**Project Specification**

**Title**

**BUILDING A DIGITAL TWIN FROM AN INTELLIGENT ELECTRONIC DEVICE**

**Student(s)**

Prasath Manickam

**Project Advisor**

Prof. DI Dr. Marc Kurz

**Date and Time**

Hagenberg, 12.01.2021

Table of Contents

[1. Overall Goal and Motivation 3](#_Toc49950781)

[2. Project Description 3](#_Toc49950782)

[2.1 Initial Technical Situation 3](#_Toc49950783)

[2.2 Realisation Concept 3](#_Toc49950784)

[2.3 System Context 3](#_Toc49950785)

[2.4 Architectural Aspects 3](#_Toc49950786)

[2.5 Functionality 3](#_Toc49950787)

[2.6 Technical Data 3](#_Toc49950788)

[3. Development Conditions 3](#_Toc49950789)

[3.1 Software 3](#_Toc49950790)

[3.2 Hardware 3](#_Toc49950791)

[3.3 Orgware 3](#_Toc49950792)

[4. Impact 4](#_Toc49950793)

[4.1 Target Groups 4](#_Toc49950794)

[4.2 Areas of Application 4](#_Toc49950795)

[4.3 Estimation of the Market Chances 4](#_Toc49950796)

[5. Side Conditions 4](#_Toc49950797)

[5.1 Security Requirements 4](#_Toc49950798)

[5.2 Legal Conditions 4](#_Toc49950799)

[6. Test Scenarios 4](#_Toc49950800)

[6.1 Unit Tests 4](#_Toc49950801)

[6.2 System Tests 4](#_Toc49950802)

[6.3 Deployment Tests 4](#_Toc49950803)

[7. Commissioning and Project Ending 4](#_Toc49950804)

[7.1 Acceptance Tests 4](#_Toc49950805)

[7.2 Additional conditions 5](#_Toc49950806)

[8. Schedule and Deliverables 5](#_Toc49950807)

[8.1 Scheduled Milestones 5](#_Toc49950808)

[8.2 Deliverables 5](#_Toc49950809)

[A. Appendix 5](#_Toc49950810)

# Overall Goal and Motivation

< General information about the project, main idea behind this topic, relevance of the topic for the professional practice, description of mandatory goals and means to measure the degree of fulfilment of these goals >

# Project Description

## Initial Technical Situation

< Description of the scientific state of the art and existing technologies useful for the project >

## Realisation Concept

< Description of the concept how it is planned to realise the mentioned goals; description of the “Delta” to existing solutions, i.e., the added value of the planned work >

## System Context

< Interfaces to legacy systems, collaborating systems, data bases, network resources, sensors, actuators, etc. >

## Architectural Aspects

< Modules / functions, internal interfaces between modules, user interfaces, etc. >

## Functionality

< Mentioning of all important functionalities respectively properties of the intended product >

## Technical Data

< Standards, regulations, etc., if applicable >

# Development Conditions

## Software

< List of needed software components >

## Hardware

< List of needed hardware components >

## Orgware

< Organisational preconditions >

# Impact

## Target Groups

< Who shall use the results of the work? >

## Areas of Application

< How and where shall the results of the work be used? >

## Estimation of the Market Chances

< Costs / earnings, if applicable >

# Side Conditions

## Security Requirements

< if applicable >

## Legal Conditions

< if applicable >

# Test Scenarios

## Unit Tests

< Tests of the functionality of separate components >

## System Tests

< Tests of the functionality of the developed system >

## Deployment Tests

< Tests of the integration of the developed system into the system context >

# Commissioning and Project Ending

## Acceptance Tests

< Final tests as basis for the commissioning (acceptance / non-acceptance) >

## Additional conditions

< Description of the conditions that have to be fulfilled for a positive project ending (e.g., project documentation, project presentation, project video) >

# Schedule and Deliverables

## Scheduled Milestones

< Definition of name, number, and due date of the planned milestones >

## Deliverables

< Definition of the deliverables (e.g., code parts, algorithms, stubs, architectures, project reports, test evaluations, etc.) that have to be delivered at the defined milestones >

# Appendix

< Glossary, list of abbreviations, literature references, file references, etc. >