Programming Fundamentals I
Fall 2014
Group Project Specifications

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Week 11-12: 1 - 15 December, Due: 16 December

1 The Project In a Nutshell

- Students have to organize themselves in a group of 3 or 4 members. Each group will be assigned one TA.

- Each group has to choose a project topic. Some project topicsare shown in the list below. Or you may suggest your own topic.

- Define a unique name for your group project (i.e., no two groups may choose the same name). While naming and submitting your documents related to the project, you must use the name of your project instead the name of any group member.

- The group projects will be developed using Subversion, thus students do not need to upload their projects through iCorsi. Instead, they provide their repository address to the assistants. Individual performance of each group member will be monitored and checked through the Subversion repositories.

- All text documents must be written using Latex and must be placed in the Subversion repository.

- From now on, Software Atelier course's hours are devoted to PF1.

2 Suggestion List for Projects

- Develop effective and efficient to use interface to visualise biometric data from an Activity Tracker (FitBit, Jawbone, Nike+, etc). Provide possibility to share detailed information to certain users (friends, groups), implement some simple privacy mechanisms for sharing data (sleep hours, steps counted, distance covered) for indivuduals and groups.

- Implement full functioning travel planner for SBB/FFS based on Swiss Public Transport API `http://transport.opendata.ch`

- Explorer Python interface to the Facebook Graph.

- Create simple Augmented Reality application using OpenCV for Python.

- Implement an algorithm animation software, which, among other things, shows convergence properties of algorithms.

- A sophisticated Excel like software, maybe capable of having images in the cells.

- A text-based game (without GUI)

- A game of your choice.

- *Lunch guru.* Sometimes its hard to decide for a group of people (coworkers) where to go for a lunch. White a program which accepts different preferences of team members and suggests them where to go to eat. (Can be done as a web site, you later you can make other students to use it.)

3   Project Phases

1. *Group definition and topic choice.* You have to form the groups and choose the topic of the project you would like to work on. The deadline for this phase is **Dec 2 @ 13:30**. You will find the **GP0 submission form on Moodle** to submit your document.

2. *Design.* After choosing your project topic, you have to write two design documents, each with no more than two pages.

   (a) The User Guide, which should be uploaded **on Moodle under GP1**, is due on **Dec 3 @ midnight**. This document should be prepared similarly to PP1.

   (b) The High Level Design, which should be uploaded **on Moodle under GP2**, is due on **Dec 5 @ 15:30**. This document should be prepared similarly to PP2.

3. *Development.* This phase will start immediately after defining your project and the status will be checked by the TAs. During this phase, there will be a status check on **Dec 10**. Before the end of that day you have to bring and show a demo of your project to the TA assigned to your group.

4. *Finalization.* This phase which is due on **Dec 14 @ midnight** involves refining and finishing your project by delivering a full product together with a project documentation. The project documentation which should not be more than four pages describes the work that has been done as well as a user guide.

5. *Presentation.* The projects are required to be presented on **December 15**.
   Among all projects, a few outstanding ones will be selected. The members of the selected groups are required to make a presentation for the public during the "end of semester presentations". The public presentation will be on Thursday, December 18.