1. **Problem definition**
   1. **Name of this capstone project**
   2. **Problem abstract**

Reporting damaged equipment in classroom is very important. However, in University, it’s seem to be inconvenience. If there is issue occurred to the equipment, teacher or student have to go meet in person with the staff in charged and report the issue. There is possible causing miss information and wasting time. Changing room is unfavorable to find out which room is available. And if the staff want to see the equipment’s status or used time, it’s nearly impossible. So the possible solution is developing a tool that helps reporting easier and faster, manages more convenience.

* 1. **Project overview**
     1. **Current situation**

The ECRM is the system that helps manages equipment in classroom more convenient way. With teacher, they just click (with web app version) or touch (with mobile app version) on the equipment which is damaged and system will notify to the staff immediately. With staff, they can see specific equipment was damaged in which classroom and who reported it. They can also check which classroom is available due to the schedule excel file imported to the system. Staff can read the statistic about equipment in school if they want to.

The system also has restrictions and it comes from the data in schedule excel file. If staff import incorrect data but match the template, the result will be wrong. One more thing is the system couldn’t check user’s behaviours. So if teacher report wrong position of the damaged equipment, there are no way the system can deal with it.

* + 1. **The proposed system**

The ECRM will be developed in web site and mobile application. Both of them will have the same features and function.

* Classroom management:
  + Supervisor staff can create a new classroom.
  + Supervisor staff can edit classroom.
* Room type management:
  + Supervisor staff can create a new room type.
  + Supervisor staff can edit room type.
* Notify about damaged equipment:
  + Staff can get notify about the damaged equipment.
* Equipment management:
* Create or mapping schedule by import excel file:
  + Supervisor staff can import the schedule excel file into the system and system will create a schedule.
* Statistic:
  + Staff can read statistic about the equipment likes life time, current status…
    1. **Boundaries of the system**
* The ECRM is used by FPT University’s teacher and staff and run by laptop, PC and android smart phone.
* Language: English.
* The lasted product contain:
  + The ECRM web site.
  + The ECRM android application.
    1. **Development environment**
       1. **Hardware requirements**

**For server**

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| **Windows** | **Minimum Requirements** | **Recommended** |
| **Internet Connection** | Cable, Wi-Fi (4 Mbps), 3G | Cable, Wi-Fi (8 Mbps), 3G |
| **Operating System** | Window Server 2008 | Window Server 2008 |
| **Computer Processor** | Intel® Core 2 Duo | Intel**®** Core™ i5 CPU, M460 @2.53 GHz |
| **Computer Memory** | 1GB RAM | 2GB or more |

* + - 1. **Software requirements**
* SQL Server 2008: create and manage database for system.
* Inteliji IDEA 14.0.3, JDK 7, tomcat 7: create website and web service.
* Android SDK 14, ADT 23.0.2: implement mobile application.
* Github, TortoiseSVN: manage source code and document.
* StarUML 2.0: create use cases and diagrams.