

# Signavio-Oryx Academic Initiative

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## 1 Background

Since 2007 we have seen increasing interest in using the Oryx process modeling framework<sup>1</sup> by academics. Many universities already use the platform in teaching to model, analyze, and simulate processes. While many courses focus on BPMN, also Petri nets and EPCs are used, all of which are supported by the system. The *Signavio-Oryx Academic Initiative* (SOAI) is a joint project of academic and industrial partners that aims at providing a mature process modeling platform and teaching material for researchers and lecturers, free of charge<sup>2</sup>.

The SOAI builds on the technical foundation of the Web-based process modeling tool Oryx, an open and extensible platform for business process management [1]. Following recent trends in application design and delivery, SOAI offers comprehensive features for process modeling and management in the fashion of Software as a Service, superseding those of Oryx. Both, application logic and model data, reside on the Web: The modeling environment runs in a standard Web browser; each model is identified via a URL and can be obtained in different representations, e.g. pdf, xml, svg, and png. Thus, models can be shared by reference, i.e., bookmarks. This contributes to collaboration, since several modelers work on the same resource, rather than on copies. For each model a complete version history is available.

Signavio is a startup company from members of the Business Process Technology group at Hasso Plattner Institute. The Signavio Process Editor is a commercial process modeling and analysis tool that is based on Oryx. The company hosts, supports, and maintains the technical platform of the SOAI.

The initiative further comprises a team of academic partners: the Stevens Institute of Technology in Hoboken (USA), the Technische Universiteit Eindhoven (Netherlands), the Queensland University of Technology in Brisbane (Australia), the Universität Stuttgart, the Humboldt-Universität zu Berlin, and the Hasso Plattner Institute, Universität Potsdam (Germany). Together, we strive to promote the platform and contribute to a high quality body of teaching material and tools in the BPM field.

<sup>1</sup> cf. <http://oryx-project.org>

<sup>2</sup> cf. <http://www.signavio.com/academic>

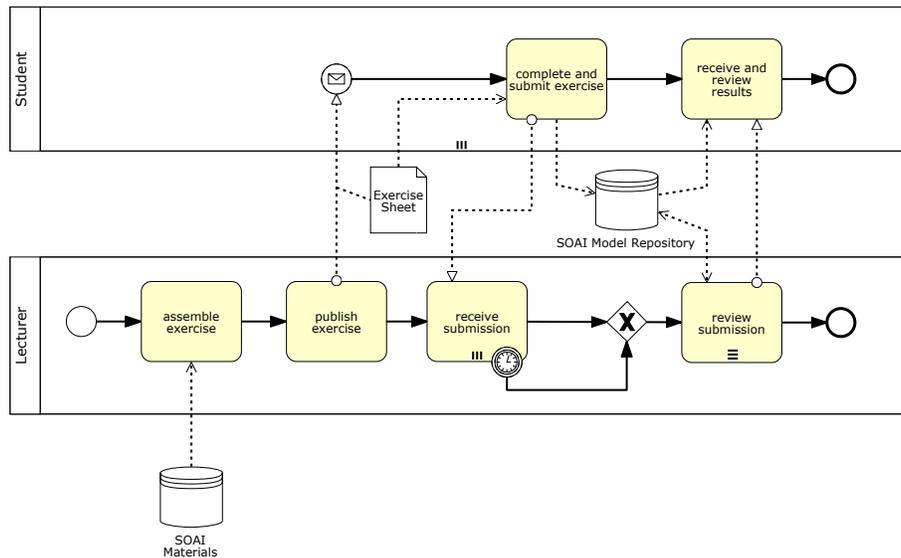
## 2 Use Cases

The Signavio-Oryx Academic Initiative has been established to support researchers and lecturers in their work, and thus, provides assistance in lecture assignment management and team-based collaboration.

### 2.1 Lecture Assignments

In university curricula, specific subjects, e.g., business process management, are held as self-contained courses or embedded in programs of broader scope, e.g., Requirements Engineering. Students attend lectures and refer to textbooks; however, practical experience and relevant exercises are essential to master a subject.

The SOAI platform provides a means to conduct practical exercises, illustrated in Figure 1, through a comprehensive set of resources and tools. A lecturer assembles an exercise sheet from a set of assignments according to their needs. The SOAI provides a collection of freely available exercises to use or inspire the lecturer in this task. Typically, the exercise sheet will be distributed electronically to students.



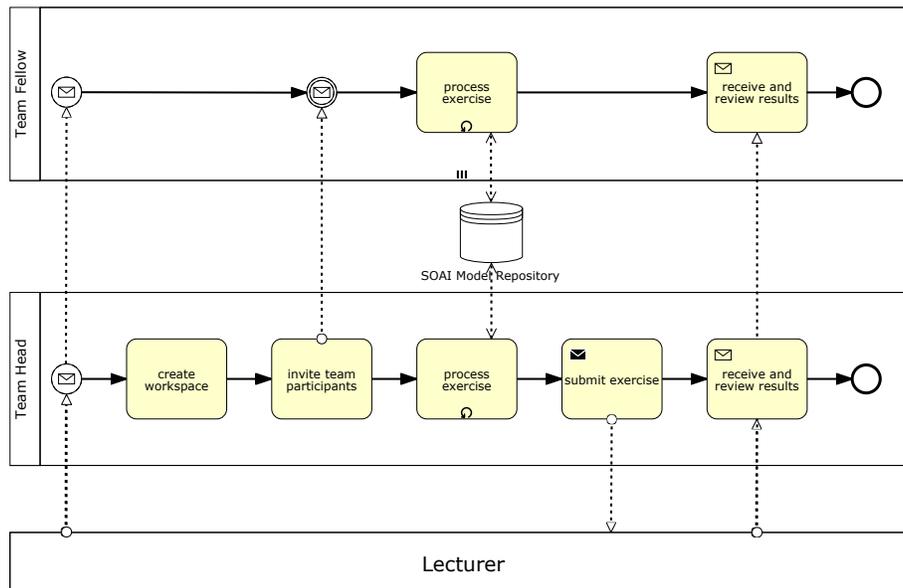
**Fig. 1.** Use Case: Lecture Assignment Management (BPMN 2.0)

Instead of downloading a tool, solving the assignments, exporting, printing, and handing in the results on paper, students solve the assignment in the Web-based process model editor of the SOAI—the model will be saved online and is

accessible via a Web browser. Upon completion of their assignments, the students submit their results by inviting the lecturer to review their results online, granting them access to read and comment on the diagrams. The lecturer gives feedback on the solution of the assignments by appending comments to models and model elements, pointing to exemplary solutions or flaws therein.

## 2.2 Team-based Collaboration

In addition to inviting people to review and comment on the diagram, the SOAI platform offers workspaces for collaboration. A workspace is a virtual directory that enables multiple people in different locations to collaborate on a common project and develop models together. A version history prevents lost updates and offers insight into the evolution of process models over time.



**Fig. 2.** Use Case: Team-based Collaboration (BPMN 2.0)

Figure 2 shows an extension of the previous use case: Rather than solving assignments individually, students form teams to submit a collaborative solution. Thus, the multiple instance pool *student* from Figure 1 has been split into a *team head* and several *team fellows*. Upon reception of the assignment sheet by each of them, the team head creates a workspace and invites his fellow students, thereby granting access rights to edit the models in the workspace. After jointly working on the diagram—manipulating it and reviewing it by means of the discussion

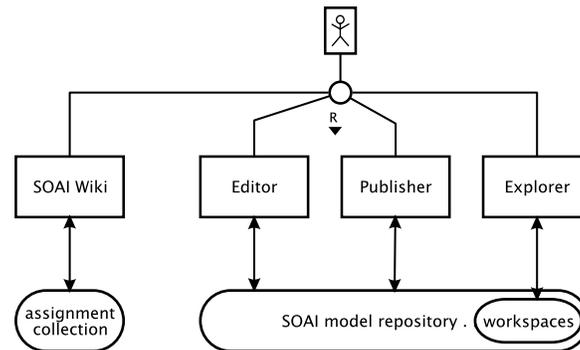
feature—the team head submits the results to the lecturer, by inviting them and sharing read access to the models. Again, all participants receive the review results from the lecturer in due course.

### 3 Platform Overview

In the last eight months, i.e., from the platform’s launch up to the time of writing this paper, the Signavio-Oryx Academic Initiative has received broad interest among academics. More than 1000 persons from 250 universities are using the platform regularly, and over 3500 models have been created.

#### 3.1 Architecture

The SOAI platform comprises, at a high level, two components: the lecture material collection and the modeling tool, which in turn consists of a model editor, a model publisher, and a repository explorer, cf. Figure 3.



**Fig. 3.** SOAI Platform Architecture (FMC)

*Assignment Collection.* As already stated in the first use case, the initiative offers a body of exercise material with a particular focus on topics in business process management. The assignments are maintained in a wiki<sup>3</sup> that is accessible publicly and are provided for non-commercial use under the terms of the Creative Commons license<sup>4</sup>. The wiki contains further information and references towards the field of BPM and use of the platform.

<sup>3</sup> cf. <http://bpt.hpi.uni-potsdam.de/SignavioOryxAcademicInitiative/>

<sup>4</sup> i.e. *Creative Commons Attribution-Noncommercial-Share Alike 3.0 License*

*Editor.* The model editor of the SOAI is, in its basics, the Oryx Editor [1], which has been adapted to fit the initiative’s setting and to satisfy high quality requirements. Work from many contributors has made its way into the platform and is offered to the users, as will future developments, especially with regard to new scientific features and modeling languages. By offering the platform to a broad audience, we also hope to exchange new inspiring ideas and encourage academic and scientific institutions to participate and contribute their work to the platform.

*Publisher and Explorer.* Signavio provides the technological basis for the initiative to run, including the hardware infrastructure, provides continuous maintenance of the platform, and further contributed additional features for collaboration and model management to the initiative.

The model explorer provides general functionality to load and store models in the repository, as well as a rich set of tools to report, export, and augment stored models. It is also the basis for managing workspaces and granting access rights to view, comment, and edit diagrams of other users. The publisher offers a perspective to browse through revisions of a process model and attach comments to certain model elements or the model as a whole. This feature is designed to enable discussion at a fine grain right on the model, rather than in separate forums.

## 4 Conclusion and Outlook

The Signavio-Oryx Academic Initiative is an alliance of a number of BPM research groups and industrial partners, offering a comprehensive platform for teaching, including tools to conduct collaborative assignment processes, as well as a collection of exercise material and related information.

We envision that the usage of the platform yields a large process model collection that can be used for empirical research in modeling sciences in general, and business process management in particular. The samples promise to include a wide variety of expertise levels, and we envision a comprehensive collection of process variants, e.g., through relating models to assignments.

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## References

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