Project plan

A Graphical User Interface (GUI) for weather radar and wind energy data visualization and analysis

February 2012

Mads Lundt, s103439
Matthias, s103437
Joachim Jensen, s103430

1 Analysis

From the project description on CampusNet:

"*Background: Wind energy applications such as wind power prediction require the use of large amounts of data. These data come from multiple sources (e.g. onsite observations from measuring stations, meteorological forecasts from Numerical Weather Prediction models, images from weather radars) and, consequently, have very diverse formats (times series, georeferenced data, gridded data). This raises an important issue since there does not exist any common or efficient platform for their visualization and analysis.*

The objective is to design a user-friendly GUI for enhancing the combined visualization of several sources of data. The following initial specifications will serve as a starting point for the project:

- *efficient system for data request, retrieval and display*

- *handling of animations (it is crucial as most data consist of time series or of series of images)*

- *preferences should be given to open source softwares/programming languages/solutions*

- *operationability of the final GUI on web browsers will be considered*

"

2 Solution strategy

Based on the analysis of the project, our solution will be solely webbased using an interactive map with several data layers shown in an intuitive way.

We have discussed the use of the following technologies: PHP, JavaScript, HTML5, CSS3, C/C++, XML.
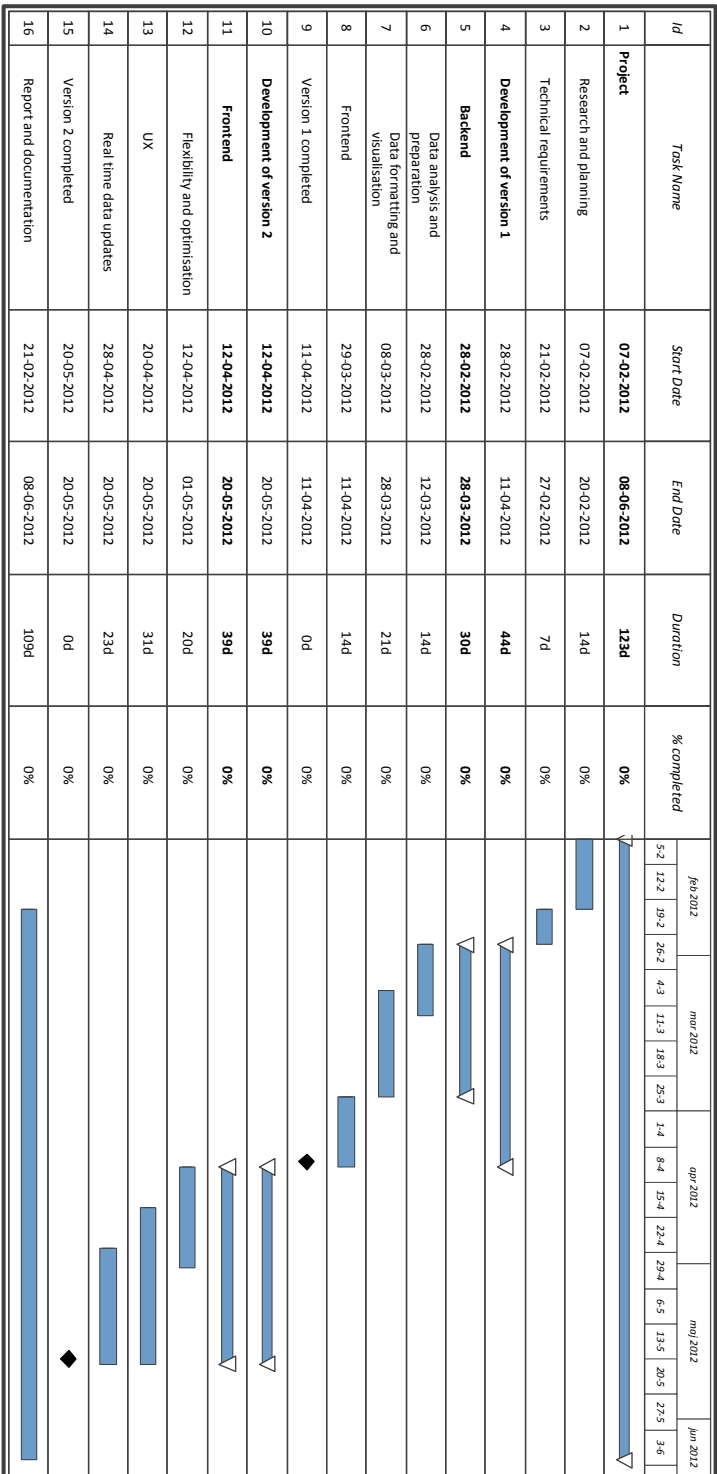And the following frameworks: Node.js, jQuery, FuelPHP, Qt.

As visualising of the data we have chosen to make use of a map like Google Maps and OpenStreetMap. The most important thing is that it's open source.

3 Estimated resources

1 cola per working hour and a large amount of electricity.

4 Time schedule

Id	Task Name	Start Date	End Date	Duration	% completed	feb 2012				mar 2012				apr 2012				maj 2012				jun 2012
						5-2	12-2	19-2	26-2	4-3	11-3	18-3	25-3	1-4	8-4	15-4	22-4	29-4	6-5	13-5	20-5	27-5	3-6
1	**Project**	**07-02-2012**	**08-06-2012**	**123d**	**0%**																		
2	Research and planning	07-02-2012	20-02-2012	14d	0%																		
3	Technical requirements	21-02-2012	27-02-2012	7d	0%																		
4	**Development of version 1**	28-02-2012	11-04-2012	44d	0%																		
5	**Backend**	**28-02-2012**	**28-03-2012**	**30d**	**0%**																		
6	Data analysis and preparation	28-02-2012	12-03-2012	14d	0%																		
7	Data formatting and visualisation	08-03-2012	28-03-2012	21d	0%																		
8	Frontend	29-03-2012	11-04-2012	14d	0%																		
9	Version 1 completed	11-04-2012	11-04-2012	0d	0%																		
10	**Development of version 2**	**12-04-2012**	**20-05-2012**	**39d**	**0%**																		
11	**Frontend**	**12-04-2012**	**20-05-2012**	**39d**	**0%**																		
12	Flexibility and optimisation	12-04-2012	01-05-2012	20d	0%																		
13	UX	20-04-2012	20-05-2012	31d	0%																		
14	Real time data updates	28-04-2012	20-05-2012	23d	0%																		
15	Version 2 completed	20-05-2012	20-05-2012	0d	0%																		
16	Report and documentation	21-02-2012	08-06-2012	109d	0%																		

5   Work distribution

To be decided after meeting with supervisors.