**GRADUATE CERTIFICATE: Intelligent Reasoning Systems (IRS)**

**PRACTICE MODULE: Project Proposal**

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| **Date of proposal:**  29 Jan 2021 |
| **Project Title:**  ISS Project – Mycroft Discovery and Application |
| **Sponsor/Client:** *(Name, Address, Telephone No. and Contact Name)*  Institute of Systems Science (ISS) at 25 Heng Mui Keng Terrace, Singapore  NATIONAL UNIVERSITY OF SINGAPORE (NUS)  Contact: Mr. GU ZHAN / Lecturer & Consultant  Telephone No.: 65-6516 8021  Email: [zhan.gu@nus.edu.sg](mailto:zhan.gu@nus.edu.sg) |
| **Background/Aims/Objectives:**  Mycroft is the world's leading open source voice assistant. Project objective is to explore the best ways to build Mycroft applications to solve business problems. |
| **Requirements Overview:**   * Research ability * Programming ability * System integration ability |
| **Resource Requirements (please list Hardware, Software and any other resources)**  Hardware proposed for consideration:   * Laptop (minimum specs: Intel Core i5, 16GB RAM, 256GB SSD) * RaspberryPi   Software proposed for consideration:   * Cognitive systems: Mycroft. Picroft * Web framework for building APIs with Python: FastAPI * Reasoning systems, e.g. Google OR-Tools * Python and scikit learn for Machine learning use cases |
| **Number of Learner Interns required: (Please specify their tasks if possible)**  a team of four to six project members |
| **Methods and Standards:**   |  |  |  | | --- | --- | --- | | **Procedures** | **Objective** | **Key Activities** | | | **Requirement Gathering and Analysis** | The team should scope the details of the project and ensure the achievement of business objectives. | 1.        Gather & Analyze Requirements | | 2.        Define internal and External Design | | 3.        Prioritize & Consolidate Requirements | | 4.        Establish Functional Baseline | | **Technical Construction** | To develop the source code in accordance to the design. | 1.        Setup Development Environment | | To perform unit testing to ensure the quality before the components are integrated as a whole project | 2.        Understand the System Context, Design | | 3.        Perform Coding | | 4.        Conduct Unit Testing | | **Integration Testing and acceptance testing** | To ensure interface compatibility and confirm that the integrated system hardware and system software meets requirements and is ready for acceptance testing. | 1.        Prepare System Test Specifications | | 2.        Prepare for Test Execution | | 3.        Conduct System Integration Testing | | 4.        Evaluate Testing | | 5.        Establish Product Baseline | |  | | **Delivery** | To deploy the system into a standalone server environment. | 1.        Deployment guideline must be provided | | 2.        User instruction must be provided | |  | |

**Team Formation & Registration**

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| Team Name:  ISScroft |
| Project Title (repeated):  ISS Project – Mycroft Discovery and Application |
| System Name (if decided): |
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| Team Member 1 Name:  LI XIAO XIA |
| Team Member 1 Matriculation Number:  A0229975J |
| Team Member 1 Contact (Mobile/Email):  e0687383@u.nus.edu |
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| Team Member 2 Name:  YANG YANG |
| Team Member 2 Matriculation Number:  A0229971R |
| Team Member 2 Contact (Mobile/Email):  e0687379@u.nus.edu |
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| Team Member 3 Name:  TAN WOEI MING |
| Team Member 3 Matriculation Number:  A0229974L |
| Team Member 3 Contact (Mobile/Email):  e0687382@u.nus.edu |
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| Team Member 4 Name:  JIANG AIGUO |
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| Team Member 4 Contact (Mobile/Email):  e0284010@u.nus.edu |
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| Team Member 5 Name:  ANG JENN NING |
| Team Member 5 Matriculation Number:  A0229970U |
| Team Member 5 Contact (Mobile/Email):  e0687378@u.nus.edu |
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| **For ISS Use Only** | | |
| **Programme Name:** | **Project No:** | **Learner Batch:** |
| **Accepted/Rejected/KIV:** | | |
| **Learners Assigned:** | | |
| **Advisor Assigned:**  Contact: Mr. GU ZHAN / Lecturer & Consultant  Telephone No.: 65-6516 8021  Email: [zhan.gu@nus.edu.sg](mailto:zhan.gu@nus.edu.sg) | | |