**Project registration form**

**Course:** Msc in Software Engineering  **Field Leader:**

**Student Name:** Chathura Madushan Samarasinghe **K Number:** K2166813

**Project Title:** Business Support System Framework for Provisioning of Telecom Value-Added Services

**Overview**: (350 words max)

Telecommunications providers use complicated automated systems to serve customers with their needs. One use case of such system is VAS (Value Added Service) management. Telco providers often design, develop and release VASs to their customer base to meet customer’s necessities and to maximize company’s business growth. Those VASs include service activation and deactivation, service upgrades, downgrades and changes, service alert management, etc…

The process of VAS request processing is; customer sends an SMS or an USSD query containing command keywords requesting a specific service, then an SMSC gateway will receive this message and forward it to VAS system. VAS system will then do all the processing by going through related services and sends an SMS as response back to SMSC and then to subscriber number.

In order to serve customer requests of VAS, VAS management platform interacts with number of in-house built software systems (APIs, web services), payment gateways, and vendor specific platforms such as Huawei OCS for charging, Huawei PCRF for rule based charging, etc… The process of serving VAS requests is typically complicated due to the nature of internal system infrastructure, monolithic architectures and practices that are being followed by the provider when it comes to software development. This is common to every telco provider in the market.

Due to those complexities, VAS management platforms suffer from number of issues, namely, maintenance and operations, monitoring, downtimes, request blockings, etc…

When the business requires to make a change existing service it would take a few days to weeks to build a patch, test and deploy it to production.

In a competitive market, those issues often lead to negative impacts on business and decreased customer satisfaction. It requires a modern platform to overcome those concerns.

Proposed system will replace the current system with modern technologies by removing complexities and introducing low-code service builder. So that the business could effectively deploy new services, change them when required, monitor the system without a hassle.

**Aims and Objectives**: (About 100 words)

The aim is to develop a BSS (Business Support System) framework to manage and control Value Added Services.

Objectives.

1. To provide a formal framework for VAS request handling.
2. To provide a web application to VAS provisioning.
3. To carry out research on technologies available under JavaEE/Spring ecosystem and low-code technologies.
4. To build a graphical low-code workflow builder.
5. To build a processing engine to execute workflows.
6. To provide a dynamic REST API deployment platform.

This will consist of 5 micro-services and a user interface for management portal. Those micro-services will be deployed on an in-house Kubernetes cluster to ensure high availability and ease of management.

**Requested Supervisor: . .. . . . . . . . . . . . . . . . .**

(Your request may not be granted. If you have not persuaded a member of staff to supervise you by the deadline, one will be assigned.)

**(continues overleaf)**

Member of staff only

**I agree to supervise this MSc project.**

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*Signed**Date*

*Print name* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**