### Norwegian University of Science and Technology

# National Integration Platform for Citizen Centric eHealth in Norway

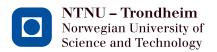
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### Abstract

This report describes the design of the National Integration Platform (NIP) used for Citizen Centric eHealth in Norway. The NIP is a platform to collect different user generated eHealth data from third party solutions and services. It also describes the making of the working prototype. The challenges of this prototype is to demonstrate the transfer of personal and/or medical data from different devices and systems. The intention of the platform is to enable citizens the ability to publish information they produce into the government run NIP. It is worth noting that security is not a requirement of the prototype. To demonstrate these different parts the creation of an Android application (App), a web App and a back-end Application Programming Interface (API) was required.

The motivation for working in this project is to innovate and create a new platform that can be used to better understand the health of citizens. The citizens gather various health data from different locations and devices and in return provide a better understanding of the citizens health. Together with educated health professionals and doctors this can be a powerful tool for improving the quality of life of the users. The most interesting part was to figure out how to design a system that can have the high level of security required to transfer personal health information.

The demands were to plan, design and describe the NIP and to develop a prototype. The demonstration of this product is aimed mainly at two groups of people: 1. Educated health professionals 2. Developers The product should have a demonstration side that is easy for the first group to grasp, understand and form an idea of how it will work while also making it appealing and technical for the second group.

The result of this project is first and foremost a working prototype of a NIP. It is also a web App and an Android app to make the demonstration easier to grasp. This report is also part of the result which has the purpose of documenting the problem, the process, the workflow and the final products.

# Preface

This report is for the main project in the course TDT4290 Customer Driven Project at NTNU. The team consisted of a three students from NTNU.

The team would like to thank our supervisor Meng Zhu for his guidence, help and advice for this project.

In addition we would also like to thank our customer Helsedirektoratet and their contact person Helge Blindheim. Say something about helge

Thank the people from usability tests valuable feedback

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### Abbreviations

API Application Programming Interface

**App** Application

NIP National Integration Platform

NTNU Norges Teknisk-Naturvitenskalige Universitet i T

Norwegian University of Science and Technology

### Introduction

- 1.1 Project description
- 1.2 The client

helse direktoratet

### 1.3 Involved parties

Us and the supervisor. two tables would look neat

### 1.4 Problem domain

some text

### 1.5 Project drivers

people

- 1.6 Available resources
- 1.7 Limitations
- 1.8 Duration

# Project management

0 1	T) I	•
2.1	Pla	nning

- 2.1.1 Work plan
- 2.1.2 Resources
- 2.1.3 Limitations
- 2.1.4 Milestones

#### 2.1.5 Tool selection

This section will describe the different tools we used during this course

Git and GitHub "Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency." [bib]http://git-scm.com/

Sublime Text

Intelijei IDE

Google Docs

Apache Maven

Travis CI

Latex

Balsamiq Mockups

Lucid chart

### 2.2 Organization

- 2.2.1 Roles
- 2.2.2 Weekly schedule
- 2.3 Quality assurance
- 2.3.1 Templates
- 2.3.2 Customer relations
- 2.3.3 Supervisor relations
- 2.4 Risk management

### Preliminary study

#### 3.1 Main Section 1

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#### 3.1.1 Subsection 1

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#### 3.2 Main Section 2

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# Requirements specification

- 4.1 Funcional requirements
- 4.2 Non-funcional requirements
- 4.2.1 Quality requirements
- 4.2.2
- 4.3 Use cases

# System architecture

- 5.1 Overview
- 5.2 NIPEN
- 5.3 Front-end
- 5.4 Heart rate
- 5.5 Weight

# Sprint 0

### 6.1 Planning

what we planned to do shall we include some data from scrumdo? definitely a chart..

### 6.2 Duration

### 6.3 Goals

what did we expect to achieve by the end of this sprint (general progress in the project)

### 6.4 Feedback

from customer, from supervisor

#### 6.5 Problems

### 6.6 Evaluation

# Sprint 1

### 7.1 Planning

what we planned to do shall we include some data from scrumdo? definitely a chart..

#### 7.1.1 Expected results

what did we expect to achieve by the end of this sprint (general progress in the project)

### 7.2 Feedback

from customer, from supervisor

### 7.3 Evaluation

# Sprint 2

### 8.1 Planning

what we planned to do shall we include some data from scrumdo? definitely a chart..

#### 8.1.1 Expected results

what did we expect to achieve by the end of this sprint (general progress in the project)

### 8.2 Feedback

from customer, from supervisor

### 8.3 Evaluation

# Sprint 3

### 9.1 Planning

what we planned to do shall we include some data from scrumdo? definitely a chart..

#### 9.1.1 Expected results

what did we expect to achieve by the end of this sprint (general progress in the project)

### 9.2 Feedback

from customer, from supervisor

### 9.3 Evaluation

# Sprint 4

### 10.1 Planning

what we planned to do shall we include some data from scrumdo? definitely a chart..

#### 10.1.1 Expected results

what did we expect to achieve by the end of this sprint (general progress in the project)

### 10.2 Feedback

from customer, from supervisor

### 10.3 Evaluation

# Sprint 5

### 11.1 Planning

what we planned to do shall we include some data from scrumdo? definitely a chart..

#### 11.1.1 Expected results

what did we expect to achieve by the end of this sprint (general progress in the project)

### 11.2 Feedback

from customer, from supervisor

### 11.3 Evaluation

### Testing

#### 12.1 Main Section 1

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### Conclusion and further work

#### 13.1 Main Section 1

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### Reflection

#### 14.1 Main Section 1

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# Appendix A

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