

National College of Ireland

BSc. (Honours) in Computing)

Software Development

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<Project Title>

Technical Report

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# Executive Summary

Max 300 words. Summarise the key points of the report. Restate the purpose of the report, highlight the major points of the report, and describe any results, conclusions, or recommendations from the report.

# Introduction

## Background

Why did you undertake this project?

## Aims

What does the project aim to achieve?

## Technology

What technology will you use to achieve what you have set out to do and how will you use it?

## Structure

Provide a brief overview of the structure of the document and what is addressed in each section.

# System

## Requirements

All requirements should be verifiable. For example, experienced controllers shall be able to use all the system functions after a total of two hours training. After this training, the average number of errors made by experienced users shall not exceed two per day.

## Functional Requirements

This section lists the functional requirements in **ranked order**. Functional requirements describe the possible effects of a software system, in other words, what the system must accomplish. Other kinds of requirements (such as interface requirements, performance requirements, or reliability requirements) describe how the system accomplishes its functional requirements. Each functional requirement should be specified in a format similar to the following:

Short, imperative sentence stating highest ranked functional requirement.

## Use Case Diagram

## Requirement 1 <Name of requirement in a few words>

The heading of this section should read, e.g., “Requirement 1: User registration” or “Requirements 1: Participant takes test”

## Description & Priority

A description of the requirement and its priority. Describes how essential this requirement is to the overall system.

## Use Case

Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.

**Scope**

The scope of this use case is to …….

**Description**

This use case describes the ………..

**Use Case Diagram**

Diagram should highlight actors and uses cases……..

**Flow Description**

**Precondition**

The system is in initialisation mode……..

**Activation**

This use case starts when an <Actor>…………

**Main flow**

1. The system identifies the ………….
2. The <Actor> …………...(See A1)
3. The system …………..(See E1)
4. The <Actor> ………….

**Alternate flow**

A1 : <title of A1>

1. The system …………..
2. The <Actor> ………….
3. The use case continues at position 3 of the main flow

**Exceptional flow**

E1 : <title of E1>

1. The system …………..
2. The <Actor> ………….
3. The use case continues at position 4 of the main flow

**Termination**

The system presents the next ……….

**Post condition**

The system goes into a wait state

**List further functional requirements here, using the same structure as for Requirement1.**

## Data Requirements

## User Requirements

## Environmental Requirements

## Usability Requirements

## Design & Architecture

Describe the design, system architecture and components used. Describe the main algorithms used in the project. (Note use standard mathematical notations if applicable).

An architecture diagram may be useful. In case of a distributed system, it may be useful to describe functions and/or data structures in each component separately.

## Implementation

Describe the main algorithms/classes/functions used in the code. Consider to show and explain interesting code snippets where appropriate.

## Graphical User Interface (GUI)

Provide screenshots of key screens and explain what can be seen in each one.

## Testing

Describe any testing tools, test plans and test specifications used in the project. Provide evidence for and results of all Unit, Integration and End User testing that is carried out.

## Evaluation

How was the system evaluated and what are the results? This may consist of usage data. It may also include performance evaluations, scalability, correctness, etc. depending on the focus of the project. Quantative results may be reported in tables or figures.

# Conclusions

Describe the advantages/disadvantages, strengths and limitations of the project

# Further Development or Research

With additional time and resources, which direction would this project take?

# References

Please include references throughout your document where appropriate. See [here](https://libguides.ncirl.ie/referencingandavoidingplagiarism) for a guide on referencing from the NCI library.

# Appendices

This section should contain information that is supplementary to the main body of the report.

## Project Plan

## Ethics Approval Application (only if required)

## Reflective Journals

## Other materials used

Any other reference material used in the project for example evaluation surveys etc.