Project Lifecycle Management (PLM)
Process or Tool?

Hang on... We must be doing something wrong....
How does the saying go again?
Why PLM?
<table>
<thead>
<tr>
<th>Tier</th>
<th>Tier</th>
<th>Tier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 4 weeks of work.</td>
<td>4 - 24 weeks of work.</td>
<td>24+ weeks of work.</td>
</tr>
<tr>
<td>Budget is less than 25k.</td>
<td>Budget is between 25k - 250k.</td>
<td>Budget is over 250k.</td>
</tr>
<tr>
<td>Requires less than 5 resources.</td>
<td>Requires between 5 - 10 resources.</td>
<td>Requires 10+ resources.</td>
</tr>
<tr>
<td>Scope is well defined and solution is readily available. (In some cases scope/solution are not known but project scale is small).</td>
<td>Scope is somewhat known and solution is somewhat available. (In some cases scope/solution are not known but project scale is medium).</td>
<td>Scope is not defined and solution is not known (In some cases scope/solution are known but project scale is large).</td>
</tr>
<tr>
<td>No/minor dependencies/impact on other applications.</td>
<td>Some dependencies/impact on other applications.</td>
<td>Huge dependencies/impact on other applications.</td>
</tr>
<tr>
<td>Project approval/governance process - TBD.</td>
<td>Project approval/governance process - TBD.</td>
<td>Project approval/governance process - TBD.</td>
</tr>
<tr>
<td>No political implications.</td>
<td>Some political implications.</td>
<td>Major political implications.</td>
</tr>
</tbody>
</table>
Sounds familiar...

1. Initiate
2. Plan
3. Execute
4. Control
5. Close

Project Management
Project Lifecycle Management (PLM)

- It is proposed that SF State projects go through 7 common iterative phases depicted above, with project management processes being executed throughout the lifecycle in support of the 7 phases.
- PLM applies for managing Projects not day to day support/maintenance functions.
- After each phase, a specific criteria (deliverables, activity, etc.) must be satisfied by the project team.
- Required deliverables will be scaled to fit project type and size.
- A Roles and Responsibilities matrix will also be developed at the outset of the project to identify specific SF State individuals required to review and provide sign-off on various deliverables throughout the lifecycle.
- Using a common approach and terminology will enable standardization and streamline project management process, that will help manage projects and user expectations better.
- Templates URL: https://share.sfsu.edu/doit/itpp/SitePages/Home.aspx?RootFolder=%2Fdoit%2Fitpp%2FShared%20Documents%2FPLM&FolderCTID=0x012000DB0F56BF5A513341B50F5120E374D166&View={4B036963-CC5E-4D80-898B-CE39495B6947}
PLM - Iterative

**Deliverables - Customers**

**Project Initiation**
- Define and authorize a project’s objectives, scope, purpose, and deliverables.

**Requirements**
- Define detailed requirements for the proposed solution.

**Functional & Technical Design**
- Define system design according to the requirements.

**Develop**
- Perform development, unit and integration testing of the system.

**User Acceptance Testing (UAT)**
- Prepare for implementation of the developed system through UAT.

**Deployment**
- Deploy the developed system in production.

**Closing**
- Close the project.

**Deliverables**
- Project Proposal
  - Business Requirements Document
    - Functional & Non-Functional Requirements
    - Use Cases
  - User Acceptance Test Plan
- Training Plan
  - Material
  - Schedule
- Project Sign-Off
PLM - Iterative

Deliverables - Information Technology

Project Initiation
- Define and authorize a project's objectives, scope, purpose, and deliverables.
  - Project Charter
    - Cost Estimate
    - Resource List
    - Issue & Risk Register
    - Communication Plan
  - High Level Project Plan
  - Updated Project Plan
  - Updated Project Charter

Requirements
- Define detailed requirements for the proposed solution.
  - Updated Project Plan
  - Updated Project Plan

Functional & Technical Design
- Define system design according to the requirements.
  - Technical Requirements Document
    - Process Diagrams
  - Updated Project Plan
  - Unit Test Plan
  - Functional Test Plan
  - Defect Log
  - Deployment Plan

If Applicable, do:
- Technical Design
- System/Data Architecture

Develop
- Perform development, unit and integration testing of the system.
  - Updated Project Plan
  - Unit Test Plan
  - Functional Test Plan

User Acceptance Testing (UAT)
- Prepare for implementation of the developed system through UAT.
  - Updated Project Plan
  - Updated Defect Log

Deployment
- Deploy the developed system in production.
  - Production Readiness Checklist
  - Updated Project Plan

Closing
- Close the project.
  - Project Close Checklist
    - Project Metrics
    - Lessons Learned Document

Deliverables
- Project Close Checklist
  - Project Metrics
  - Lessons Learned Document

## Project Proposal

- **Sponsor/Customer**: Required
- **Notes**: Project proposal is not required for Change Requests. Justification for change should be included in the Change Request form.

## Business Requirements
- **Functional & Non-Functional Requirements**
  - **Use Cases**: Required
  - **Notes**: Business Requirements may be required for Change Requests based on the scope of change requested (large). Change Request form must state the functional and if applicable, non-functional requirements.

## User Acceptance Test Plan
- **Customer**: Required
- **Notes**: User Acceptance Test Plan may be required for Change Requests based on the scope of change requested.

## Training Plan
- **Customer/QA Analyst**: Required
- **Notes**: Training Plan may be required for Change Requests based on the scope of change requested (large).

## Project Sign-Off
- **Project Manager**: Required
- **Notes**: Project Plan may be required for Change Requests based on the scope of change requested (large).

## Project Plan
- **Project Manager**: Required
- **Notes**: Project Plan may be required for Change Requests based on the scope of change requested (large).

## Project Charter
- **Project Manager**: Required
- **Notes**: Project Charter is not required for Change Requests.

## Technical Requirements
- **Technical Lead**: Required
- **Notes**: Technical Requirements may be required for Change Requests based on the scope of change requested (large).
<table>
<thead>
<tr>
<th>Deliverables</th>
<th>Accountable</th>
<th>Applies to Projects</th>
<th>Applies to Change Requests</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Design</td>
<td>Technical Lead</td>
<td>Required</td>
<td>Required</td>
<td>Change Requests may not need their own Technical Design document but the relevant documents must be reviewed and updated. Note: Although the Technical Lead is responsible, they must also review with the Architecture Review Committee.</td>
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<tr>
<td>System/Data Architecture</td>
<td>Technical Lead</td>
<td>Required</td>
<td>Required</td>
<td>Change Requests may not need their own technical design document but the relevant documents must be reviewed and updated. Note: Although the Technical Lead is responsible, they must also review with the Architecture Review Committee.</td>
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<tr>
<td>Unit Test Plan</td>
<td>Technical Lead</td>
<td>Required</td>
<td>Required</td>
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<tr>
<td>Functional Test Plan</td>
<td>QA Analyst</td>
<td>Required</td>
<td>Required</td>
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</tr>
<tr>
<td>Defect Log</td>
<td>QA Analyst</td>
<td>Required</td>
<td>Optional</td>
<td>Defect Log maybe required for Change Request based on the scope of change requested (large)</td>
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<tr>
<td>Deployment Plan</td>
<td>Project Manager</td>
<td>Required</td>
<td>Required</td>
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<tr>
<td>Production Readiness Checklist</td>
<td>Technical Lead</td>
<td>Required</td>
<td>Required</td>
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<tr>
<td>Project Close Checklist</td>
<td>Project Manager</td>
<td>Required</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Role</td>
<td>Profile</td>
<td>Primary Project Duties</td>
<td>Other Project Responsibilities</td>
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<tr>
<td><strong>Project Sponsor</strong></td>
<td>Member of the Executive Committee</td>
<td>• Recommends and advocates project to organization</td>
<td>• Reviews and approves Project Proposal and Project Charter</td>
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<td></td>
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<td>• Resolves funding, policy and/or resource issues</td>
<td>• Monitors and addresses project status and issues with Service Owner and/or Project Manager, as needed</td>
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<td></td>
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<td></td>
<td>• Assures completion of project scope on time and within budget</td>
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<tr>
<td><strong>Service Owner</strong></td>
<td>An individual, multiple individuals, a service provider and/or a department</td>
<td>• Delivers and/or utilizes the expected business benefit(s)</td>
<td>• Develop Project Proposal</td>
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<td>• Responsible for overall delivery of Business Requirements</td>
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<td>• Responsible for overall delivery of User Acceptance Test (UAT) Plan</td>
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<td>• Responsible for Project Sign-off</td>
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<td>• Responsible for overall delivery of the Training Plan</td>
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<td>• Approves Project Proposal and Project Charter</td>
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<td>• Validates business objectives and project requirements</td>
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<td>• Manages service unit to deliver service benefits</td>
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<td></td>
<td>• Provides Subject Matter Experts to project</td>
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<tr>
<td><strong>Project Manager</strong></td>
<td>A single individual with knowledge and skills in Project Management; can be from IT or the Functional side</td>
<td>• Reports project progress, plans and issues to Project Sponsor &amp; Service Owner</td>
<td>• May develop Project Proposal</td>
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<td>• Manages all day-to-day project activities.</td>
<td>• Develops Project Charter</td>
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<td></td>
<td>• Responsible for overall project delivery and closure</td>
<td>• Develops and manages/updates Project Plan and all related project documentation and reports</td>
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<td>• Determines and manages resource requirements</td>
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<td>• Manages project budget</td>
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<td>• Develops Project Close Checklist</td>
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<td></td>
<td>• Responsible for Project Sign-off</td>
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<td>• Addresses and resolves issues with project team; escalates issues to Project Sponsor and Service Owner as needed</td>
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<td>• Identifies and secures the necessary technical skills and resources for the project</td>
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<td>• Plan, schedule, and manage Project Lifecycle Management activities</td>
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<td></td>
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<td></td>
<td>• Tracks, manages, and reports risks, issues, and project status information</td>
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<tr>
<td>Role</td>
<td>Profile</td>
<td>Primary Project Duties</td>
<td>Other Project Responsibilities</td>
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<td>-----------------------------</td>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
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</tbody>
</table>
| **Subject Matter expert** (SME) | An individual from Functional side and/or IT | • Provides knowledge and/or skills of a particular domain critical to the management, development and/or completion of the project | • Collaborates with project team members  
• Communicates project status and issues to the Service Owner and Project Manager  
• Assists with clarification of project objectives  
• Works with Project Manager to define the project’s deliverables and requirements |
| **Project Team**            | Individuals from both Functional site and IT | • Delivers project requirements within scope and schedule                                 | • Communicates project status and issues to Project Manager.  
• Assists with clarification of project objectives.  
• Responsible for Project deliverables. |
| **Business Analyst**        | An individual from IT                        | • Analyzes, interprets and documents the business requirements, functional, non-functional, and user requirements | • Responsible for Business Requirements document.  
• Assists the Technical team with clarification of questions that arise regarding Requirements.  
• Acts as resource to QA analyst for information to create Functional Test Plan. |
| **QA Analyst**              | An individual from IT                        | • Ensures quality assurance testing                                                    | • Responsible for quality assurance testing and defect reporting.  
• Responsible for Functional Test plan and Defect Log.  
• Document Test results. |
| **Technical Lead**          | An individual from IT                        | • Oversees the technical development efforts.                                           | • Responsible for Technical Requirements, Unit Test plan, Production Readiness Checklist and Technical Design, System/Data Architecture (if applicable).  
• Provides programming assistance on Requirements.  
• Responsible for the underlying architecture, as well as for overseeing the work being done by other developers working on the project. |
### Project Initiation
- Define and authorize a project’s objectives, scope, purpose, and deliverables.
- Define project proposal.
- Define business needs.
- Develop high level project plan.
- Estimate costs.
- Estimate/Identify resources - core team vs. extended team.
- Assess PLM needs for the project.
- Register project in Tool.
- Review project governance structure.
- Project kick-off meeting.

### Requirements
- Define detailed requirements for the proposed solution.
- Define business requirements.
- Develop requirements traceability matrix.
- Create functional requirements.
- Develop use cases.
- Identify test strategy.
- Update project charter.
- Update project plan.

### Functional & Technical Design
- Define system design according to the requirements.
- Conduct JAD (Joint Application Design) sessions.
- Create process diagrams.
- Create test scripts.
- Update project plan.
- If Applicable: - Define data architecture.
  - Define system architecture.
  - System integration design.
  - Create prototype.
  - Create infrastructure plan.

### Develop
- Perform development, unit and integration testing of the system.
- Develop solution.
- Execute unit & integration test.
- Execute system and functional tests.
- Identify defects and maintain a defect log.
- Develop deployment plan.
- Update project plan.
  - if Applicable: - Build infrastructure environment.
  - Demo to stakeholders.

### User Acceptance Testing (UAT)
- Prepare for implementation of the developed system through UAT.
- Execute User acceptance test cases.
- Prioritize and assign defect resolution.
- Develop training plan.
- Validate training materials.
- Conduct training and communication.
- Review release readiness.
- Plan release.
- Update project plan.

### Deployment & Closing
- Deploy the developed system in production and close the project.
- Deploy release to production.
- Verify production release.
- Stabilize release.
- Conduct knowledge transfer sessions.
- Conduct lessons learned session.
- Update project metrics.
- Archive project documentation.
- Release project resources.
- Obtain project sign-off.
- Close project.

### Deliverables
- Project Proposal
- Project Charter
  - Cost Estimate
  - Resource List
  - Issues & Risk Register
  - Communication Plan
- High Level Project Plan
- Business Requirements Document
  - Functional & Non Functional Requirements
  - Use Cases
- User Acceptance Test Plan
- Technical Requirements Document
  - Process Diagrams
  - If Applicable: - System/Data Architecture
  - Technical Design Document
- Unit Test Plan
- Functional Test Plan
- Defect log
- Deployment plan
- Training Plan
  - Material
  - Schedule
- Updated Defect log
- Production Readiness Checklist
- Project Sign-off
- Project Close Checklist
  - Project Metrics
  - Lessons Learned Document
One Size...
PLM - Operations

**Deliverables - Information Technology**

<table>
<thead>
<tr>
<th>Concept of Operations</th>
<th>Requirements</th>
<th>Architecture &amp; Design</th>
<th>Integration, Test &amp; Verification</th>
<th>System Verification &amp; Validation</th>
<th>Deployment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outputs</strong></td>
<td><strong>Outputs</strong></td>
<td><strong>Outputs</strong></td>
<td><strong>Outputs</strong></td>
<td><strong>Outputs</strong></td>
<td><strong>Outputs</strong></td>
</tr>
<tr>
<td>High Level Project Plan</td>
<td>Updated Project Plan</td>
<td>Updated Project Plan</td>
<td>Updated Project Plan</td>
<td>Updated Project Plan</td>
<td>Project Close Checklist</td>
</tr>
<tr>
<td>Functional &amp; Technical Requirements</td>
<td>System Design</td>
<td>Defect Log</td>
<td>Deployment Plan</td>
<td>Updated Defect Log</td>
<td>Production Readiness Checklist</td>
</tr>
</tbody>
</table>

**Define and authorize a system's objectives, scope, purpose, and deliverables.**

**Define requirements for the proposed system.**

**Define architecture and design according to the requirements.**

**Perform integration, test and verification of the system.**

**Perform system verification and validation.**

**Deploy the developed system in production and close the project.**

- **Outputs**
  - High Level Project Plan
  - Updated Project Plan
  - Updated Project Charter
  - Architecture Design Document
  - System Design
  - Defect Log
  - Updated Defect Log
  - Deployment Plan
  - Production Readiness Checklist
PLM - Agile

Deliverables - Functional Users & Information Technology

Project Initiation

- Define and authorize a project's objectives, scope, purpose, and deliverables.

- Sprint 0
  - Design
  - Code
  - Test
  - Sprints 1, 2, 3, 4,...

User Acceptance Testing (UAT)

- Prepare for implementation of the developed system through UAT.

Deployment & Closing

- Deploy the developed system in production and close the project.

Outputs

- High Level Project Plan
- Project Charter
  - Cost Estimate
  - Resource List
  - Issue & Risk Register
  - Communication Plan

- Product Backlog

Outputs

- Updated Project Plan
- Sprint Backlog
- Unit Test Plan
- Defect Log
- Deployment Plan

Outputs

- Updated Project Plan

Outputs

- Updated Defect Log
- Production Readiness Checklist

- Project Close Checklist
  - Project Metrics
  - Lessons Learned Document