

EUNIS 2017: System level optimized planning using SAFe and Big Room Planning

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1. Summary

In order to improve the development and release processes for the Swedish national admissions system we have introduced concepts of the SAFe framework for development with parallel teams. This has resulted in better transparency and predictability internally as well as externally.

2. Background

2.1. The Swedish Council for Higher Education (UHR)

The Swedish Council for Higher Education is a government agency whose responsibilities span across the education sector. Swedish higher education institutions has contracted us to manage admissions and to supply them with an admissions system. As a result, we possess detailed knowledge of admission regulations.

More information about UHR is available at <http://www.uhr.se/sv/Information-in-English/>

2.2. The NyA Admissions System

Virtually all Swedish universities and colleges uses the NyA system for admission to undergraduate courses and programs.

The process is highly automatized and practically all applications are made through the applicant user interfaces Antagning.se and Universityadmissions.se.

The system has been in operation for 12 years in 2017. Modernization has always been an issue and will especially be so the coming years as we adapt to major regulatory, administrative, environmental and technical changes. Business as usual.

3. Meeting the challenges - optimizing investments in system development

3.1. The challenge

We have been using agile system development methods for the further development of the NyA system since 2012 with very good results but by time, it has become more obvious that team priorities has diverged. In agile development, the backlog is the main planning tool and as all teams has their own there is always a synchronization problem. We needed a shared system backlog.

In 2015, the development organization consisted of six different teams of five to eight developers and with one product owner each. The team and their product owner were focused on one of a number of user categories.

The system on the other hand is still a monolithic administrative application with a single, shared, database supporting a common, complicated, business process. Obviously, the risk of inter team disturbance needs to be addressed.

The six independent teams have increased the quality of the deliveries and given a better focus on the needs of the users of the system. The downside is a tendency to sub-optimize planning on the

team level; what is important for the one single user group is not necessarily most important on the system level.

Another problem was the lack of transparency and predictability for each delivery of the system; this made introduction of new releases to the business organization difficult.

We have a three-year strategic plan, updated annually, and a yearly budget for development. It has been difficult to connect these to the different team backlogs and Jira Items.

Development accounting was also a challenge as it was based on unstructured lists of maintenance and improvements.

3.2. Method

We have chosen to try parts of the Scaled Agile Framework, SAFe. System level planning requires good communication within the development organization and Big Room Planning (BRP) is a way to involve everybody.

Our goal with SAFe was to structure our planning process, which we have done by introducing:

- Programme increments consisting of three three-week sprints each
- Big Room Planning as a model for the Programme Increment planning session
- Features and Enablers, expressed as development packages in our implementation
- System demos
- Continuous integration

Goals and budgeting are expressed as a road map consisting of a list of focused initiatives. The road map also gives a context to the development and facilitates communication with stakeholders.

We have also made some organisational changes to the team/product owner structure in order to facilitate a more comprehensive view of the system.

3.3. Results and lessons learnt

SAFe concept of programme increments, feature focus and system level prioritizing has resulted in improved predictability thanks to higher transparency internally and externally. It has also resulted in a clearer structure between the development and the strategic planning.

The SAFe model is based on the presumption of product management leadership, top-down, setting goals and objectives. Our development is more bottom-up, where teams and product owners identifies business needs. We have solved this by adding a pre-planning session where product owners and team representatives agree on goals and a tentative plan for the increment.

The Big Room Planning model is efficient when applied to major changes of the business process, when there is an overall larger business need that is too big for one team to handle or when changes affect large parts of the (monolithic) system.

Major advantages with BRP includes

- Creates internal transparency, all participants gets all information
- Improves collective problem solving and builds a “we”
- Enables acceptance and a culture of commitment
- Promotes a culture of information sharing and collaboration

Release management participates in the Increment Planning process and release staff is in continuous contact with the development teams thus improving the release planning process.

All in all this has resulted in a better and more agile development planning process as well as an improved ability to release new functionality to our users.