Software Requirement Engineering & Product Management

Boat Dock App

Group # 4

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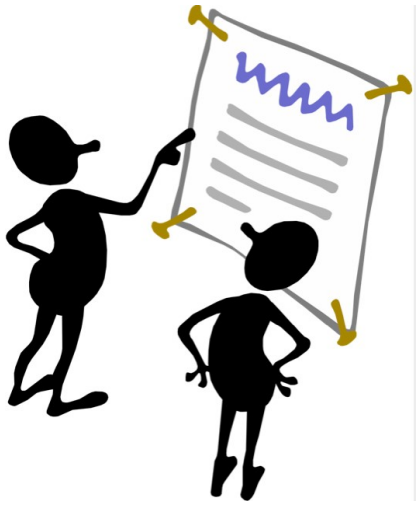
Agenda

- Introduction
- Proposal
- Product requirement
- Elicitation and technique
- Requirement Specification technique
- Requirement Prioritization
- Release Planning
- Learning objective with RE course
- Q & A
- End



Introduction

- The proposed Boat Dock App management system will provide customer and moor owner to publish advertisement and moor dock place for customer.

- The user need to publish Add, search advertisement, browsing the moor catalogue and ability to complete mooring hiring online with payment system.

Karlskrona Boat Docking Sites

Scope

- This system is an interactive web based system that support the marketing of location based Boat mooring and hospitality industry of Sweden and Nordic region.

- The system support directly redirect customer to mooring dock and its existing company sales agent network.

Functionality of Boat Mooring App

- Possibilities to registration boat with length, width, height.
- Search for the area for moor and must be specified price, distance time date and length, width and depth if not registered.
- Show available alternatives that are compatible with boat.
- Information about the mooring price ,distance, revenue.
- Costumer option to review the experience with rating.
- In App Payment via various gateways.
- System should be secure with login with two factor authentication(OTP via SMS/ Email).
- Chat Option between Mooring Owner and customer .

Specification for the BoatDockApp.

- **Stakeholder Identification and analysis:** we lists the client for development the system. List of all stockholders and the group of interest of importance.

- **Requirements Elicitation Techniques:** we lists the requirement elicitation techniques that you used and brief summary of particular technique.

- **System Requirement:** here requirement at different levels domain and product design with data functional and quality in each level.

Goals of Boat Dock App

- The system shall allow for online rent a mooring place either by customer or sales agent moor owner. This will eliminate the current delay between their decision to customer and the location owner this will reduce the time.

- Mooring place detail and description update within 30 seconds of the database being updated by the product owner. This will reduce the number incorrect location with Google Map API and this will also eliminates the redundant update of customer information.

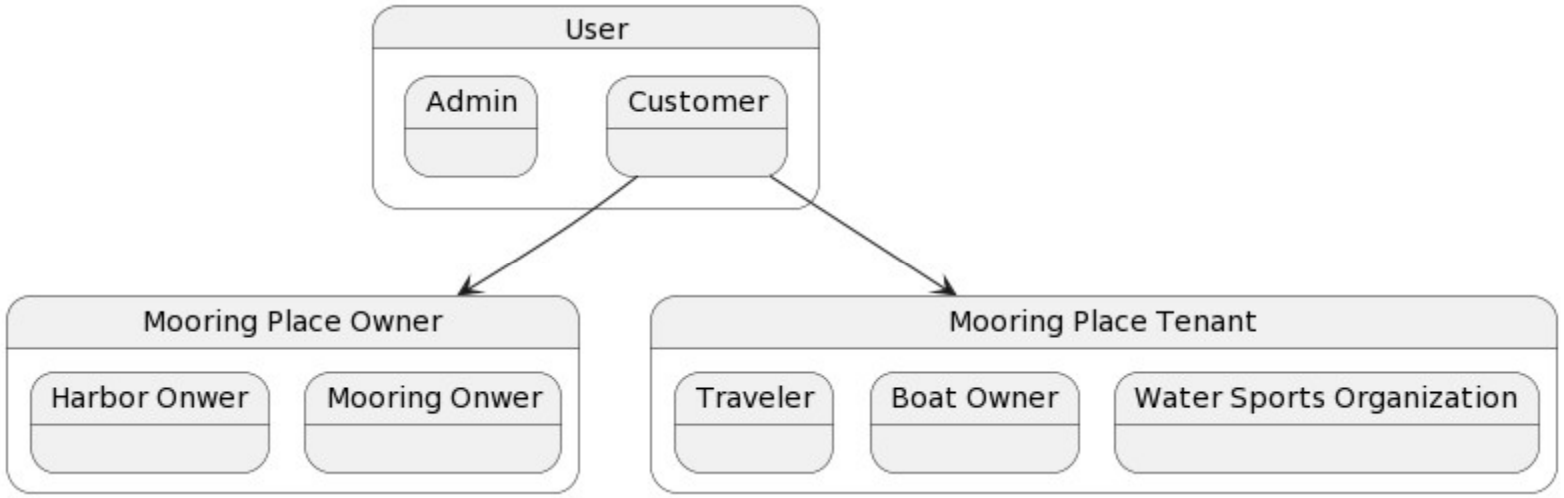
- The system shall display all information of location, mooring place and price and other facilities associated with company. This feature will improve service by reducing the mean number of web pages a user must navigate per session to 10000 / user.

- The system allows ABC Company to view all owner of moor location. An customer / moor owner should able to contact to ABC company in one call/email to save time for correct any information.

- The system should provide accounting with actual amount of transaction. This will improve the customer service reducing billing complain by 100% in correcting inaccurate account. Reports facilities provide for future uses.

- The system provides accurate location and places and agreement details so this will allow the order to be processed in intently and details updated within 10 seconds

Stakeholder Identification & Analysis



Requirements Elicitation

- Elicitation Technique 1 (Observations):
- Elicitation Technique 2 (Interview):
- Elicitation Technique 3 (Brainstorming):
- Elicitation Technique 4 (Reverse brainstorming):

Elicitation Technique 1: Observations

- Understand the initial proposal of the system and through inspection observed the system

- Made a general user standing of the system before conducting first interview

Elicitation Technique 2: Interview

- Interview 1
  - Elicit initial requirements
  - Understanding the business flow of the system
  - Discussion about main features

- Interview 2
  - Feedback about our SRS
  - Discussion about functional and non-functional Requirements
  - Discussion about prioritization and release planning

Elicitation Technique 3: Brainstorming

- Conducted the interview and refined the requirements and process.
- Discussion about the problems we could face in application (3rd party integrations)
- Understand the possible solutions we could use in the application

Elicitation Technique 4: Reverse BrainStorming

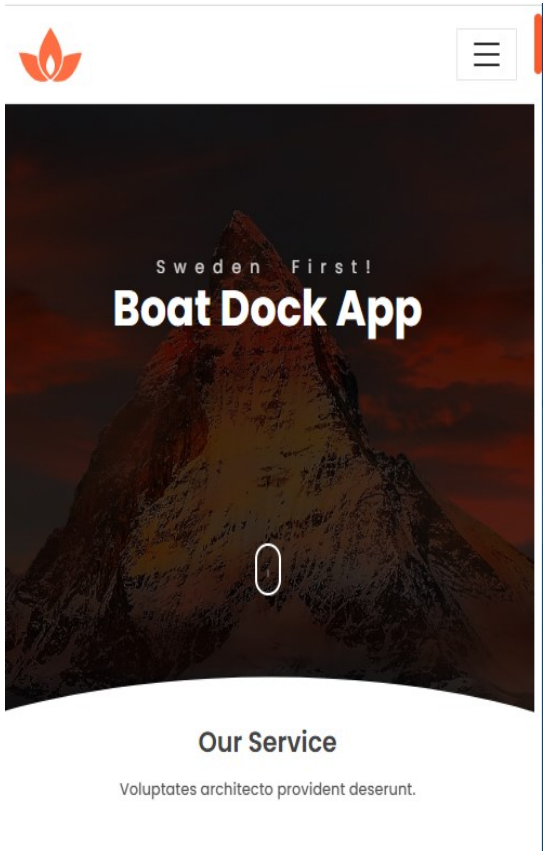
- Conducted the interview and refined the requirements and process.
- Discussion about the problems we could face in application (3rd party integrations)
- Understand the possible solutions we could use in the application

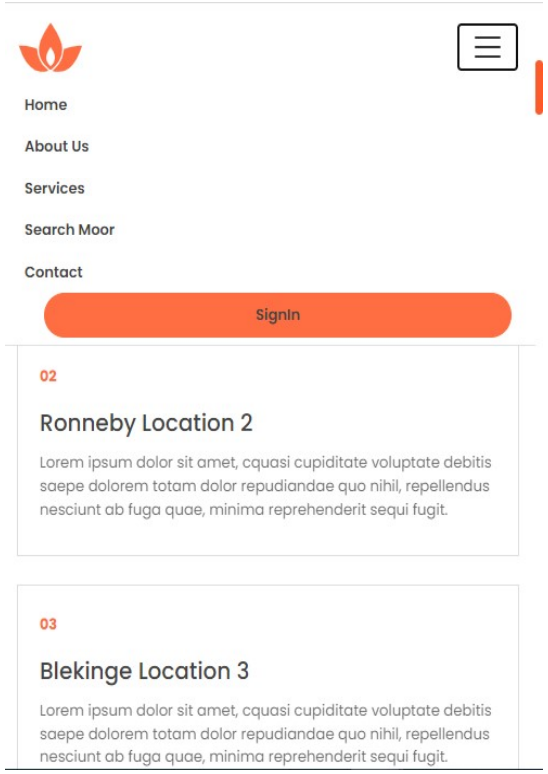
Requirement Specification

- Requirement Specification:
  - Domain level Requirements
  - Data Requirements
  - Functional Product level Requirements
  - Quality Requirements

- Techniques Used:
  - Screens and Prototypes(Functional product level requirements)
  - Task descriptions (Functional product level requirements)
  - Use cases (Functional product level requirements)
  - ERD Model (Data requirements)
  - Data Dictionary (Data Requirements)
  - QUPER Model (Quality Requirements)

BoatDockApp Mocks (Prototype)
Responsive Design





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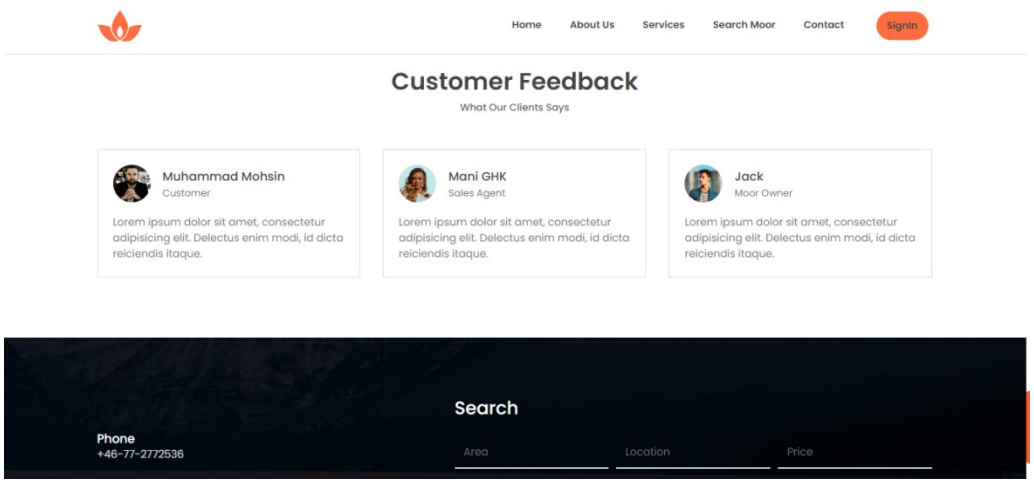

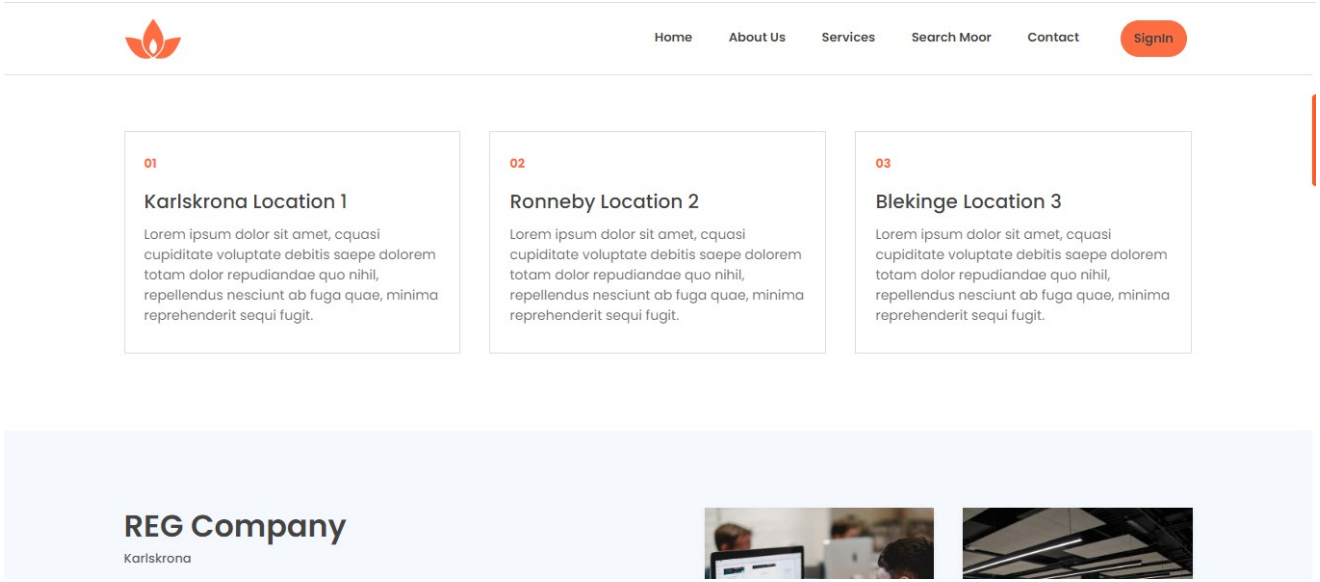

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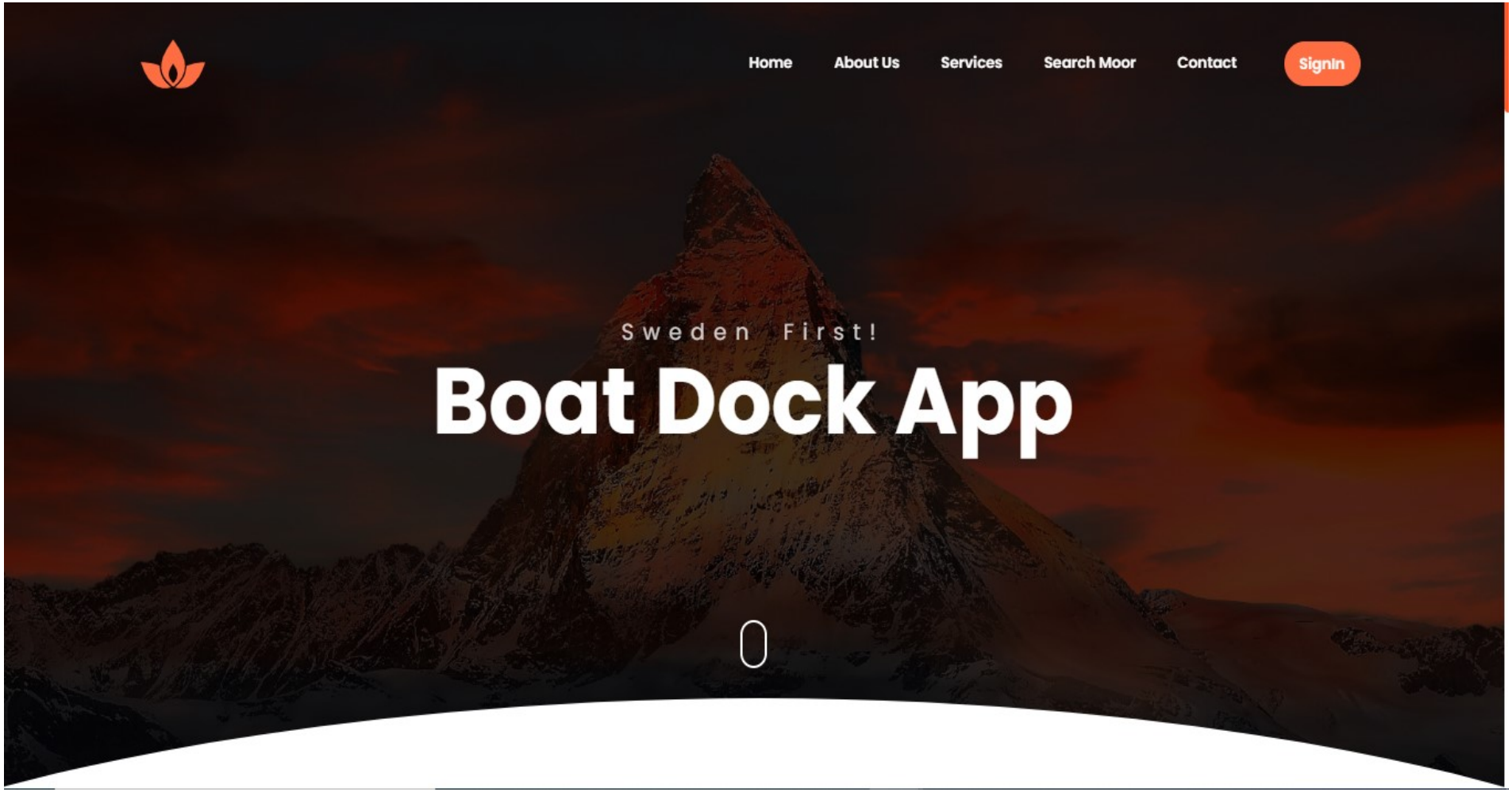


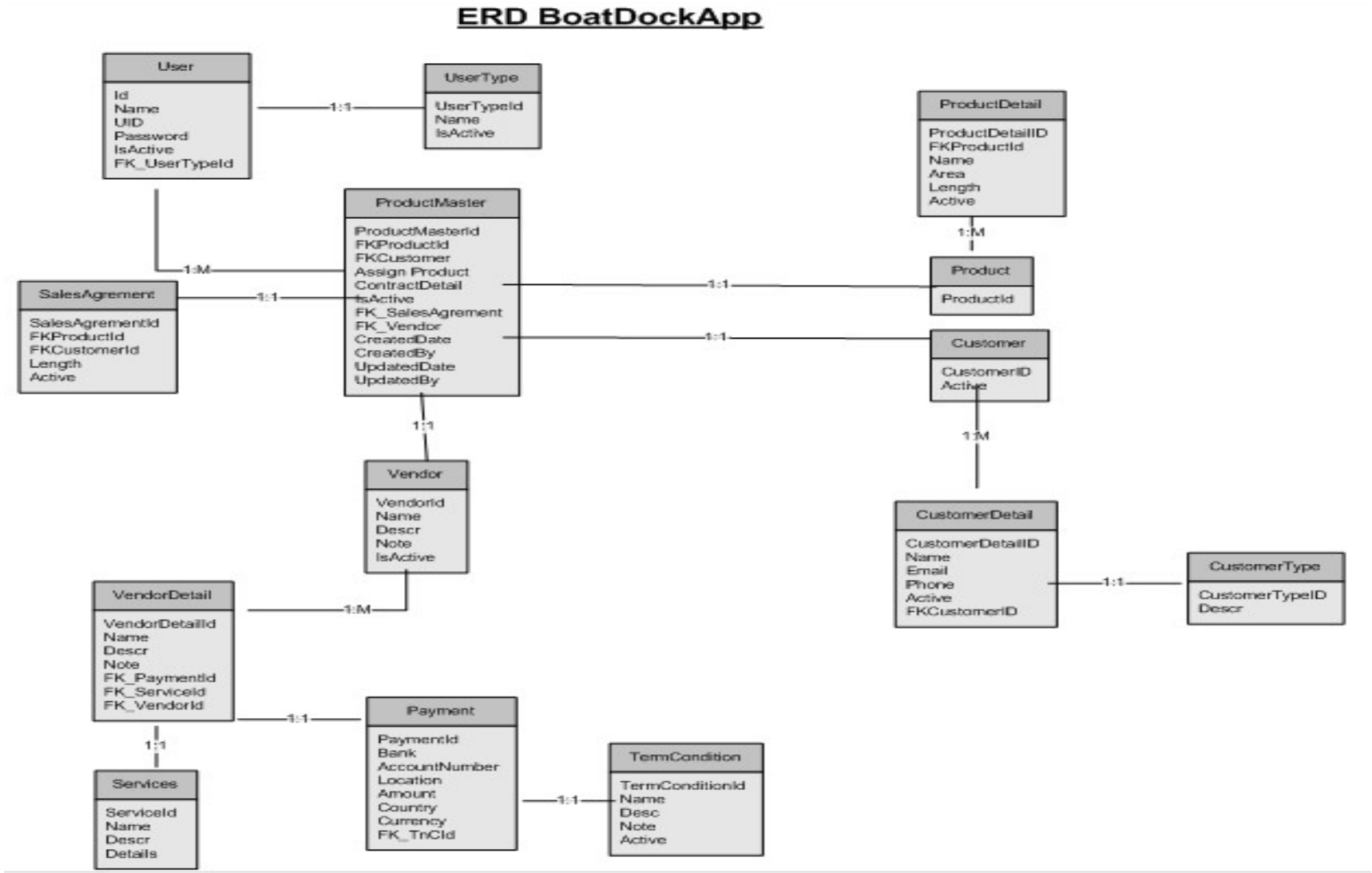
Task Descriptions

Task Name: 1.1 Registration
Purpose: Registered customer to Mooring App **Trigger:** **Precondition: customer looks to mooring boats and registered first** **Frequency: 0.6 customers / minute (customer use the application)** **Critical: user already exsist/ user block /account marked suspecious**
Sub-tasks: **1) Registered to application** **2) Gives personal information** **3) Geographical information**
Variants: **1) User already exsist** **2) False information** **3) Authentication not confirm**

Use Cases

Use Case Name	1.1 Customer Registration
Brief Description	Customer/user registered to applicaiton / login to App
Actors	Customer/ Moor Owner/ client
Precondition	User need user id and password to access the App
Basic flow	1)Customer download the applicaton 2) Customer registered to application by providing user email / password 3) Cusotmer recieved confirm
Alternative flow	1)Customer call to Support 2)provide information and registered.
Exit conditions	Logout from application

Entity Relationship Diagram



Data Dictionary

Table	Users	
Schema		
Responsible	For storing different type of users	
Columns		
Column	**Data type**	**Description**
id	Integer	Unique entity. Primary key for Users. Foreign key used in user and customer details
Name	varchar(40)	Name of the user
Address	varchar(80)	Address used in location
User Role	ENUM(customer, admin)	Define user role. If role is customer used in customer table
Date of Birth	Date	Date of birth in yyyy-mm-dd format
Id card Number	varchar(13)	Unique identifictaion of the country
Gender	ENUM(Male,Female, Do not specify	Gender of a customer
Total Boats	Number	No of boats user wants to register
Boat dimensions	int Array[Array[3]]	Integer 2 d schema stored in database for wtoring length, width and height of the boats
Nationality	ENUM(Swedish, Nowergian, Danish	Nationality used in terms and conditions as a foreign entity
Email	varchar(40)	Verified Unqiue Email for logging into the system
Password	varchar(30)	Password for logging into the system

QUPER Model

Creation:

- **Quality Aspect:**
- **Performance:** System response time for each page (5 Sec)
- **Reference list/ competitors**
- **Canal & River Trust: (**Take 2 sec)
- **Quality Break points**
- **Utility:** 4 Sec: All page load time
- **Differentiation:** 3Sec : Filtration activate
- **Saturation:** 2sec: Mooring Place booked
- **Barriers**
- **Steep cost: 5 sec:** payment system
- **Steep Cost: 3 sec**: new architecture
- **Target**
- **Good: 3 Sec:** This target is possible to create an own payment system without using third party service.
- **Stretch: 3 Sec:** If new S/w Architecture is feasible.

Requirement Prioritization

- We used 2 techniques for requirement prioritization
  - MoSCow technique
  - Priority Group

- We have stakeholder which requirement are prioritized
  - Mooring place owner
  - Travelers/boat owner

MoSCow Technique

- Must Have
  - Mooring place owner must have functionality to:
    - View the requests of tenants for mooring place
    - Chat with the applied tenants for the mooring place
    - View and give mooring place to applied tenant
  - Traveler, boat owner must have functionality to:
    - Search the mooring places using keywords in search words
    - Search the mooring places by getting the current location
    - Apply to rental mooring place
    - Able to register the into the system
- Should Have
  - Mooring place owner must have the functionality to:
    - View the total revue generated by the application
    - View the profile of the applied tenant
  - Traveler, boat owner should have the functionality to:
    - View the previous rating of the place

MoSCow Technique (Contd.)

- Could Have
  - Traveler, boat owner should have the functionality to:
    - View the previous rating of the mooring place
    - View restaurants and hotel near the mooring place
  - System Admin, ABC Company should have the functionality to:
    - View the total number of registered users in the system
    - View the user by categories (tenant, mooring place owner)
    - Login into the system
    - Modify ads through admin dashboard in the system
- Would have
  - System Admin, ABC Company should have the functionality:
    - Categorized users in by mooring owners and mooring place tenants
  - Traveler, boat owner should have the functionality to:
    - Rate the mooring place and services after the rental agreement is finished
    - Also interact the application through an mobile application
    - Set alerts of nearby newly opened restaurants
    - Set alerts of discount in nearby restaurants

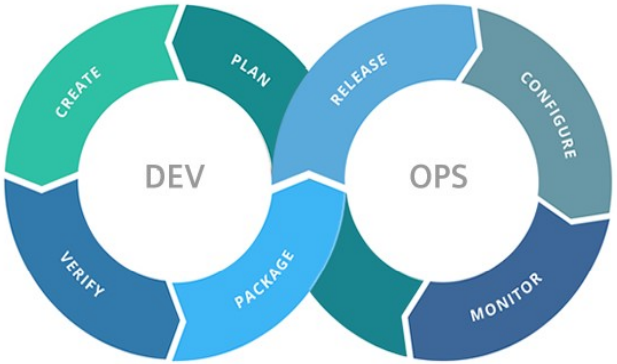
Priority Group

- Divide the requirements into High, Medium and Low
- Important stakeholders requirements are added in High category

Priority Level	Requirement
High	• Mooring place owner must have functionality to View the requests of tenants for mooring place • Mooring place owner must have functionality to Chat with the applied tenants for the mooring place • Mooring place owner must have functionality to Promote the mooring place by payment to the system • Travelers/boat owners must have the functionality to Apply to rental mooring place • Travelers/boat owners must have the functionality to Able to register the into the system
Medium	• Mooring place owner must have the functionality to View the total revue generated by the application • Mooring place owner must have the functionality to View the profile of the applied tenant • Travelers/boat owners must have the functionality to Search the mooring places using keywords in search words • Travelers/boat owners must have the functionality to Search the mooring places by getting the current location • Traveler must be able to View the previous rating of the place • System Admin, ABC Company should have the functionality to View the total number of registered users in the system • System Admin, ABC Company should have the functionality to View the user by categories (tenant, mooring place owner) • System Admin, ABC Company should have the functionality to Login into the system • System Admin, ABC Company should have the functionality to Modify ads through admin dashboard in the system
Low	• View the user by categories (tenant, mooring place owner) • Login into the system • Modify ads through admin dashboard in the system • Traveler, boat owner should have the functionality to Rate the mooring place and services after the rental agreement is finished • Traveler, boat owner should have the functionality to Also interact the application through an mobile application • Traveler, boat owner should have the ability to Set alerts of nearby newly opened restaurants • Traveler, boat owner should have the ability to Set alerts of discount in nearby restaurants

Release Planning (Agile)

- Divided our product into 4 sprints
  - Deliver requirements of important stakeholders in the early sprints
- SIT Planning
  - Integration of the connecting with Bank API, outer systems
- UAT testing
  - First release plan (TDD approach)
  - After getting feedback, we move into production



Learning Outcomes

- Plan how to gather requirements from the stakeholders
- Learned about the requirement engineering standards
- Learned how to interact with customers and elicit and get feedback from them
- Grow our technical knowledge to design a product
- Learn to prioritize the requirements basis on which parameters
- Handle customer expectations and product management and finance negotiations

Questions and Feedback


Thank You!