Product Vision

TI2806 Contextproject
Health Informatics

Group A

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Challenge the future

Contents

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INTRODUCTION

Researchers at the LUMC have developed a system that makes the detection of the signs of rejection of a donor kidney after a kidney transplantation easier. [7]

The goal of their system is that the patients have more control about their own recovery process and will not need as many hospital visits.

The system is mainly based on the Creatinine level in the patient's blood. This level can be obtained by testing the patient's blood with a portable machine. Then this information is entered into a website (mijnnierinzicht.nl), which gives the patient feedback about his/her current health status.

This data is what we want to be able to analyze, in order to learn how the patients execute the self management system in practice and how they follow the advice offered by the computer system. Several possible user patterns we want to look at are the kind of mistakes that are made with entering the obtained information in the website, how people abide by their testing schedule, how the abide by the advice offered by the system, or whether they submit dummy values for example. [3]

Our goal is to create a stand alone program that can help analysts analyze this data.

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Product Vision

2.1. Introduction

A project without a vision is like a ship without a captain. The ship will sail, but without a captain no one really knows what direction to go. Similarly, a team can create a product, but without vision no one knows what it must become. This document describes our vision on the project. It will be used as a compass in the weeks to come.
To effectively structure our vision we based it on Roman Pichler's Product Vision Board[6], which divides our vision in five aspects: vision statement, target group, needs, product and value. We will first give a brief definition of the aspects and in the remainder of the chapter we will expand on these to describe our Product Vision.

2.2. Five aspects

Pichler defines the five parts in which he divides the Product Vision as follows:

- **Vision Statement** is a concise summary of your idea that describes your intention and motivation.
- **Target Group** describes the market or market segment you want to address.
- **Needs** describes the product's value proposition: the problems and pain points the product removes, and the benefits or gains it creates for its users and customers. As a consequence the analysts no longer need to do this manually.
- **Product** summarizes the three to five features of the product that make it stand out and that are critical for its success.
- **Value** explains why it's worthwhile for your company to invest in the product.

2.3. Vision Statement

For data analysts who need to extract information from different related data-sets, the VIDNEY (VIsualization Data kidNEY) is a data-set manipulation tool that provides analysts with the opportunity to answer their information need, based on the combination and manipulation of information from different related data-sets.

2.4. Target Group

The users will be data analysts conducting statistical analysis. The customers will be institutions they are related to such as hospitals, who want to be able to observe certain behavioral aspects related to the health status of patients.

2.5. Needs

The product allows for manipulation of data-sets. It also formats the data-set so that it can be used as input for other statistical programs and it can be used for the graphical visualization of data.

2.6. PRODUCT

Several assets of our product are listed below.

- Allows input and produces output files in several different formats.
- Smart and easy manipulation of the data-sets.
- Ability to create several visualizations.

2.7. VALUE

The company will no longer have to manually manipulate and format the data-sets before they can use them for statistical analysis. This will save a lot of time and it will lead to less mistakes in the processing.

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REQUIREMENTS

3.1. INTRODUCTION

According to Brooks, the hardest single part of building a system is deciding what to build [4]. Being that, it is important to clearly define the requirements of our product. For the description and prioritisation of the requirements we write them down according to the MoSCoW method. The use of this method was first developed by Dai Clegg of Oracle UK Consulting in CASE Method Fast-Track: A RAD Approach [5].

3.2. CATEGORIES

For a precise definition of the categories in which this method divides the requirements, we use the definition according to A Guide to the Business Analysis Body of Knowledge, version 2.0,[2] section 6.1.5.2

Category	Definition
MUST	Describes a requirement that must be satisfied in the final solution for the solution to be considered a success.
SHOULD	Represents a high-priority item that should be included in the solution if it is possible. This is often a critical requirement but one which can be satisfied in other ways if strictly necessary.
COULD	Describes a requirement which is considered desirable but not necessary. This will be included if time and resources permit.
WON'T	Represents a requirement that stakeholders have agreed will not be implemented in a given release, but may be considered for the future. (note: occasionally the word "Would" is substituted for "Won't" to give a clearer understanding of this choice).

3.3. REQUIREMENTS

3.3.1. MUST

- Accepting a configuration XML file as input
- Ability to parse XLS and TXT data-set files
- Able to apply chunking, coding, connecting and constraining operations on the data-set
- Visualizing data-set in Frequency diagram
- Visualizing data-set as Stem-and-Leaf plot
- Visualizing data-set as Box-and-Whiskers plot
- Visualizing data-set as State transition-matrix

3.3.2. SHOULD

- Able to apply conversion, comparison and constraints operations on the data-set

3.3.3. COULD

- Able to apply comparison operations on the data-set
- Visualizing data-set in Histogram
- Visualizing data-set in Markov chain graph
- Visualizing data-set as time series (2D)

3.3.4. WON'T

- At the moment no requirements are defined in this category

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PLANNING AND COST

4.1. TARGET TIME-FRAME

After the first four sprints we want to produce a product that possesses a GUI and is has the ability to parse a raw data-set and model it in a datastructure. In the remaining sprints we want to implement the operations for sequential data analysis and support for several output possibilities like visualizations and data formats for statistical programs.

4.2. ESTIMATED COST

This project is worth 10 ECTS, 1 EC is equal to 28 hours of work[1]. This means that this project would cost about 10 * 28 = 280 hours per person. Since our team consists of 5 people, our work would probably cost about 5 * 280 = 1400 hours.

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