Course "Empirische Bewertung in der Informatik"
Freie Universität Berlin, Institut für Informatik, Arbeitsgruppe Software Engineering
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Practice sheet 4 SoSe 2011 due on 2011-05-23

Project: Survey

The remainder of this semester's tutorial will consist of a small project. You will conduct a survey in small project groups.

Learning aims (for this practice sheet):

1. To develop a research question from a chosen topic.
2. To design a questionnaire based on the research question.
3. To think about a study's work steps and effort.

Task 4-1: (Introduction to the topic, research question)

a. Have another look at your and your group's considerations as to your topic and research question.

b. Familiarize yourself with your topic. Only then you can design a good survey. Investigate whether there are already comparable studies to the one you plan.

c. As the scope of most topics is quite broad and diverse, you need to focus with your survey. Note down your considerations. Also note those aspects you decided to drop, and why.

d. Finally delimit your specific aim and decide on your research question. Also form some early ideas regarding the form and conduct of the survey: group of participants to be targeted, form and distribution of the questionnaire (should be web-based), gathering of answers for the evaluation.

Send an email briefly stating: your research question and your intended participants of your survey by Monday, 23.05.2011, 9.00am to karl.beecher@fu-berlin.de.

Throughout this course, whenever you send email, carbon-copy your team members, so that all of you will receive a possible answer.

- The email needs to have the following subject:
  [Empir] group <group n°>

Task 4-2: (Design of questionnaire)

Design and implement a matching questionnaire. In the interest of finding many participants, it should be as short as possible. To be evaluated easily and unambiguously, it should ask for as highly structured information as possible.

Consider and note for the discussion in the next tutorial:

a. When choosing the questions: how do these contribute to answering the research question.

b. Information as to the participants: General experience, specific experience, skills, work environment, domain of use and other demographic information.

b. How to obtain a high number of participants and return rate. High numbers of participants are almost always an important quality feature for survey.

You questionnaire should finally be web-based. You may use the platform http://survey.mi_fu-berlin.de for it.
• You may also use another/your own platform. Consider, however, that another
group is going to review and run pilot tests with your questionnaire.
• The closer the version now created is to the final version, the more helpful are the
results of the pilot tests!

Send your questionnaire in a generally readable form (URL to the web form or as
PDF/HTML file) by Monday, 23.05.2011, 9:00 am to karl.beecher@fu-berlin.de.

Within your email (not in a document attached) you need to provide the following
additional information:
   d. Complete names of all of your team members.
   e. Topic area of the survey (overall goal).
   f. Research question (clearly formulated in one to two sentences).
   g. Roughly the group of participants to be addressed.

Throughout this course, whenever you send email, carbon-copy your team
members, so that all of you will receive a possible answer.

• The attachment needs to be named in the following way:
  group<group n°>_ue4.<extension> (e.g. group02_ue4.pdf)
• The email needs to have the following subject (RE):
  [Empir] group <group n°>

Some advice

Here you find some advice concerning possible topic areas, conduct, and effort.

Topic areas

Possible areas for survey topics have already been presented. These are:

• Consequences of the change to the Bachelor/Master system for the studies of
  computer science (lecture’s organisation).
• Contents of Informatics courses of study.
• Preconceptions of computer science (in cooperation with working group Didaktik
der Informatik, Prof. Carsten Schulte).
• Software engineering: theory and reality of different activities or problem areas.
• Security-awareness of suppliers of web applications.

You can also pick your topic from a different Informatics-related area.

Further course of events in the project

A short overview of the remaining weeks:

CW 21: Design the questionnaire (this practice sheet)
You determine the concrete aim and focus of your survey (concrete research
question(s)), design an adequate catalogue of questions, develop the concrete
questionnaire and implement it as a web form.

CW 22/23: Validate and improve the questionnaire
You hand your questionnaire to another team and receive theirs in return. You review it,
run a pilot test, and give helpful feedback. In the pilot test, three to five suitable
participants fill in the questionnaire while under observation (but without receiving help)
and document its strengths and weaknesses. After receiving the results, you improve your questionnaire by stressing its strengths and reducing or avoiding its weaknesses.

**CW 24: Recruit participants**
You look for and choose forums in which to present your survey and ask for participation. Possible sources for participants are university lectures (via the lecturers), relevant mailing lists and possibly others. You formulate a suitable recruitment letter.

**CW 25/26: Conduct the survey (with interim report)**
You send off your recruitment letter; the survey starts. Duration: 2 weeks. Before the end of the first week you prepare an interim report: How many questionnaires have been completed? How complete? Who are the participants?

**CW 26/27: Evaluate the survey’s results**
You compile the answers from all questionnaires in machine-readable form. You evaluate them: characterization of the respondent’s population; global overview of the results; analysis of the correlations between answers and respondent/domain/etc.

**CW 28: Present the results**
You prepare a results report which critically discusses the result’s credibility and relevance. You summarize the most interesting results on slides to present them within 5 minutes.

**Total effort**
This course supplies 5 credit points. One credit point is worth 30 hours of work (2 full hours per week). The total effort (including lecture, tutorial, and exam) therefore sums up to 10 hours per week.

*Per week (and person) you need to invest about 5 hours of work for the tutorial apart from being present. Conducting the survey will require less, designing it will require more time.*

Split the work sensibly within your group.
Work as a team (that is, help each other).
Start early enough.