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1 Introduction

1.1 Stakeholders

”A person who influences the product.”

Developers

Testers

Customer/Investor

End users/Players/

1.2 Customer

Helgelandskraft AS is a Norwegian power company engaged in the production, transmission and distribution of renewable energy. The company is owned by the 14 municipalities of Helgeland, and is based in Mosjøen. The production division is responsible for the development and operation of power production in 9 power plants. On a national scale Helgelandskraft is one of the greater? power companies, serving more than 44.000 customers.

Supplies whom?

It is the market division of Helgelandskraft that make up our customer, with Arild Markussen and Espen Skarsbø Olsen as our main contacts.

1.3 Project description

1.4 Project Scope

2 Project Directive

2.1 Methodology

2.2 Group Organization

2.3 Project Phases

2.3.1 Planning and research

2.3.2 Sprints

2.3.3 Documentation and delivery

2.4 Risk Management

2.5 Quality Assurance

2.5.1 Internal reporting/routines

2.5.2 Meetings (and interaction?)

2.5.3 Templates

Meeting minutes

Hour list

2.5.4 Phase Result Approval

2.5.5 Response Time Lines

2.5.6 Documentation and Code

2.5.7 Testing

Releases And Builds.

Unit Testing.

Functional Testing.

2.5.8 Task Reviewing and Inspection??

3 Preliminary Studies

3.1 Methodology

3.1.1 Development process

3.1.2 Conclusions

3.2 Game Concept

3.2.1 Power industry

3.2.2 The Process

The customer did not have a more specific idea of what the game should contain beyond what the project description told us. The product description says that the game should be focused around controlling power production from hydro plants through a power grid to the customers, but it could also be centred around something else as long as the theme of hydro power is kept. The conclusion in the first customer meeting, concerning the concept, was that most importantly it should be fun and something users would want to play. This led the group to a phase in which different options for a game concept were considered. The group's first idea was inspired by games that have a simple concept and interface, but that are still fun and addictive, as those games often turn out to be the most popular, e.g. Tetris and Candy Crush. In brief the first concept the group came up with was a simple, level based 2d game, where the goal is to serve all customers (nodes) with power produced from the power station (Helgelandskraft). The nodes are scattered around the screen, and the player draws a line from node to node without lifting his or her finger. There is not unlimited power, so the player needs to find the shortest path to deliver power to all nodes. If the power station runs out of power before every node is served, the player loses and needs to start the level from scratch. In the second customer meeting this idea was presented. The customer liked it, but was also unsure whether it was too abstract from what a power plant company actually does. The group then came up with a second concept with more basis in reality. Explained in brief the player is in charge of the electric utility in town and has the responsibility of supplying the inhabitants and local industry with electricity by building power plants and power lines.

When brainstorming for a second concept the group began to look to construction and management simulation games, as this could be a good way to present an industry and how it works.

Construction and management simulation games

Construction and management simulation games, hereafter called CMS games, are based on building, managing and expanding virtual communities or projects with limited resources. CMS games have been developed since the 1980s and continue to be popular to this day. SimCity, which was released in 1989 and is considered to be the first CMS game to be highly successful, has spawned numerous successors, the last one released this year.

Megapolis

One game that the group took a closer look at was the Megapolis game developed by Social Quantum for the iPhone and iPad. This is a construction and management simulation game in which the player builds his own virtual city. As the person in charge of the city the player needs to manage the finances of the city, provide it with water and electricity, and develop infrastructure such as airports and power plants. The goal is to keep expanding the city, unlock new tasks and rewards and build the most impressive city.

The group found a number of other CMS games when searching through AppStore and GooglePlay, but none in which power production and power supply were a major part of the game. This does however prove that there is an interest for games with elements of CMS.

Finding games with elements of power supply and production proved to be more difficult.

Power Grid board game

3.2.3 Similar game concepts

3.2.4 Conclusions

3.3 Mobile technology

3.3.1 Mobile platform

3.3.2 Crossplatform

3.3.3 Native

3.3.4 Conclusions

3.4 Mobile development

3.4.1 Native languages

3.4.2 JavaScript, HTML5, and CSS3

3.4.3 Frameworks

3.4.4 Conclusions

This is a very important conclusion!

3.5 Test

3.5.1 Testing cycle

3.5.2 Testing activities

3.5.3 Testing frameworks

3.5.4 Conclusions

3.6 Tools

4 Game Concept

5 Requirement specification

5.1 Functional requirements

5.2 Non-functional requirements

5.3 Use case diagrams

6 Game architecture

7 Test

8 Sprint 1

8.1 Sprint planning

8.2 Requirements

8.3 Implementation

8.4 Testing

8.5 Delivery

8.5.1 Planned delivery

8.5.2 Actual delivery

8.6 Customer feedback

8.7 Sprint retrospective

8.8 Evaluation

9 Sprint 2

9.1 Sprint planning

9.2 Requirements

9.3 Implementation

9.4 Testing

9.5 Delivery

9.5.1 Planned delivery

9.5.2 Actual delivery

9.6 Customer feedback

9.7 Sprint retrospective

9.8 Evaluation

10 Sprint 3

10.1 Sprint planning

10.2 Requirements

10.3 Implementation

10.4 Testing

10.5 Delivery

10.5.1 Planned delivery

10.5.2 Actual delivery

10.6 Customer feedback

10.7 Sprint retrospective

10.8 Evaluation

11 Sprint 4

11.1 Sprint planning

11.2 Requirements

11.3 Implementation

11.4 Testing

11.5 Delivery

11.5.1 Planned delivery

11.5.2 Actual delivery

11.6 Customer feedback

11.7 Sprint retrospective

11.8 Evaluation

12 Conclusion and Evaluation

12.1 Evaluation

12.2 Conclusion

12.3 Further work

13 Templates and standards

13.1 Templates

13.2 Standards