You are to design a time management and reporting tool for personal use. This tool will enable you to enter events for a given date and time, as well as contact and location details if needed. Events may be one-off or recurring and will be either appointments or tasks. You should also provide at least a weekly view showing the events for a given week. Finally, you should have an option to produce a report that predicts the time usage for the following four weeks. You may choose how you do the prediction; one way is by extrapolating the weekly time usage from previous weeks.

**Implementation**

User interface (design, readability, usability)

Dynamically built task/event entry views

XML "reader writer"

Prediction view and prediction algorithm

By dynamically built we mean that you must ensure that your interface changes in response to user input. To achieve this you will have to program the components in your view in response to user input. A dynamic view would not be possible with statically designed forms using the form designer on its own.

**For the elements that appear dynamically, do not use elements from the form designer. The elements have to be programmed.**

**Functional requirements**

R1. The user will be able to enter events for a chosen date and time.

R1.1 The user will be able to view all contacts

R1.1.1 The application will enable the user to add new contacts

R1.1.2 The application will bring up a form to enter a contacts personal information and save it. R1.2 The application allows contacts to be updated via a form

R1.3 The application will allow contacts to be deleted.

R2 The user will be able to view all created events.

R2.1 The application will enable entry for new events.

R2.1.1 The application will provide a form for new events to be entered.

R2.1.2 The form will allow the user to enter event details, date, time, contact information and the location of the event.

R2.1.3 The form will allow the user to select if the event is one off of recurring.

R2.1.4 The form will allow the user to select if the events either an appointment or task. R2.1.5 The application will allow the user to save any event in XML, Database or both for the matter.

R2.2 The application will allow the user to update any event as necessary for a specific date. R2.3 The application will allow any chosen event to be deleted.

R3. The user will be able to view events on a chosen week.

R3.1 The application will allow the user to select a specific week and all saved events for that week can be viewed.

R3.2 The user will view events saved for the chosen week that have only been saved in the database.

R4 The application will allow the user to produce an event prediction that predicts the time consumption for the following four weeks.

R4.1 A user interface will be provided to the user to enable the user to select a specific date for the time usage prediction.

R4.2 The application will allow the user to view the four-week prediction from the chosen date.

**Non functional requirments:**

NF1. The application must run on windows.

NF2. The application must be programmed using C#.

NF3. The application will be programmed on Visual Studios.

NF4. The application should be programmed dynamically.

NF5. The application should save all contacts and events in an XML file.

NF6. The application should save all contacts and events in a database.

NF7. Any pre-saved data will populate the application upon re-opening through the XML file.

NF8. Aby pre-saved data in the database will be used to populate the events chosen for a specific week,