Research Methodology in Computer and Information Science

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Research plan

My research is divided into two phases, a specialization project in the fall 2015 and master thesis in the following spring. This research plan will cover both fases.

Purpose

Contributions

The main goal of this research is to develop a computer-based product that will support the embedded software industry to manage technical debt that is present in their products. By managing technical debt companies can enjoy increased profits by balacining investments on the quality of software and shorter-times to market or other forms of financial leverage. Although the main focus is on embedded software, the derived methodologies and tools will be applicable to software systems in general by configuring input parameters appropiately.

Existing technical debt management approaches do not deal with the specifics of embedded systems development.

De fleste strategier og practices for håndtering av teknisk gjeld idag er relatert mot kode. Noen analyserer kostnadene og måler tekniske gjelden. Det finnes et verktøy, men er mer rettet mot kode. Å ha det i backlogen er også en løsning. Men å ha et verktøy som kan si noe om type gjeld du har, hva kostnaden til den, hvor kritisk den er. Et platform som både sjekker kode, og all annet materiale som krav, design, arkitektur, bug reports osv.

Research Method

To find the research questions, a literature review was conducted.

Participants

As a researcher, I am included as a participant. My work is to plan and conduct the research.

My main supervisor is Carl-Fredrik Sørensen. My research will be supervised by him. He is contributing with his experience in the software engineering field.

In this research, the aim is to collect data from individuals. Every developer

Research Paradigm

Interpretivism

Survey har blitt valgt som strategi i denne forskningen. Ved å bruke intervju som datagenerasjonsmetode får vi kvalitattive data som resultat. Mens posivisme ønsker å få et generelt overblikk, noe som fører til høy validiter, utføres intervjuer i mer detalje og ser på kulture og hvordan folk lever livet. Forskeren kan derfor føle hvordan intervju kandidaten opplever et problem. Dataen som fås er detaljert og gir dypere forklaring på et problemDette for å utforsoske, forklare og forstå realiteten. Denne måten å tenke på tilsvarer interpretivisme.

Surveys are usually storngly associated with positivsm, as it seeks patterns in the world. However, surveys can be used in a more interpretive way. A survey could be carried out among people who differ from each other. This might enable the researchers to establish the breadth of opninions about

a subject. For example, they might try to find out about the many differnet factors thought to be relevant to successful UT systems implementation, without attempting to draw any conclusiion about the most popular factors.

Subjektive data tilbake fra respondenter.

Need to explore, explain and undestand reality.

Final Deliverables and Dissemination

The presentation of this research will be presented in two deliverable documents, specialization project thesis and master thesis, and a computed-based product [**?**].

References