

CAPSTONE PROJECT REGISTER

Class: Duration time: from 08/08/2022 To 01/11/2022

(\*) Profession: <Software Engineering> Specialty: <ES> <IS> 

(\*) Kinds of person make registers: Students: Lecturer:

1. **Register information for supervisor (if have)**

|  | **Full name** | **Phone** | **E-Mail** | **Title** |
| --- | --- | --- | --- | --- |
| Supervisor 1 | Lê Phú Nguyên | 0787647073 | NguyenLP9@fe.edu.vn | Instructor |

1. **Register information for students (if have)**

|  | **Full name** | **Student code** | **Phone** | **E-mail** | **Role in Group** |
| --- | --- | --- | --- | --- | --- |
| Student 1 | Nguyễn Huỳnh Nhật Minh | SE130517 | 0916460400 | minhnhnse130517@fpt.edu.vn | Leader |
| Student 2 | Châu Quốc Tuấn | SE140906 | 0972093636 | tuancqse140906@fpt.edu.vn | Member |
| Student 3 | Nguyễn Lê Thăng Long | SE141050 | 0362470321 | longnltse141050@fpt.edu.vn | Member |
| Student 4 | Nguyễn Hoàng Minh | SE140531 | 0931765021 | minhnhse140531@fpt.edu.vn | Member |

1. **Register content of Capstone Project**

**3.1. Capstone Project name:**

English: An implementation of AMWR system for automation warehouses.

Vietnamese: Xây dựng hệ thống AMWR trong kho tự động thông minh.

Abbreviation: Autonomous Mobile Warehouse Robot (AMWR).

# Context:

Our scope is to develop a prototype robot (similar to AGV robot). It will use multiple IR sensors as a line detector, a small lifting table and a simple navigation system to automate the work of lifting products and move them to the designated locations. It will be accompanied by a mobile application to keep track of empty/occupied space and also the path layout of the loading area. The mobile app will provide an optimal path, then the robot will follow the line to its designated location to do its job.

# Objectives:

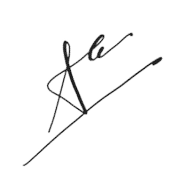
* Researching about the AMWR navigation system.
* Researching camera detectors.
* Implementing IR sensors to keep track of the path.
* Building a mobile application that can monitor and control AMWR robots.
* Build a prototype robot model that can communicate with mobile application.

**3.2. Main proposal content (including result and product)**

* 1. **Theory and practice (document):**
* Students should apply the software development process such as Agile Methodology or other software development life cycle (SDLC); and use UML Specification 2.4 to describe requirement specification and design document.
* Students should apply their knowledge about SWE102, SWR302, ESH201, ESS301, DGT201, DGT301 and programming skills that they get based on their curriculum or OJT when they do capstone in progress.
* Technique: Python or Java, …
* Communication technique:
* Using bluetooth for communication between robot and mobile app
  1. **Program:**
* Build a mobile application that supports the following main features
* A mobile application sends signals for the robot to retrieve the packages.

# Supervisor (If have)

*(Sign and full name)*

**

**Lê Phú Nguyên**

HCM, 22/07/2022

# On behalf of Registers

# *(Sign and full name)*

Minh

**Nguyễn Huỳnh Nhật Minh**