



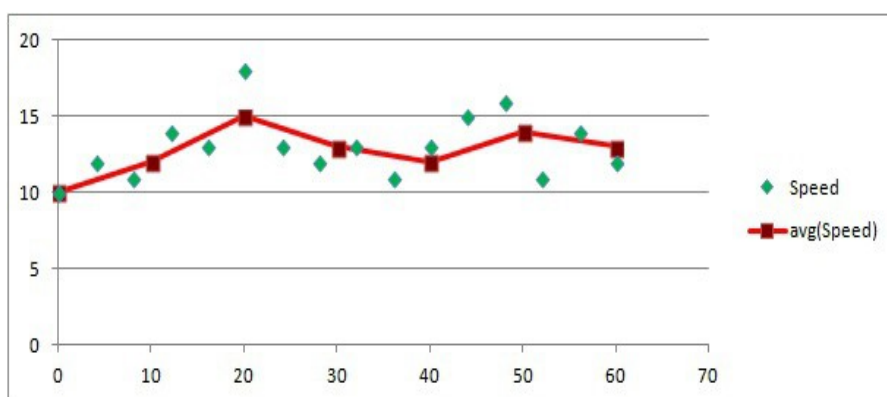
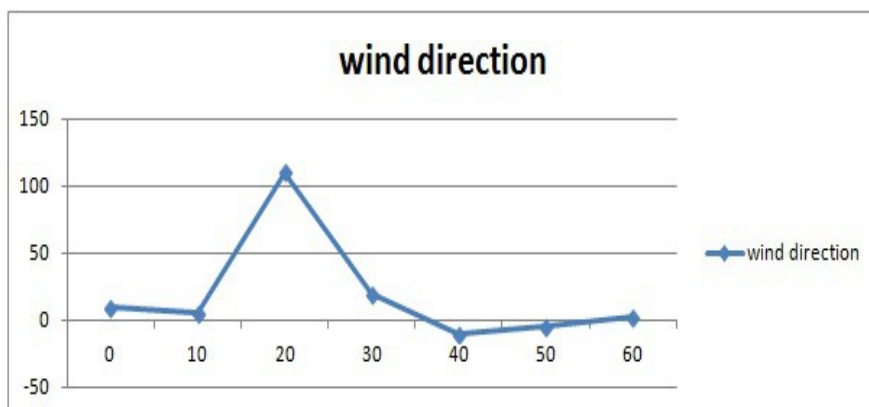
Minutes of Meeting

Project	Real-time Bridge Monitoring	Date	29.10.13
		Start-end time	11:00:00 AM – 01:30:00 PM
Responsible	Lorenzo Pagliari	Location / type	IT - Milano

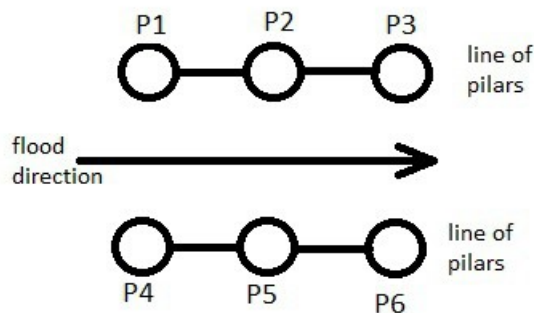
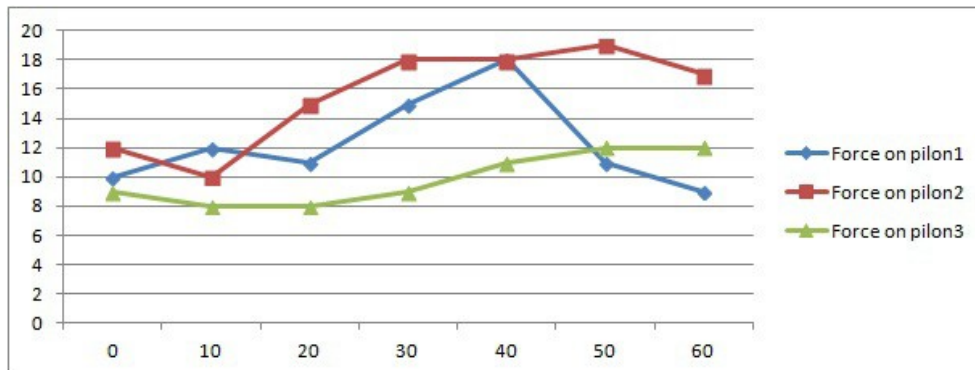
Attended by	Location	Remarks
Andrea Bottoli	Milano	
Lorenzo Pagliari	Milano	
Customer	Milano	

1. Mockup

- Anemometer has 2 graphs: wind direction and speed



- Add Safety Factor (graph and value) both current and historical
- Refresh range: 10 min – 1 h
- Add bridge photo (Google Heart) and add wind rose
- Add graph with efforts of the pillars



2. Access and visualization

- log in and registration
- many levels of interactions and visualizations (selective display of pages):
- free visualization (external users)
- safety factor + risk level + some graphs (human controller)
- modification of parameters (admin and engineer in charge)

3. Parser and Parameters

- Constant parameters: not editable
- Variable parameters:
 - possibility to change this parameters to change structural model, safety factor, etc
 - possibility to change bounds of alert, pre-alert, etc
 - not easily editable:
 - pop-up: "ARE YOU SURE??!!"
 - access with user name and password and certain privileges (read/write)

4. Requirements and interactions with the customer

- Requirements iterative and interactive during the development
- for the moment focus on DB and parser and to show something (DB works, etc) in some way (also on terminal) → alpha prototype

5. Data

- Ecosounder has some errors → to manage
- anemometer is stable
- for each hour arrives 1 packet of data (3600 single data, 1 per sec)
- each packet has to be separated in to 6 sub-packets (1 sub-packet → 10 mins data → 600 single data)
- some data has to be converted (they arrives not as meters, but as ampere, volt, watt, etc...)
- void/null/error field in to DB caused by ecosounder
 - e.g:
 - 1 packet of 10 mins → 600 single data
 - of this there are:
 - 400 ok/good → expected value + variance
 - 100 more or less good → expected value + variance
 - 100 bad → to trash
 - so if there are a lot of bad data, the aggregated data from good and more or less good data is not reliable. Thus there is a void/null/error/...
 - 2 possibilities:
 - filling that field with some boring and not simple statistics → customer don't ask us this → possible (NOT MANDATORY) future development (if we have enough time)
 - leave that field void → for that value there is no graph
 - obviously, the alarm has not to be activate 'cause the safety factor could not be calculated in that point
 - safety factor activates the alarm → mail, pop-up, what else

6. Input from customer

- Matlab program (unfortunately the comments are in italian, and there are 7000 lines of code o.O)
- setup file with variables/parameters
- data (still uploading on github...sorry for late, but 4 gb of data are not simple to upload ;-))
- anemometer conversion:
 - wind speed: mean value + maximum value
 - wind direction: mean value + maximum value
 - no variance
- hydrometer conversion + std quote → 1 value every 10 mins → mean height and variance
- sonar:
 - case studies (strange values) to find
 - not to convert, it is in meters
 - initial quote
 - every 10 mins arrives quote, numbers of used data, numbers of not good data, variance
- formal (yuppie :-))

7. Desires

- Film of the day, of the week and of the month based on the pictures to permit to the operator to see if there are some debris/obstacles
- link to external pages to compare/validate data (there are some sites that measure Po height and wind speed/direction)

8. Possible future developments (not mandatory)

- Apps for smartphones and tablets
- local and remote DB:
 - local → "current" data: from today 'till X years ago
 - remote → "historical" data: data older than X years ago
- NOT MANDATORY, ONLY IF WE WANT AND IF WE HAVE ENOUGH TIME...