



CSE 327

Section 4

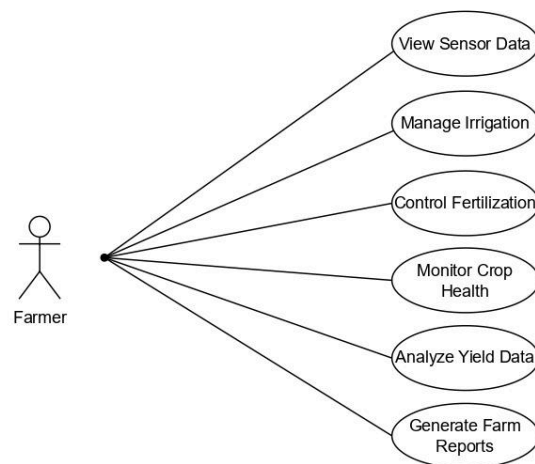
Smart Farming System Software

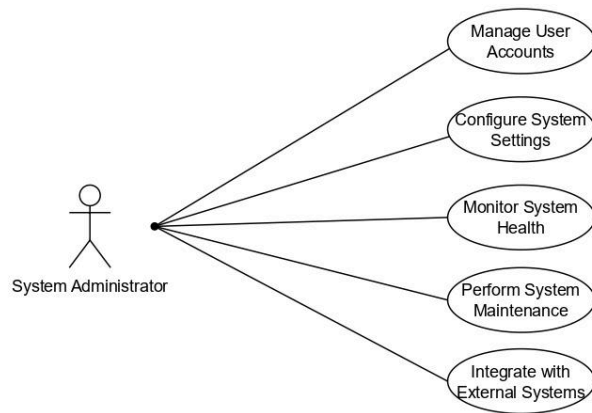
Shahariar Ifti 2012632042

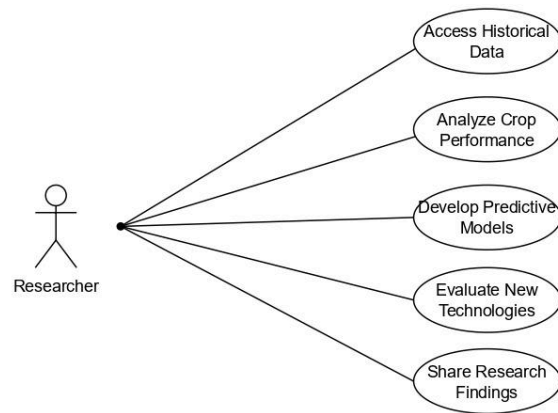
Moshiur Rahman 2131903642

F.M Abir Hossain 2121304642

Use Case Diagram

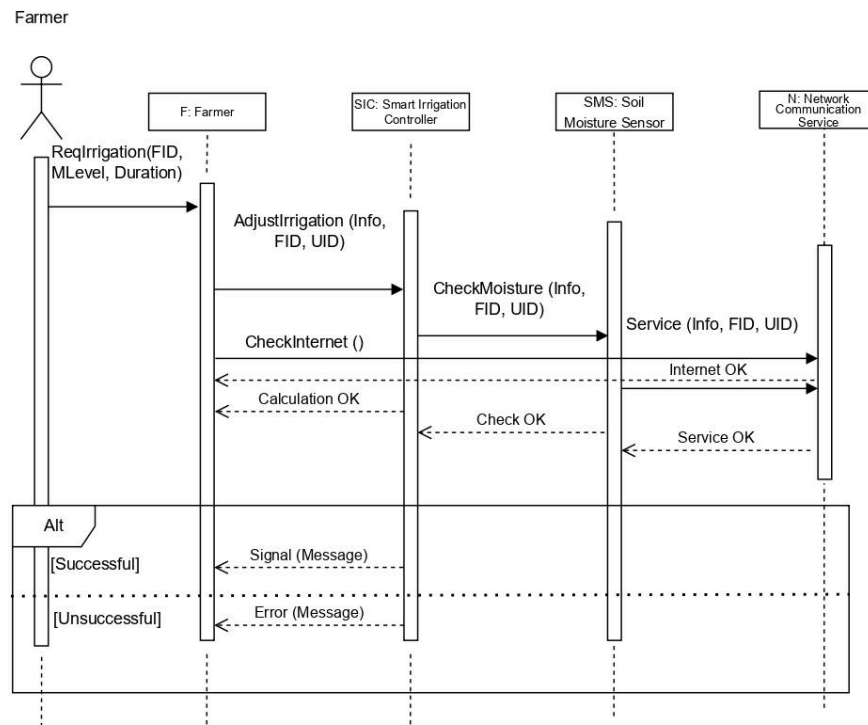




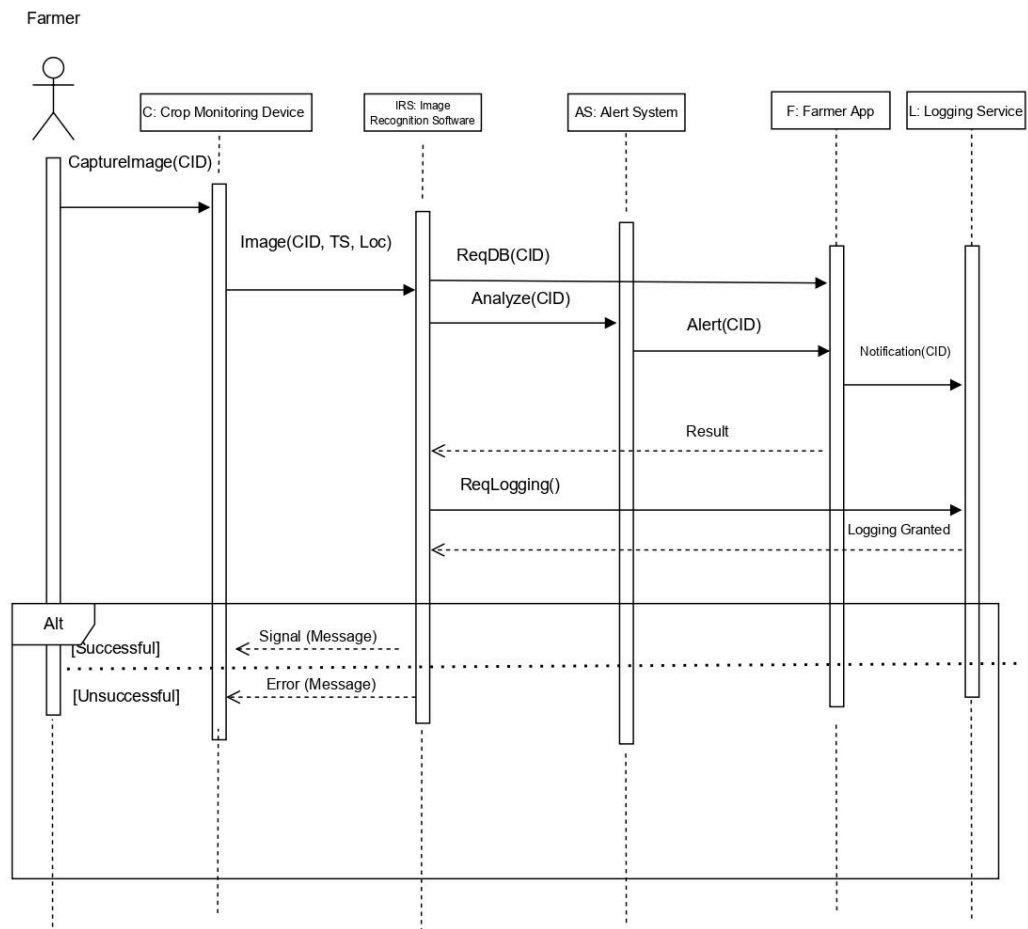


Sequence Diagram

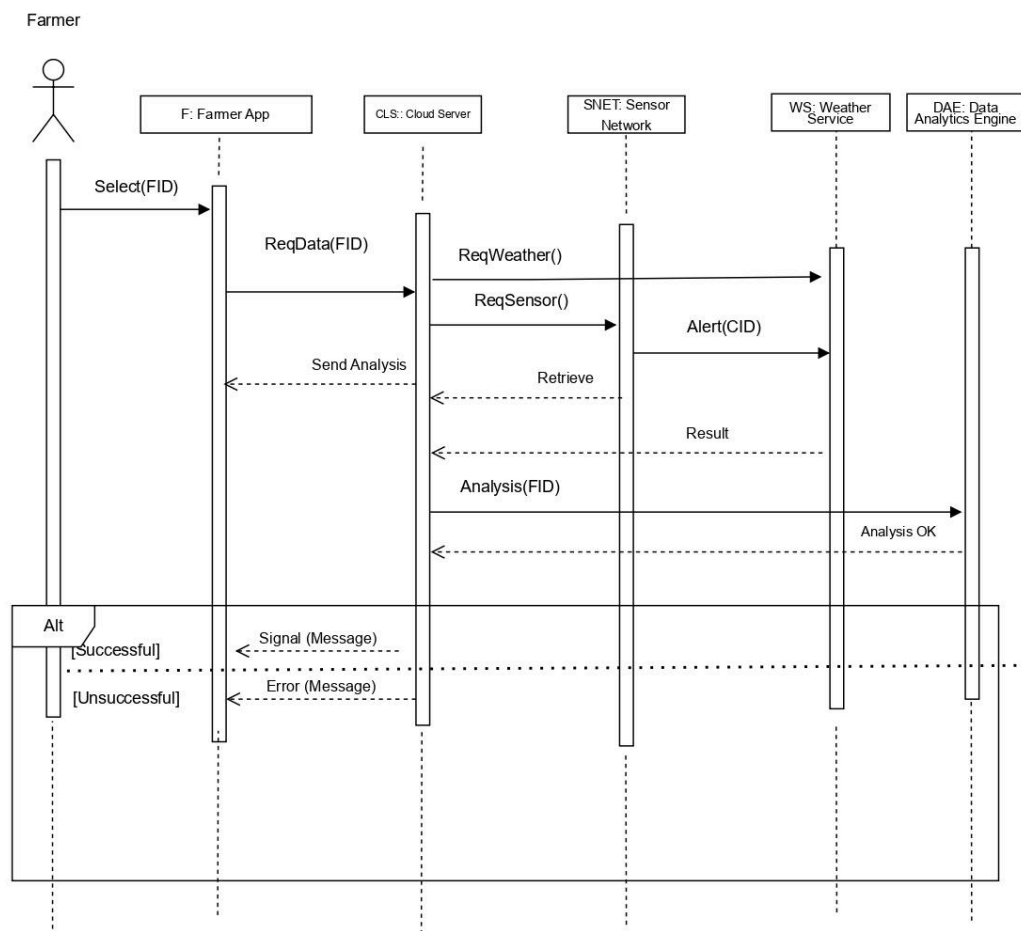
Automated Irrigation



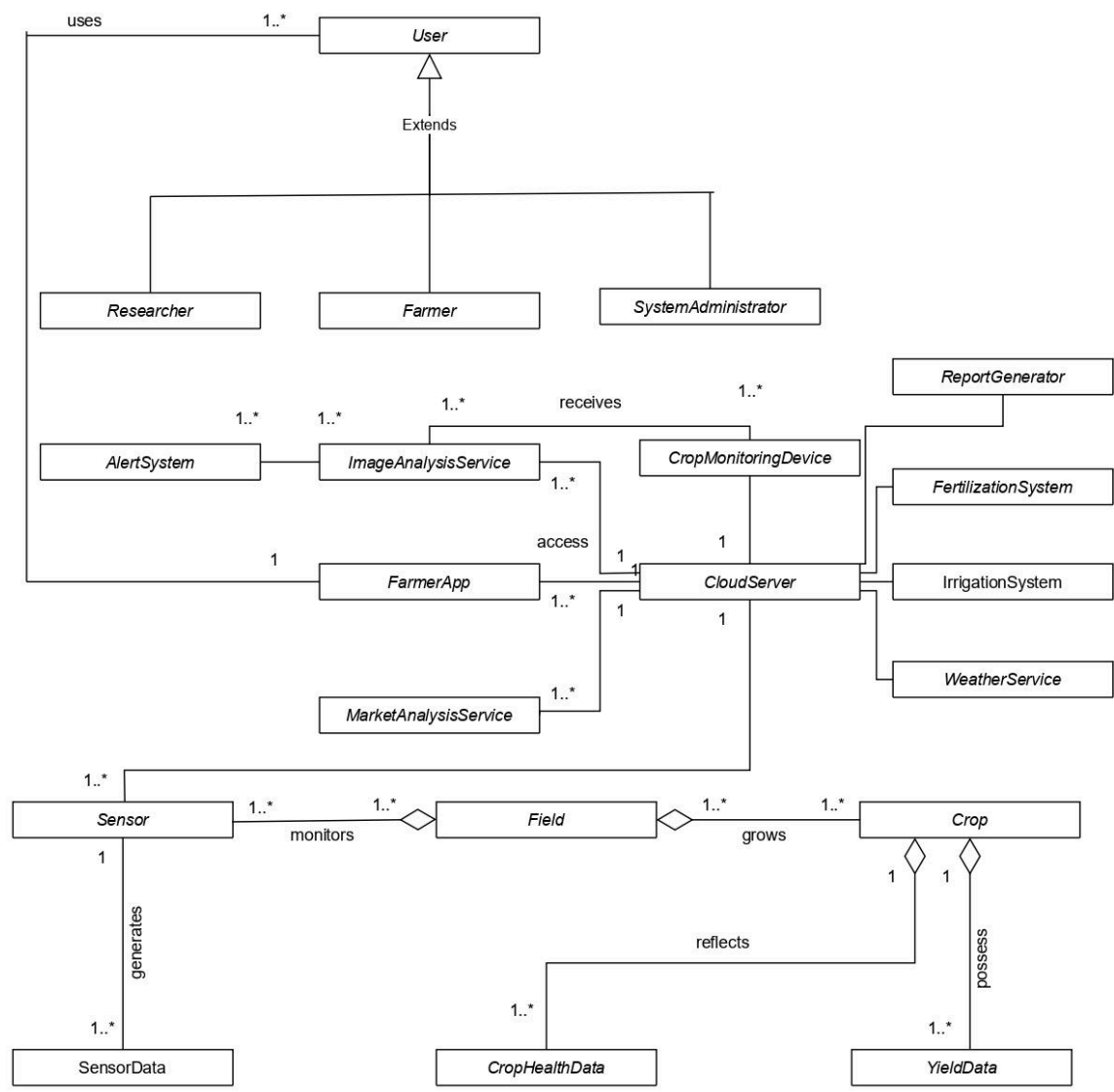
Pest and Disease Detection



Remote Monitoring and Control with Advanced Features



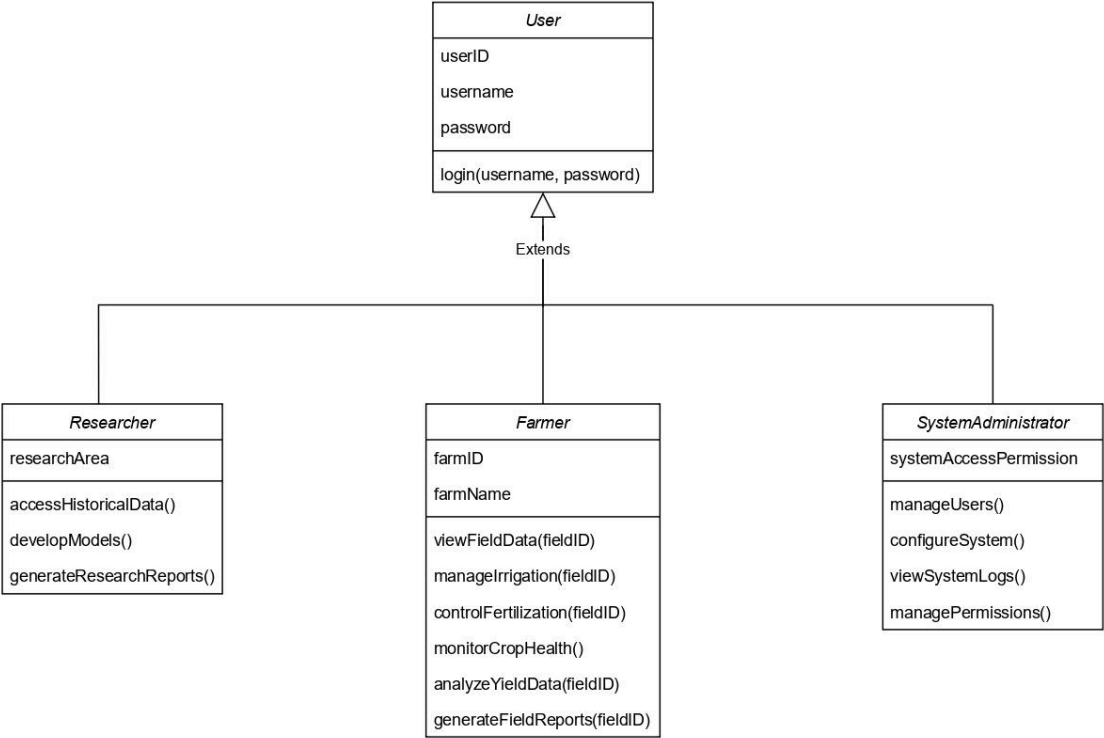
Class Diagram



All Classes with attributes & methods

User userID username password login(username, password)	Researcher researchArea accessHistoricalData() developModels() generateResearchReports()	Farmer farmID farmName viewFieldData(fieldID) manageIrrigation(fieldID) controlFertilization(fieldID) monitorCropHealth() analyzeYieldData(fieldID) generateFieldReports(fieldID)	SystemAdministrator systemAccessPermission manageUsers() configureSystem() viewSystemLogs() managePermissions()
Sensor sensorID sensorType location lastReading isActive collectData() getSensorData() selfDiagnostic()	Field fieldID name area crop	YieldData dataID cropID harvestDate yieldAmount	CropHealthData dataID cropID timeStamp healthIndicator value
CloudServer storeSensorData(data) processSensorData() irrigationCommand(fieldID) fertilizationCommand(fieldID) retrieveWeatherData(location)	AlertSystem alertID alertType timeStamp message generateAlert(type, message) sendAlert(recipient)	SensorData dataID sensorID timeStamp value	FarmerApp userID viewSensorData(fieldID) manageIrrigation(fieldID) controlFertilization(fieldID) monitorCropHealth() analyzeYieldData() generateReports()
CropMonitoringDevice deviceID deviceType location lastImageData captureImage getImageData()	IrrigationSystem systemID connectedField activateIrrigation(duration, flowrate) deactivateIrrigation() getStatus()	ImageAnalysisService imageProcessingID imageBuffer analyzeImage() sendResult()	WeatherService getForecast()
ReportGenerator generateFieldReport(fieldID) generateYieldReport(cropID)		FertilizationSystem systemID connectedField fertilizerType applyFertilizer(amount) getStatus()	MarketAnalysisService getMarketData(cropType)

Generalization Class Diagram



Aggregation Class Diagram

