



Work Placement Report

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In collaboration with:

Quality ICT

Version Management

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1.0	04-09-2023	Initial draft

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Introduction

The purpose of this document is to draw up a planning during the work placement of this document's writer as part of the requirement of his work placement period. This planning can then later be adjusted during the period of the work placement based on details that have become available in the meantime. This document also serves as a means for the writer to practice producing a plan of work with a timescale since estimates of the time required, as well as practice monitoring progress since the planning and the weekly report to his company supervisor. Furthermore, this document also serves to provide the writer's work placement lecturer with information regarding his work placement activities, project, and company.

Work Placement Company Description

Company's name	: Quality ICT (Q-ICT)
Address	: Kapitein Nemostraat 20
Telephone number	: 0591-708004
Postal address	: 7821 AC
City, country	: Emmen, Drenthe, the Netherlands
Occupation	: Cybersecurity consultant
VAT number `	: 60248661
Name of the supervisor	: Manuel Weidijk
Supervisor's e-mail address	: manuel.qict.nl
Start date	: 04-September-2023
End date	: 04-January-2024
Project	: ICT related

Assignment Description

Quality ICT, further on will be called as the client, gave the project description to the author as the following:

We are currently utilizing Firebase and Flutter for most of our application development.

However, we are intrigued to explore the potential of using the Azure cloud platform into our future projects.

We also have the problem that we do not have a default project which we can build up on when approaching a potential new customer.

This default project could be a proof of concept in case Azure cloud platform is something for us.

If not, this still could be made with Flutter and Firebase. By a default project we want something like

- *A standardized login system with two-step authentication.*
- *Predefined tables that can support potential customers in their work, including features like sorting columns, search functionality, and data presentation.*
- *Default user management, including user role management.*
 - *Page route management.*
 - *Standard responsive design.*
- *A standardized method for importing third-party data using APIs.*
 - *A secure approach to storing API keys.*

Additionally, it would be valuable to implement unit testing in this standard project and integrate it with Azure DevOps, which we have recently started using.

Based on the description, the work placement project can then be simplified and split into 2 phases:

- Requirement analysis: the primary objective of this phase is to create an overview of the project, determine requirements, and set the product groundwork. The output of this phase is a work placement report that defines project goals and needs.
- Realization phase: the writer will start the achievement of the project goals defined from the previous phase. Here, the writer will write the actual code for the software product based on the design specifications. It is also important to note that testing and deployment are

considered parts of this phase, while maintenance and future updates are part of company's responsibility and are beyond the scope of the writer since he is working on a limited working period. The output of this phase is a thoroughly tested version of the product that the client has asked for.

Choice of Topic for the report

Based on the assignment description that was given by the company's supervisor, the writer then made a research main question subsequently:

"What are the comparative advantages and disadvantages of Microsoft Azure and Firebase for Quality ICT's application development and cloud infrastructure needs, considering factors like easy to build, maintain, security, and high maintenance, and how can these factors inform the selection of the most suitable platform for future projects?"

From here, the author has made the following sub-questions to help answer the main question:

- What is Microsoft Azure and Firebase?
- What are the specific features for application development and tools provided by Microsoft Azure that are currently relevant to Quality ICT's projects when using Firebase?
- What are the key features and services offered by Microsoft Azure and Firebase compare in terms of ease of use and ease of building applications?
- What is the level of maintenance required when using Microsoft Azure and Firebase for application development and cloud infrastructure needs?
- What are the security measures and protocols provided by Microsoft Azure and Firebase? Is there any difference and how do they differ?
- What are the potential cost implications of adopting Microsoft Azure compared to using Firebase to Quality ICT?
- How do Microsoft Azure and Firebase perform in terms of high availability and reliability for ICT applications?
- What case studies or real-world examples demonstrate the successful use of Microsoft Azure and Firebase for ICT application development and cloud infrastructure needs?
- How can the comparative advantages and disadvantages of Microsoft Azure and Firebase inform the selection of the most suitable platform for future ICT projects?
- What are the potential risks that might happen if Quality ICT decided to migrate its infrastructure from Firebase to Microsoft Azure? What mitigation strategies should be considered?

The research results will be gathered mostly with qualitative data from desk research and interviewing the work placement supervisor and company's stakeholders.

Timescale Activities