GIS:

Rationale/Introduction:

Addresses inefficiencies in crop placement and limited access to crop information in Zamboanga City

Utilizes GIS technology to create a centralized platform for agricultural data

Aims to improve decision-making, resource distribution, and resilience in agriculture

Objectives:

Develop Crop Information Portal using GIS Application for crop suitability analysis

Provide access to accurate and timely crop information for farmers and agribusinesses

Features:

Comprehensive Crop Information

Interactive Mapping Interface

Crop Suitability Analysis

Decision Support Tools

Mobile Accessibility

User Feedback Mechanism

Methodology:

Data collection including satellite images, soil samples, and temperature data

Machine learning algorithms for crop suitability analysis

Development with Django framework and GIS libraries

Thorough testing and validation

Expected Output:

Publication, Patent, Product

Increased capacity and expertise in GIS-based agricultural information systems

Establishment of partnerships and collaborations

Adoption of science-based guidelines for agricultural policies

Target Beneficiaries:

Farmers

Agricultural Extension Workers

Researchers and Academia

Agribusinesses

Expected Outcomes:

Increased Productivity

Sustainable Practices

Empowerment and Capacity Building

SmartFix:

Objectives:

Develop predictive maintenance system using deep learning techniques

Implement Flask backend and PyQt for UI

Conduct thorough testing and validation

Features:

Data Collection and Analysis

Preprocessing and Feature Engineering

Machine Learning Algorithms

Proactive Maintenance Capabilities

Timely Alerts and Notifications

User-Friendly Interface

Methodology:

Data collection from household appliances

Deep learning algorithms (RNNs or LSTMs)

Integration with Flask backend and PyQt UI

Thorough testing and validation

Expected Output:

Expansion into new markets

Seamless integration with diverse smart appliances

Subscription-based maintenance plans

Advocacy for government incentives

Enhanced service offerings for technicians

Target Beneficiaries:

Homeowners

Property Management Companies

Businesses in appliance sector

Government Agencies

Technicians and Service Providers

Environmental Conservation Efforts

Supply Savant:

Objectives:

Develop and implement Supply Savant POS system

Establish connection between C# WinForms and SQL Server

Integrate business logic for inventory management

Conduct comprehensive testing and debugging

Features:

Yield per Product Tracking

Waste Tracking

Supply Tracking

Real-Time Cost Tracking

Profitability Reports

Methodology:

Qualitative & Quantitative data collection

Target Population: Restaurant stakeholders

Tools: C# WinForms, SQL Server, ADO.NET

User Testing in real-world environments

Expected Output:

Facilities for collaboration

Commercial product development

Increase in scientific workforce

Target Beneficiaries:

Restaurant Owners & Managers

Restaurant Staff

Customers

Investors & Stakeholders

Industry as a Whole