Assignment 2

Views and Viewpoints

Författare: Helena Tevar
e-mail: ht222fd@student.lnu.se
Examinator: Jesper Andersson
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1 Stakeholders and concerns

Business Manager

- Financial performance (H-M)
  - Meet financial objective planned in the budget
- Organization Growth (H-M)
  - Create a system that may be used in different context and will be included in the catalogue of services from the consulting firm
- Schedule (M)
  - Aim to reach the schedule planned to take advantage of the time to market.

Customer

- Security (H)
  - Authentication
    - The system will resist no registered logins
  - Authorization
    - Users must have a role that constrains their access to certain functionalities
    - Only judges will be able to submit rates for the meets
- Usability (M-L)
  - Customer Experience
    - Users can reach any functionality of their role in a range of [1-3] clicks.
    - Judges become proficient using the scoring functionality in one day
- Information Assurance (M)
  - The customer wants a database where the information about off-on season scores are saved

The **project manager** (PM) has concerns shared by business managers, especially those related with budget and schedule. Apart of those:

- Performance (H-M)
  - Critical dates
    - The system must be able to manage an increase of events during the days that meets are planned.
- Availability (M)
  - The system must recover in case of fault in less than 30 minutes
- Variability (H-M) related to Organizational Growth
  - Abstraction
    - The system must be abstract enough so it can be used in different contexts
- Modifiability (H-M)
  - New User Stories
    - The system must be designed to include possible modifications from the customer

Developers

- Implementation (M)
    - The system must be designed and documented to allow an ease maintenance

	Security	Budget	Variability	Modifiability	Performance	Schedule	Persistance	Availability	Implementation	Usability
Customer	Cases view	Budget view		Syst. decomposition		Schedule View	Allocation View			User Manual
BM		Budget view				Schedule View	Allocation View			
Architech		Budget view	Layered view	Syst. decomposition		Schedule View	Allocation View		Implementation view	
PM	Security View		Layered view	Syst. decomposition	Performance View	Schedule View	Allocation View	Exception view	Implementation view	
Developers[1]	C&C Security View		Layered view	Syst. decomposition		Backlog View	Database View		Behavior View[1]	

[1] The developers are a group that include subgroups of stakeholders, resumed here to facilitate this assignment. Behaviour views would be preferable divided views for groups as maintainers, testers or implementers (even implementers would be divided in team groups).

2 Views

2.1 Views organization

Name	**Project Summary**		
Audience	Customer, Business Manager and technical staff	Technical Level	Low
Models	Use Case diagram Decomposition model Schedule Budget		
Summary	General overview of the system in high scope that shows general schedules and budget for the project as well as use case diagrams and a general decomposition model.		
Name	**Implementation view**		
Audience	Business Manager and Technical staff	Technical Level	Medium
Models	Implementation Diagram Deployment Diagram		
Summary	Description of the different components of the system in a implementation diagram and a description of the hardware required for the deployment of the system.		
Name	**Security package view**		
Audience	Architect, Project Manager, Security developers	Technical Level	High
Models	Security use case diagram C&C security model Authorization Sequence diagram		
Summary	Description of the functionalities required for the security concern, a structure module that will define this package of the system and a diagram for the authorization service.		

2.2 Viewpoint description

Each view is organized in the structure below.

- Title
- Overview
- Audience
- Presentation
- Catalogue[2]
    - Concerns
    - Elements
    - Context

[2] For each model

2.3 Project Summary

2.3.1 Overview

This view shows a set of views that conform a summary of the system for general, no technical, audience. In this view will be explained the economic aspect of the project, the schedule planned for iterations and releases, a use case model that allows non-technical stakeholders to have a visual representation of the different user stories and a general decomposition of the system that allows for planning and budgeting.

This general representation will be useful for initial iterations of the projects and will help technical and non-technical stakeholders to grasp possible modifications and alterations.

2.3.2 Audience

This model will be used by technical and non-technical stakeholders that have an interest on functionalities in the system, as customers and Business Managers, and for that reason should not be technical. Other stakeholders as Project Managers and Architect may use it as well for future planning and design.

2.3.3 Primary Presentation

The elements used in this view will be:

- Use case diagram
- Decomposition model
- Schedule – Timetable
- Budget – Costs diagram

2.3.4 Element Catalogue

2.3.4.1 Use Case Diagram

Concerns: This diagram shows how will be referred in the system the usability and customer experience of the users and customer, as well as planning the schedule and implementation.

Elements: The diagram will show how different users affect the system and how the system will answer to those stimuli in different use cases.

Context: This diagram will help technical stakeholders to visualize functional requirement and provides a high-level analysis for the customer and BM.

2.3.4.2 Decomposition Model

Concerns: A decomposition of the system will help to ease possible modifications of the system, will help to predict the cost of the system and ease the PM to create groups of developers assigned to different parts of the system. It is useful to find missing concerns and it is a good visualization at early stages.

Elements: This diagram will be a high-level representation of the system with modules and their relations. It is mean to be a general blueprint of the system that will be elaborated in specialized views.

Context: The display of the whole system will help to visualize concerns such as groups of developers, artefacts and such. This will be used for budget planning and maintenance planning. There is a concern for possible changes. This diagram helps to manage that concern.

2.3.4.3 Schedule Model

Concerns: This model will help all the stakeholders to get information about spring dates, meetings and possible release dates.

Elements: This model will show a planning timetable with a backlog of user stories.

Context: Changes in schedule are meant to change important sections of the project, as budget or concerns. If the project is meant to be released by certain date, priorities and budgets must adapt. The BM must plan their actions around budget and marketing, as well as the PM must coordinate their different teams to reach the deadlines.

2.3.4.4 Budget model

Concerns: This model is presented as an overview of the financial concerns and will help to foresee and analyse the economic performance of the system.

Elements: This model will show the economic aspect of the system, costs and possible risks, in a visual and mathematical way.

Context: The cost may affect the implementation of the system or the schedule. This model included in the view will help to anticipate and prepare to possible faults or changes.

2.4 Implementation View

2.4.1 Overview

This view provides information about how the system will be structured and designed by using more technical and extensive models. It is meant to be a tool for technical stakeholders that are going to work within the implementation, testing and maintenance of the system.

This view has combined an Implementation view with a deployment view. Those topics are related, and the same stakeholders are interested in them. The combination of both will give a wider approach to the teams. This view is not mean for specific descriptions nor behaviour.

2.4.2 Audience

The main audience of this view are Architects, Project Managers as well as developers, included implementers, testers, maintainers and such.

2.4.3 Primary Presentation

- Implementation Diagram
- Deployment Diagram

2.4.4 Element Catalogue

2.4.4.1 Implementation Diagram

Concerns: This view will be used to design with modifiability and availability and will help to ease the implementation.

Elements: The implementation diagram shows the layers the system will include, from a presentation layer down to business and persistence layer. Each layer will count with several components needed as structure of the system. The diagram will also show the relations that modules have with each other's to show how the communication between layers works.

Context: Layered architecture allows an easy testing and development of systems, which was a concern by our developers. This model will add more information than a general project overview without losing a high-level perspective. In case of need of more specific documentation, new views will be provided for our stakeholders.

2.4.4.2 Deployment Diagram

Concerns: This view will be used to visualize the physical components of the system, as needed to the design in performance and maintainability.

Elements: This model will show a topography of the hardware that will be used for our application deployment. It will show nodes as modems, servers and their relationships.

Context: This diagram works together with the implementation diagram such as developers can get documentation about the hardware used for this system and by

that, which constrains are they tied to. Moreover, deployment diagrams will help maintenance staff to keep updating and expanding the system accordantly.

2.5 Security Package View

2.5.1 Overview

This view shows graphical aid to the teams assigned to the security package. The documentation will be technical and talk about the security functionalities implemented during development and documented for further maintenance. The first models show the structure of the security package and the last one shows the behaviour of the different services provided and needed by this package.

2.5.2 Audience

Team of implementers, testers and maintainers, technical staff that requires information about services provided or needed by this package are the main audience of this view.

2.5.3 Primary Presentation

- Security Use Case diagram
- C&C security model
- Security Sequence diagram

2.5.4 Element Catalogue

2.5.4.1 Security Use Case diagram

Concerns: This diagram shows security aspects in relation with the customer experience. The information provided should ease the implementation.

Elements: The diagram shows the end users of the system in relation with their roles in different groups, as team leaders, coaches, gymnast or referees and the functionalities they can access by role.

Context: The audience for this model must understand without a doubt the different user role and their access to different functionalities. It is critical that the team responsible of this subject is sensible to the rating functionality, only judges must be able to access it.

2.5.4.2 C&C Security Model

Concerns: This model will provide for the concerns of security and modifiability. It will help developers to build and maintain a structure and plan the behaviour as well as design the services provided to be used in other contexts.

Elements: The diagram shows several components from the security package, their relations within the package and its ports. Ports will communicate with other packages by providing and receiving services.

Context: This model aims to provide information about in internal design of the package and its connexions with other packages and layers. At the same time, it is abstract enough to plan for a future abstraction to a different system, adding this

functionality to the library of standards from our business, saving in budget and time for future projects.

2.5.4.3 Security Sequence diagram

Concerns: Maintenance require that our system implementation has been designed and architected with care. By using a behaviour diagram in this view, the possible modifiability and maintenance will be eased. This functionality is predicted to provide service to different modules and for that should be extendedly documented.

Elements: This sequence diagram shows the system's behaviour of authorization, its classes and instances.

Context: The Project Manager will use this view in order to plan possible modifications, as well as the maintainer will use it in future changes of roles.