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

**PRACTICE MODULE: Project Proposal**

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| **Date of proposal:**  1 May 2021 |
| **Project Title:**  ISS Project – Intelligent Covid Detection and Chatbot Platform |
| **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:**  The proposed intelligent eco-system is aimed to integrate various advanced machine reasoning techniques to help screen vaccinated members of the public before they attend various events in Singapore, and to gather dynamic and heterogeneous information to build up an intelligent chatbot system to respond users’ questions about COVID-19. |
| **Requirements Overview:**   * Research, data collection and cleaning ability * Programming ability - python * System integration ability – Integration of Django, JQuery, Javascript, HTML, CSS and machine learning libraries |
| **Resource Requirements (please list Hardware, Software and any other resources)**  Hardware proposed for consideration:   * CPU   Software proposed for consideration:   * Pertained machine learning models, e.g. NLP, decision tree * machine learning tools, e.g. Python sklearn * Chat-bots, e.g. ChatterBot * Cognitive systems, e.g. nltk * Web crawler, e.g. beautifulsoup4 * Web framework, e.g. Django |
| **Number of Learner Interns required: (Please specify their tasks if possible)**  a team of three project members. Their completed tasks are specified in their individual reports. |
| **Methods and Standards:**   |  |  |  | | --- | --- | --- | | **Procedures** | **Objective** | **Key Activities** | | | **Requirement Gathering and Analysis** | The team should meet with ISS to scope the details of 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** |  | 1.        Setup Development Environment | | To develop the source code in accordance to the design. | 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 | |  | | **Acceptance Testing** | To obtain ISS user acceptance that the system meets the requirements. | 1.        Plan for Acceptance Testing | | 2.        Conduct Training for Acceptance Testing | | 3.        Prepare for Acceptance Test Execution | | 4.        ISS Evaluate Testing | | 5.        Obtain Customer Acceptance Sign-off | |  | | **Delivery** | To deploy the system into production (ISS standalone server) environment. | 1.        Software must be packed by following ISS’s standard | | 2.        Deployment guideline must be provided in ISS production (ISS standalone server) format | | 3.        Production (ISS standalone server) support and troubleshooting process must be defined. | |  | |

**Team Formation & Registration**

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| Team Name:  3Musketeers |
| Project Title (repeated):  ISS Project – Intelligent Covid Detection and Chatbot Platform |
| System Name (if decided):  CoviDetector |
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| Team Member 1 Name:  Hong Xiaohui |
| Team Member 1 NRIC Number:  S9476943D |
| Team Member 1 Contact (Mobile/Email):  +65-97805666 / xiaohui.hong@ncs.com.sg |
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| Team Member 2 Name:  Anita Koo Shi Qi |
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| Team Member 3 Name:  Sanjeven Ramakrishnan |
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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) | | |