

# LAB 5: Capstone & Software Development Project

## [Systems Architecture & Software Design]

### Objectives

1. Finalize your Functional Requirements (Modeling)
2. Use the graphics tool to develop and finalize the Use Cases and the Message Sequence Charts
3. Start Systems Architecture & Software Design
4. Update timeline to include tasks for Systems Architecture & Software Design (You should plan to complete these tasks in Lab 6)

### Lab Configuration

1. MSB-162 and MSB-139 lab

### Finalize the Functional Analysis of your system

1. Using the graphics drawing tool on Canvas,
  - i. Finalize the Context diagram for the group project
  - ii. Finalize the Use Case Scenarios
  - iii. Finalize the Message Sequence Charts
  - iv. Finalize the narrative for each Use Case Scenario

### Start Systems Architecture & Software Design

- i. General Architecture Description
  - a. Overview of the key features and capabilities supported
  - b. System Context:

Draw a block diagram to illustrate external entities, interfaces. Use labeled rectangle to illustrate external entity, and arrowed lines to indicate direction of message flows

Write narrative of the System Context diagram. You may include an optional tabular description - see example below

| System (i.e External Entity) | Interface (API, version, XML standard, etc) | Support (feature supported over interface) |
|------------------------------|---|--|
|                              |   |  |
|                              |   |  |

## ii. Hardware Components

Describe hardware configuration – Start with a block diagram (e.g. client, server, routers, wireless/wired network, Disks). Include any Primary/Standby Processor, Shared disk if applicable

## iii. Software Components

Start with a block diagram that illustrates interactions between the software components.  
Next describe the functionality of each component, and the interfaces

## iv. Users

Describes types of supported user functionality (e.g., system admin, application admin, end user...)

- a. System admin – does hardware, networking, Linux Admin, backups , Installation and configuration of the hardware and operating system, Backup and restore
- b. Application Admin – Admin of applications – defines access groups, registering users
- c. End user – subscriber

## v. Capacity and Performance

Describe capacity limitations for use of system resources

## Update Timeline

- **Assign task to team members to complete sub tasks for Lab 5**
  - **Add member name, start and end dates for deliverables for each task**
- **Propose dates for your group meetings**