Master Thesis Project Plan
The Modeling Process as a Game

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1 Problem Statement

Modeling involves both modeling languages and modeling processes. Most research focuses on languages, while processes deserve just as much attention. In software engineering in general it's well known that the quality of the process influences the quality of the end result, and process quality models such as the *Capability Maturity Model Integration (CMMI)* are widely used [1].

To control quality in the modeling process we first need a way to structure and represent methods. One of those ways could be to view the modeling process as a game, and to approach method engineering as game design.

The goal of this research is to describe a specific (existing) modeling method as a game, to test this game in practice, and to see what lessons can be learned from this and how they can be applied to method engineering.

2 Way of Working

As stated above the first goal of this research project is to design a game. We have a general idea of what this game will look like. We have identified the following requirements.

- The goal of the game is making a model according to the Business Process Modeling Notation (BPMN) [4].
- The game should be easy to play (playable by a 12 year old kid).
- The game won't be fully automated. It will be played using pen and paper, or possibly using a Wizard-of-Oz-like interface.
- The game will use multiple levels/stages, representing different in steps in the modeling process.

We will try to describe the game by identifying the different game elements, as described in [3]. For example the components, goals, procedures and mechanics.

Next we will play the proposed game with a few test subjects. We will observe the behavior of both the players and the facilitator. First to see how the game can be improved and second to see what we can learn from this with regards to method engineering.

We then might have to go back to the drawing board, make some changes in the game's design, and do another round of testing. After that we'll be able to finalize the game and focus on describing our observations.

3 Literature

See references. [2]

4 Planning

We have one deadline to consider when planning this project. Stijn Hoppenbrouwers aims to use the results of this research in a publication in April. This means that most of the designing and testing has to be done by then.

Time	**Activity: Result**
Jan 1 - Mar 1	Designing and describing the game: Proposed game, including instructions for facilitator
Mar 1 - Mar 15	First round of testing: Possible improvements for the game, lessons learned
Mar 15 - Apr 1	Describing results, lessons learned, improving the game: Draft results, usable for other research
Apr 1 - Apr 15	Second round of testing: Possible improvements for the game, lessons learned
Apr 15 - May 15	Describing results, lessons learned, presenting results: Finished article, presentation

5 Project Conditions

I am absent from January 18th to January 27th.

References

[1] Diane L. Gibson, Dennis R. Goldenson, and Keith Kost. Performance results of cmmi-based process improvement. Technical Report CMU/SEI-2006-TR-004, Carnegie Mellon University, August 2006.

[2] Stijn Hoppenbrouwers and Patrick van Bommel. Method engineering as game design.

[3] Aki Järvinen. *Games without Frontiers: Theories and Methods for Game Studies and Design.* PhD thesis, University of Tampere, Finland, 2007.

[4] Stephen A. White. Introduction to bpmn.