the FIRMA / Turku University of Applied Sciences

# Functional specification

Tag system for hours tracking with a UI





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#### **SPECIFICATION DOCUMENT**

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#### 1. Introduction

In the FIRMA, all interns and students mark their hours done weekly in an excel sheet. Which in this case, supervisors in the firm can't really check if those students/interns are being honest about their hours.

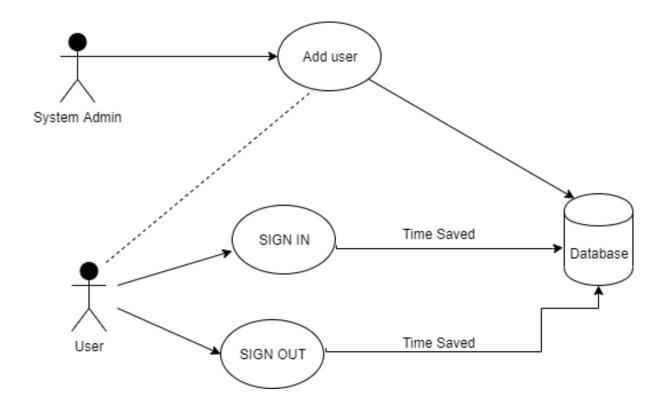
While thinking for an idea for my Bachelor's thesis, I came out with the idea of having an NFC system that counts the total hours for interns and students in the FIRMA.

This will be a tag in and out system that count automatically the hours done per day for each intern/student, and the sum of those hours will be calculated automatically in database and saved in a table.

#### 2. Users and the environment

This system is targeted the students/interns working in the FIRMA. Only the system admin of the FIRMA has access to the system and can make changement in database.

#### 3. Use cases

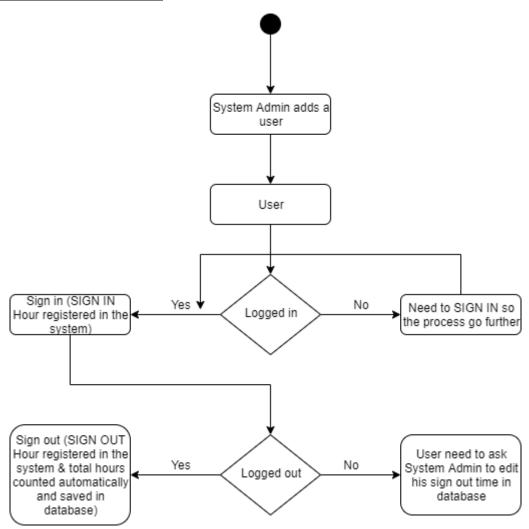


## Table for UI (System Admin responsibility):

Input	Name	Required	Content
Number	student/intern ID	yes	<integer></integer>
Number	Tag ID	yes	<integer></integer>
Textbox	First Name	yes	<text></text>
Textbox	Last Name	yes	<text></text>

# 4. Other

# Use/Misuse case diagram:



# State Diagram: System NFC tag not recognized NFC tag valid YELLOW LED ON & LCD display error message 10s wait time to do opposite SIGN IN (time of SIGN OUT (time of action action saved to action saved to database) database) GREEN LED ON & LCD display SIGN IN message RED LED ON & LCD display SIGN OUT message