

# Alaska Simulator - A Journey to Planning

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**Abstract.** The Alaska Simulator is an interactive software tool developed at the University of Innsbruck which allows people to test, analyze and improve their own planning behavior. In addition, the Alaska Simulator can be used for studying research questions in the context of software project management and other related fields. Thereby, the Alaska Simulator uses a journey as a metaphor for planning a software project. In the context of software project management the simulator can be used to compare traditional rather plan-driven project management methods with more agile approaches. Instead of pre-planning everything in advance agile approaches spread planning activities throughout the project and provide mechanisms for effectively dealing with uncertainty. The biggest challenge thereby is to find the right balance between pre-planning activities and keeping options open. The Alaska Simulator allows to explore how much planning is needed under different circumstances.

## 1 Introduction

The Alaska Simulator has been developed to support the teaching of planning approaches and to facilitate the execution of controlled experiments investigating the strength and weaknesses of different planning approaches. Due to the many similarities between software planning and journey planning the Alaska Simulator uses a journey as a metaphor<sup>1</sup>. The used metaphor is not only helpful to explain agile and lean principles to people without significant experience in the software engineering field, but is also an attractive context to be engaged in, thus increasing the willingness of students to participate in experiments. In the following we describe participating roles in the form of personas and how they can interact with and benefit from the Alaska Simulator

- *Steve Student*: tests and analyzes his planning behavior with the simulator and explores how much planning is just enough under different circumstances
- *Rose Researcher*: investigates the strengths and weaknesses of different planning approaches using the simulator

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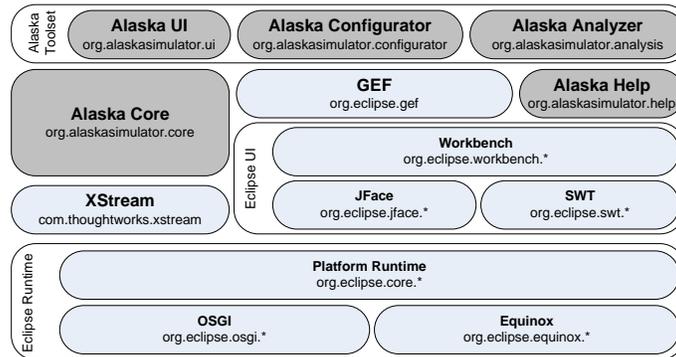
<sup>1</sup> For a detailed description of the journey metaphor see the simulator's website: <http://www.alaskasimulator.org> as well as the simulator's documentation

- *Isabel Instructor*: demonstrates the different agile and lean principles using a journey as a metaphor and explains the major differences between agile, plan-driven and chaotic planning

The major features of the simulator are as follows:

- **Plan and execute journeys** : The Alaska Simulator allows to plan and execute journeys in either an agile or a plan-driven way
- **Log journeys**: Each step that is performed while planning and executing a journey is logged
- **Replay journeys**: To enable manual analysis of planning behavior, journeys can be replayed step by step
- **Design journey scenarios**: The Alaska Simulator allows researchers and instructors to design their own journey scenarios including locations, actions, events, constraints as well as the degree of uncertainty (for details see [1])
- **Analyze journeys**: Instructors and researchers are supported in analyzing the journeys after a planning session has been conducted

Figure 1 illustrates the architecture of the Alaska Simulator which has been implemented as an Eclipse Rich Client Platform (RCP) application. For the Alaska Simulator itself three plug-ins `org.alaskasimulator.core`, `org.alaskasimulator.ui` and `org.alaskasimulator.help` have been developed. Additional components are the Alaska Configurator as well as the Alaska Analyzer.



**Fig. 1.** The Alaska Toolset

The Alaska Simulator including a test configuration, extensive documentation and screencasts can be downloaded from <http://www.alaskasimulator.org>. The Alaska Configurator and the Alaska Analyzer are available to interested parties upon request.

## References

1. Weber, B., Reijers, H.A., Zugal, S., Wild, W.: The Declarative Approach to Business Process Execution: An Empirical Test. In: Proc. CAiSE '09. (2009) 270–285