

## **Online Library Management System**

Develop an online system for managing library operations including book issuing, return, catalog browsing, and user accounts.

### **1. Define the Tasks:**

- Requirements gathering
- System design
- UI/UX mockups
- Database design
- Front-end development
- Back-end development
- Integration
- Testing
- Deployment
- Documentation

### **2. Sequence the Tasks:**

- Requirements gathering → System design → UI/UX mockups & Database design (parallel)  
→ Front-end & Back-end development (parallel) → Integration → Testing → Deployment → Documentation

### **3. Add Durations:**

- Requirements gathering: 3 days
- System design: 4 days
- UI/UX: 3 days
- DB design: 2 days
- Front-end: 6 days
- Back-end: 6 days
- Integration: 2 days
- Testing: 3 days
- Deployment: 1 day
- Documentation: 2 days

#### **4. Add Dependencies and Constraints:**

- UI/UX and DB design cannot start before system design.
- Integration depends on both front-end and back-end.
- Testing depends on integration.
- Deployment depends on successful testing.

#### **5. Add Resources:**

- Project Manager
- 1 Front-end Developer
- 1 Back-end Developer
- 1 UX Designer
- 1 Tester
- 1 DBA

#### **6. Level Resources:**

- Reassign documentation to the tester to balance workload post-testing.
- Schedule DB design earlier to optimize DBA utilization.

#### **7. Is There a Better Way?**

- Merging UI/UX and front-end development with closer collaboration sped up design iteration.
- Use automated testing tools to shorten testing phase.

#### **8. Review the Plan:**

- Reviewed during team standup for time conflicts and bottlenecks.

#### **9. Create a Baseline:**

- Baseline saved in MS Project with initial timeline and resource allocation.

## **E-Commerce Management System**

Launch a new e-commerce site with catalog management, cart, and payment integration.

### **1. Define the Tasks:**

- Market analysis
- Requirement analysis
- Wireframing
- Design (UI)
- Module development (Catalog, Cart, Payment)
- Integration
- Testing
- Deployment
- Maintenance plan

### **2. Sequence the Tasks:**

- Market analysis → Requirement analysis → Wireframing → UI Design → Module Development  
→ Integration → Testing → Deployment → Maintenance Plan

### **3. Add Durations:**

- Market analysis: 5 days
- Requirement analysis: 3 days
- Wireframing: 2 days
- UI Design: 4 days
- Module Development: 10 days
- Integration: 3 days
- Testing: 4 days
- Deployment: 1 day
- Maintenance Plan: 2 days

#### **4. Add Dependencies:**

- UI Design depends on wireframes.
- Modules must be developed before integration.
- Deployment follows testing.

#### **5. Add Resources:**

- 2 Developers
- 1 UI Designer
- 1 Project Manager
- 1 Tester
- 1 DevOps Engineer

#### **6. Level Resources:**

- Parallelize module development among two devs.
- Schedule DevOps during testing for deployment prep.

#### **7. Is There a Better Way?**

- Suggested use of pre-built UI libraries to reduce design time.
- Used Agile sprints to better handle feedback and dynamic changes.

#### **8. Review the Plan:**

- Weekly sprint reviews ensured milestone tracking.

#### **9. Create a Baseline:**

- Baseline created in Jira with sprint deadlines and task assignments.