GRADUATE CERTIFICATE: Intelligent Reasoning Systems (IRS)
PRACTICE MODULE: Project Proposal

Date of proposal: 1st May 2021
Project Title: ISS Project – Contactless Menu for Recommendation
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
Background/Aims/Objectives: With the adoption of digital menus in restaurants, the team saw an opportunity to enhance this technology with the techniques that were acquired in the master program. The end solution is to create a digital menu with ordering and recommendation capability that are akin to e-commerce. This project focuses mainly on 3 types of recommendations, namely similar items recommendation, complementary items recommendation and popular items recommendation. Moreover, the software is designed to run independently from the backend servers in the event that an unstable internet connection occurs.
Requirements Overview: • Research ability • Programming ability • System integration ability
Resource Requirements (please list Hardware, Software and any other resources) Software proposed for consideration: • Neo4J • MongoDB • Python for Flask • ReactJS
Number of Learner Interns required: (Please specify their tasks if possible) 2 members: Mu Aohua

1. On-device similar items recommendation model (On-device)
2. Complementary items recommendation. (On-device and server)
3. Menu offline support
4. User interface development
5. Deploy frontend to firebase
6. Project report
7. Video recording for Tech explanation

Lee Joon Hui Jeremy
1. Project research (linking dishes with ingredients)
2. Graph construction
3. Similar items recommendation model (Server side)
4. Backend design, setup and deployment
5. UI/UX design and prototyping
6. Project report
7. Video recording for Business case explanation

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	· To develop the source code in accordance to the design. · To perform unit testing to ensure the quality before the components are integrated as a whole project	1. Setup Development Environment 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

Team Name: Contactless Menu Team
Project Title (repeated): Contactless Menu Team
System Name (if decided):
Team Member 1 Name: Lee Joon Hui Jeremy
Team Member 1 Matriculation Number: A0048174A
Team Member 1 Contact (Mobile/Email): Mobile: 81283302 Email: jeremyleejh@u.nus.edu / joonhui@gmail.com
Team Member 2 Name: Mu Aohua
Team Member 2 Matriculation Number: A0121924M
Team Member 2 Contact (Mobile/Email): Mobile: 81350109 Email: e0689785@u.nus.edu
Team Member 3 Name:
Team Member 3 Matriculation Number:
Team Member 3 Contact (Mobile/Email):

Team Member 4 Name:
Team Member 4 Matriculation Number:
Team Member 4 Contact (Mobile/Email):
Team Member 5 Name:
Team Member 5 Matriculation Number:
Team Member 5 Contact (Mobile/Email):
Team Member 6 Name:
Team Member 6 Matriculation Number:
Team Member 6 Contact (Mobile/Email):

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