#### 2

**CAPSTONE PROJECT REGISTER**

Class: Duration time: from ..…….../2017 …. To /2017…..

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

x

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

x

1. Register information for supervisor (if have)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Full name** | **Phone** | **E-Mail** | **Title** |
| Supervisor 1 | Nguyễn Đức Lợi | 093 857 2994 | loind@fpt.edu.vn | Mr. |

2. Register information for students (if have)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Full name** | **Student code** | **Phone** | **E-mail** | **Role in Group** |
| Student 1 |  |  |  |  |  |
| Student 2 |  |  |  |  |  |
| Student 3 |  |  |  |  |  |
| Student 4 |  |  |  |  |  |

3. Register content of Capstone Project

(\*) 3.1. Capstone Project name:

English: Dendrobium orchid care solution

Vietnamese: Giải pháp chăm sóc lan rừng dendro.

Abbreviation: OCS

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

The system will control the planting of dendro orchid for each development stage by temperature balance, humidity balance and the fertilizer regime balance.

Specifically, there are 3 stages corresponding with 3 modes in central controller:

+ Stage 1 (from young trees to 6 months)

+ Stage 2 (next 3 months to the first-time harvesting)

+ Stage 3 (after harvesting to the next time harvesting)

Each mode will have specific care plan, special the fertilizer regime balance (with 3 elements N-P-K) and this plan will remind user through android application when the time comes

1. Theory and practice (document):

Hardware:

* + - * Research and implementation of the Main-broad controller.

(PLC Schneider Electric M221).

* + - * Research about how to control touch screen monitor HMI.
      * Research and implementation of the Temperature Sensor, Humidity Sensor.
      * Research about how to control Seven-Segment Display (SSD).
      * Research and implementation hardware component of PLC.
      * Design and implementation of the electrical power.

Software:

* + - * Learn and implement SoMachine Basic for PLC
      * Learn and develop an Android mobile application with Java.
      * Learn and create a service using ASP.NET Web API and SQL Database in Azure App Service.
      * Learn and implement Vijeo Designer Basic 1.1 for touch screen monitor HIM.
  + Result:

Hardware:

* + - 1. Central Controller
      2. Power Supply
      3. LED Display Board
      4. Central Monitor Controller

Software:

* + - 1. Android application
      2. Web server

1. Program:
   * Java programming skill for Android.
   * SoMachine Basic programming skill for PLC M221.
   * Vijeo Designer Basic 1.1 programming skill for monitor HIM.
   * Ladder language for PLC M221.
   * ASP.NET and C# for Azure.
   * Tool development: Android Studio, Visual Studio, Visual Micro, SoMachine Basic, Vijeo Designer Basic 1.1
   * Graphic design: AutoCad, Photoshop, GUI design studio, Proteus 8,…
2. Other products:

4. Other comment (propose all relative thing if have)

|  |  |
| --- | --- |
| **Supervisor (If have)**  *(Sign and full name)*  Nguyễn Đức Lợi | Tp.HCM, date 21/08/2017  **On behalf of Registers**  *(Sign and full name)* |