**Singapore Institute of Technology**

**Information and Communications Technology Cluster**

**ICT4001 Capstone Project**

Capstone Project Details (Form B)

# General Capstone Project Information

**Project Information:**

(Project Title): DBS Celerity

(Organization): **DBS Bank Ltd**

(Initiation):

Project initiated by industry

Project initiated by student

(Multi-disciplinary):

Project is multi-disciplinary (e.g. ICT and ENG)

Project is single-disciplinary (e.g. ICT only)

**Candidate Particulars:**

(Name of Candidate): Wenxi Xie

(Matriculation Number): 1802402

(Programme):

B.Eng. (Hons) in Information and Communications Technology (Information Security)

B.Eng. (Hons) in Information and Communications Technology (Software Engineering)

(Project Period): 11/1/2021 to 10/12/2021

**Main Academic Supervisor Details:**

(Name): Benjamin Premkumar Annamalai

(Email Address): benjamin.premkumar@singaporetech.edu.sg

(Contact Number): +65 65921434

(Designation): Associate Professor

**Industry Supervisor Details:**

(Name): Abhishake Kumar Golyan

(Email Address): abhishakekumar@dbs.com

(Contact Number): +65 82015443

(Designation): Vice President

(Department / Division): T&O-MOT-Risk

# Capstone Project Details

**Project Overview:**

*(Please use a separate sheet if necessary)*

DBS celerity is a Tool with 4 major features: Query Tool, Data Drive, Data Comparator and Virtualizer.   
- Query Tool is used for data profiling & analysis this includes features such as Scheduler, selector(using pre-defined queries), visualizer(assist in query construction).  
  
- Data Drive is sharing query outputs & data between users  
  
- Data comparator is doing data comparison and regression  
  
- Virtualizer is to create/access limited or unavailable services in a simulated, virtual environment testing.  
  
The candidate’s capstone project is to enhance the celerity tools by adding new features gathered from users and provide technical support to maximize user experience.

**Project Objectives:**

*(Please use a separate sheet if necessary)*

The candidate’s is required to enhance the celerity tools, follow the scrum developing method, there will have many small tasks periodically and need to integrate to the celerity tools. The candidate will also be required to ensure that the existing functions that were implemented in the celerity tools work stably while adding in new features on top of it.

**Industry Relevancy:**

*(Please use a separate sheet if necessary)*

The Celerity is an DBS in-house developed web-based application suite that allows users to query, analysis unavailable services in a simulated environment. As part of the Enterprise-Level Implementation Model of LoBT Solutions, Celerity will be adopted and made accessible at the enterprise level.

**Project Scope:**

*(Please use a separate sheet if necessary)*

This Project is to enhance the DBS Celerity Tools, improve on it features, and the task will be assigned periodically (few days or a week). It is mainly focused on developing of programs, testing and deployment.

**Project Outputs and Deliverables**

*(Please use a separate sheet if necessary)*

- New Features in Celerity Query Runner  
- Internal APIs  
- Improvement of existing Celerity Tools

# Knowledge and Training Requirements

**Applicable Knowledge from the Degree Programme**

*(Please use a separate sheet if necessary)*

ICT1001 – Introduction to ICT  
  
- Principles and concepts of version control that is being taught is being applied in the project. Individual branches will be merged frequently and separated into branches again. This will always ensure that the code will be at its latest while ensuring that there is no conflict.  
- After every minor tasked, the codes will be committed and pushed into the individual branches created for each feature.   
  
  
ICT1004 - Web Systems and Technologies  
  
- Principles and concepts learnt in ICT1004 are being covered such as the fundamental web languages (HTML, CSS and Javascript) are being used to develop the web application.  
  
ICT2102 - Human Computer Interaction  
  
- Implementing of the features on the web application will require placing of User Interface objects onto the map. The principles learnt in Human Computer Interaction will be useful in discerning what are good design concepts  
  
ICT2106 – Software Design  
  
- For the project, I will be using web services. Thus, I will be required to use my understand of what I have learnt in the module and apply the knowledge learnt onto the project.   
- I will also have to read and understand the software architecture of the project in order to understand what the project is built and how it works  
  
ICT3104 - Software Management  
  
- The team uses some of scrum methodologies, which is having a sync-up meeting (stand up meeting) every few days instead of daily to let the team catch up on the status of the task each member is being tasked with. This also includes feedback and solution the teams might have when members faces difficulties in progressing with their task.  
- Pushing of the latest code up on the server to let the user use it and based on the feedback given, improvement, changes and new features will be added into the web application.

**Additional Knowledge, Skillsets, or Certifications Required**

*(Please use a separate sheet if necessary)*

Need to get familiar with Linux Environment, JAVA web with Angular, maven and springbot.

**Training Required and Provided**

*(Please use a separate sheet if necessary)*

The company provided training about Jenkins developing progress, bitbucket, cloud foundry, application security, microservice and continuous delivery.

# Project Timeline

*(Please use a separate sheet if necessary; a Gantt chart may be included as annex)*

This is a continuous delivery project, will provide at the end of the project.

# Supervisor Remarks

*(Additional details relevant to the project; please use a separate sheet if necessary)*

### Industry Supervisor Remarks

*Please provide any other details that are relevant to the project, e.g., references or research papers, description on the complexity of the project, expected learning opportunities, etc.*

### Academic Supervisor Remarks

*Please provide any other details that are relevant to the project, e.g., references or research papers, description on the complexity of the project, expected learning opportunities, etc.*

1. **Declaration of Conformity**

### Declaration by Industry Supervisor

I hereby acknowledge that I have engaged and discussed with the Candidate on the Capstone Project details above, and we are in agreement on the contents provided in the sections above.

|  |  |
| --- | --- |
| *Signature* |  |
| **Name of Industry Supervisor:** *The industry supervisor’s name*  **Designation:** *The industry supervisor’s designation*  **Department:** *The industry supervisor’s department / division*  **Contact No:** *The industry supervisor’s contact number*  **Email:** *The industry supervisor’s email address*  **Date:** *Click or tap to enter a date* | |

### Declaration by Candidate

I hereby acknowledge that I have engaged and discussed with my Industry Supervisor on the Capstone Project details above, and we are in agreement on the contents provided in the sections above.

|  |  |
| --- | --- |
| *Signature* |  |
| **Name of Candidate:** *The candidate’s full name*  **Contact No:** *The candidate’s contact number*  **Email:** *The candidate’s email address*  **Date:** *Click or tap to enter a date* | |

### Declaration by Academic Supervisor

I hereby acknowledge that I have read and understood the Capstone Project details above. I believe that the proposed project is appropriate to fulfil the requirements for the **ICT4001 Capstone Project** module.

|  |  |
| --- | --- |
| *Signature* |  |
| **Name of Academic Supervisor:** *The academic supervisor’s name*  **Contact No:** *The academic supervisor’s contact number*  **Email:** *The academic supervisor’s email address*  **Date:** *Click or tap to enter a date* | |

**END OF FORM B**