



**NYU**

**TANDON SCHOOL  
OF ENGINEERING**

# **ECE-GY-9953 (3 credit) ECE-GY-9941 (1.5 credit) Advanced Project**

---

## **PROJECT ROADMAP, HIGH LEVEL ACTIVITIES**

# ROADMAP

## A) PROJECT PROPOSAL

- ☐ **Summary** **Abstract/Introduction/Description/Executive**
- ☐ **Purpose/Anticipated benefits/Justification**
- ☐ **Objectives (SMART goal)**
- ☐ **Scope: Product Scope, Project Scope**
- ☐ **System: Backend, Frontend**
- ☐ **Technical Solution Overview**

# ROADMAP...

---

## **B) OLTP DATABASE DESIGN**

- ☐ **Enterprise Database Model**
- ☐ **Logical Database Model**
- ☐ **Relational Database Model**
- ☐ **DDL Generation**

# ROADMAP...

---

## **C) OLTP DATABASE IMPLEMENTATION**

**Create Objects (Tables, Indexes, Triggers,  
Function, Procedures)**

**Populate Data**

**Test Data, Constraints, Triggers for validations**

# ROADMAP...

## **D) FRONT END APPLICATION DESIGN AND CODING (For ECE-GY-9953 only)**

- ☐ **Application Frame Work ( Menus, Navigations, DB connections)**
- ☐ **User and Management separation**
- ☐ **DB Security management (Role base grants), Password management**
- ☐ **Application security management**
- ☐ **(Data validations, Confirmations, SQL injection, Cross Site scripting Procedures etc.)**

# ROADMAP...

## **E) DATA WAREHOUSE DESIGN and IMPLEMENTATION**

- ☐ **DE-Normalization from OLTP design**
- ☐ **Enterprise, Logical, and Relational Model**
- ☐ **DDL code generation and Creation of Schema**

# ROADMAP...

## **F) ETL CODE**

- ☐ Extract from OLTP database based on timestamp (CDC-change data capture)
- ☐ Transform Data to match DW schema (using External tables, and PL/SQL)
- ☐ Load Data to DW schema

# ROADMAP...

---

## **G) Reports and Analytics from DW database**

**Use any reporting tool for querying data**

**Generate reports / Data analytics**

## **H) END to END FUNCTIONALITIES TEST**

## **I) PROJECT REPORT and PROJECT PRESENTATION**

## **J) PROJECT DEMO**