1 Purpose ?

This Capstone Project is your opportunity to apply the skills you learned. You’ll approach this just like a TPM would in a cross-functional team—translating requirements into system design, evaluating trade-offs, and writing a technical narrative for stakeholders.

2. Structure – HOW It Will Work ?

Step 1: Choose a System to Design

You can pick one of the suggested systems or propose your own:

* Ride-Sharing Backend
* Video Streaming Platform
* E-Commerce Flash Sale System
* (Or get creative with approval—e.g., food delivery platform, IoT-based home automation, etc.)(Optional)

**Step 2: Define Requirements**

Write a **1–2 paragraph summary** of the functional and non-functional requirements:

* What does the system need to do?
* What are the scale/performance needs?
* Are there latency or uptime expectations?
* Who are the users?

**Step 3: Design the System Architecture**

Include:

* **Component Diagram** – major system components and their relationships
* **Sequence Diagram** – a key interaction (e.g., user requests a ride, video play flow)
* **Deployment Diagram** – how services are deployed across regions/zones (if applicable)

Tip: Encourage simplicity—“Don’t over-engineer. Focus on clarity and trade-offs.”

**Step 4: Evaluate Trade-offs**

Participants must explicitly explain:

* **Where and why they chose performance over cost** (or vice versa)
* **What they built vs bought**, and why
* **What integration or external service risks they identified**

**Step 5: Write the Technical Narrative**

This is a short TPM-style summary that includes:

* The problem being solved
* Overview of the architecture
* Justification for design decisions and trade-offs
* Risk/mitigation notes
* Summary for leadership/PMs (1 paragraph, simplified)

**3. Expected Outcomes – WHAT You’ll Gain**

“The Capstone is not just an academic exercise. This mirrors how TPMs work on real product/engineering initiatives. In this , You’ll demonstrate:

* How you turn vague requirements into technical clarity
* How you evaluate cost, performance, and maintainability
* How you communicate with engineers and leadership using diagrams and narrative
* How you justify and document your decisions  
  These are exactly the skills expected from TPMs at companies like Amazon, Google, or Microsoft.”

**4. Tools:** excalidraw.com , Lucidchart, draw.io, Miro, or even hand-drawn diagrams are fine .