system must be able to provide the user with an overview of his calendar and the user must be able to view all appointments fixed in a certain period.
   * [R6] The user must be able to select a chosen day from the overview of his calendar.
   * [R2] The user must be able to choose the option of creating a new appointment.
   * [R8] The system must ask the user to provide all information needed for the creation of a new appointment, such as place and time of start and overall duration.
   * [R40] The system must give the user the possibility of adding an alert to an appointment while it is being created or modified.
   * [R9] The system must check if the information provided by the user are correct.
   * [R12] The user must be able to set advanced information for a created appointment.
   * [R10] The system must check if an appointment overlaps with other events and must eventually notify it to the user.
   * [R17] The user must confirm the creation of the new appointment.
   * [R19] The system must save the user modifications in memory and the calendar must be updated.
2. **[G2] Allow a user to create flexible and repeatable appointments (such as lunches, study breaks etc.)**
   * [R1] The user must be logged into the system to access application features.
   * [R2] The user must be able to choose the option of creating a new appointment.
   * [R12] The user must be able to set advanced information for a created appointment.
   * [R13] The user must be able to set an appointment as flexible, specifying the interval of time.
   * [R14] The user must be able to set an appointment as repeatable, specifying the desired days.
   * [R15] The system must schedule any flexible or repeatable appointment in the correct way, avoiding overlapping with other appointments.
3. **[G3] Allow a user to edit an existing appointment in his calendar.**
   * [R1] The user must be logged into the system to access application features.
   * [R16] The appointment intended to be modified must have been previously successfully created and not already deleted.
   * [R5] The system must be able to provide the user with an overview of his calendar and the user must be able to view all appointments fixed in a certain period.
   * [R7] The user must be able to select a specific appointment in his calendar.
   * [R3] The user must be able to choose the option of editing a selected appointment.
   * [R11] The system must give the user access to all details of a selected appointment and the user must be allowed to edit the information needed.
   * [R40] The system must give the user the possibility of adding an alert to an appointment while it is being created or modified.
   * [R9] The system must check if the information provided by the user are correct.
   * [R10] The system must check if an appointment overlaps with other events and must eventually notify it to the user.
   * [R18] The user must confirm any appointment modification.
   * [R19] The system must save the user modifications in memory and the calendar must be updated.
4. **[G4] Allow a user to delete an existing appointment from his calendar.**
   * [R1] The user must be logged into the system to access application features.
   * [R5] The system must be able to provide the user with an overview of his calendar and the user must be able to view all appointments fixed in a certain period.
   * [R16] The appointment intended to be modified must have been previously successfully created and not already deleted.
   * [R7] The user must be able to select a specific appointment in his calendar.
   * [R4] The user must be able to choose the option of deleting a selected appointment.
   * [R18] The user must confirm any appointment modification.
   * [R20] The system must remove a deleted appointment from the memory and delete every alert related to it.
   * [R19] The system must save the user modifications in memory and the calendar must be updated.
5. **[G5] Allow a user to check his calendar to see his appointments.**
   * [R1] The user must be logged into the system to access application features.
   * [R5] The system must be able to provide the user with an overview of his calendar and the user must be able to view all appointments fixed in a certain period.
   * [R21] The user must be able to switch between different possible calendar, such as daily calendar, weekly calendar and monthly calendar.
6. **[G6] Allow a user to view his Daily Schedule**
   * [R1] The user must be logged into the system to access application features.
   * [R6] The user must be able to select a chosen day from the overview of his calendar.
   * [R22] The system must be able to provide information about the scheduled travels for a chosen day, showing the transport means and the estimated time required from each travel.
   * [R23] The system must choose the best option between the possible travel alternatives according to the preferences expressed in the user profile settings and the information about external weather.
   * [D1] The user is always connected via Internet and the connection is stable.
   * [D2] Information about weather, transport means, maps and travel times are provided by external APIs.
   * [D3] Data provided by external APIs are correct.
7. **[G7] Allow a user to see all the details of a specific travel** 
   * [R1] The user must be logged into the system to access application features.
   * [R22] The system must be able to provide information about the scheduled travels for a chosen day, showing the transport means and the estimated time required from each travel.
   * [R24] The user must be able to select a specific travel in his daily schedule.
   * [R25] The system must provide detailed information about the travels selected by the user, such as the trace route on the map and the weather conditions.
   * [R29] The user must be able to select a specific movement in a travel.
   * [R30] The system must provide detailed information about the movements selected by the user, such as the specific trace route on the map and the price of the ticket.
   * [D1] The user is always connected via Internet and the connection is stable.
   * [D2] Information about weather, transport means, maps and travel times are provided by external APIs.
   * [D3] Data provided by external APIs are correct.
8. **[G8] Allow a user to navigate and choose between different travel alternatives.**
   * [R1] The user must be logged into the system to access application features.
   * [R24] The user must be able to select a specific travel in his daily schedule.
   * [R26] The system must provide the user with an overview of the possible travel alternatives for the chosen travel, specifying all details for each one.
   * [R27] The user must be able to filter the travel alternatives furnished by the system according to defined parameters, such as time of travelling or overall cost.
   * [R28] The user must be able to choose a favourite travel option different from the displayed default one.
   * [R29] The user must be able to select a specific movement in a travel.
   * [R31] The user must be able to choose an alternative transport mean for a selected movement, if there are any.
   * [R32] The system must update the daily schedule according to the travel option chosen by the user and the user must be able to see the new updated schedule.
   * [D1] The user is always connected via Internet and the connection is stable.
   * [D2] Information about weather, transport means, maps and travel times are provided by external APIs.
   * [D3] Data provided by external APIs are correct.
9. **[G9] Allow a user to manage alerts for each appointment.**
   * [R40] The system must give the user the possibility of adding an alert to an appointment while it is being created or modified.
   * [R41] The user must be able to choose a desired interval of time for the warning alert.
   * [R42] The user must confirm the alert creation and the system must save the insertion in the memory.
   * [R43] The user must be able to modify or remove the inserted alert when needed.
   * [R44] In case of any alert modification made by the user, the user must confirm the modification and the system must save all changes.
10. **[G10] Allow a user to manage his travel preferences.**
    * [R37] The user must be able to access the preferences panel of his account from the home page.
    * [R38] The system must give the user the possibility of setting various preferences, such as owned and preferred travel means, address of Home and other general travel preferences.
    * [R39] The user must be able to edit the provided preferences when needed.
11. **[G11] Allow a user to buy public transportation tickets.**
    * [R1] The user must be logged into the system to access application features.
    * [R29] The user must be able to select a specific movement in a travel.
    * [R33] The system must give to the user the possibility of buying the ticket for the selected travel.
    * [R34] The system must save a copy of the bought tickets.
    * [D5] The payment process and ticket acquisition is made by an external public transport service.
    * [D1] The user is always connected via Internet and the connection is stable.
    * [D4] The process of ticket payment is made through an external public transport service.
    * [D5] If the payment is fulfilled without errors, the tickets are correctly received.
12. **[G12] Allow a user to view the previously bought tickets.**
    * [R1] The user must be logged into the system to access application features.
    * [R34] The system must save a copy of the bought tickets.
    * [R35] The user must be able to access to a ticket page from the home page.
    * [R36] The system must provide a list of all the bought tickets and the user must be able to select and view a specific one in full screen.