Session 2.1

SDLC Life Cycle – V Process Model
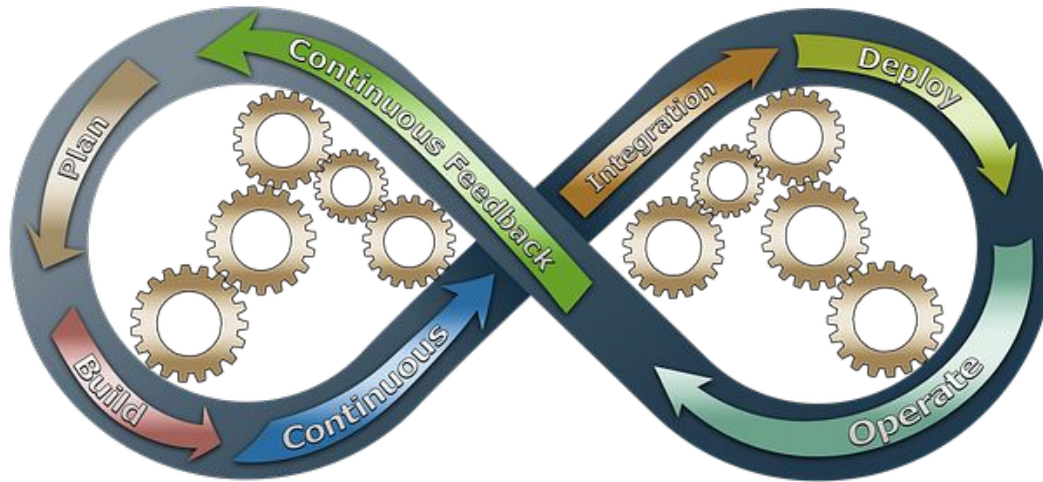
AN INITIATIVE BY

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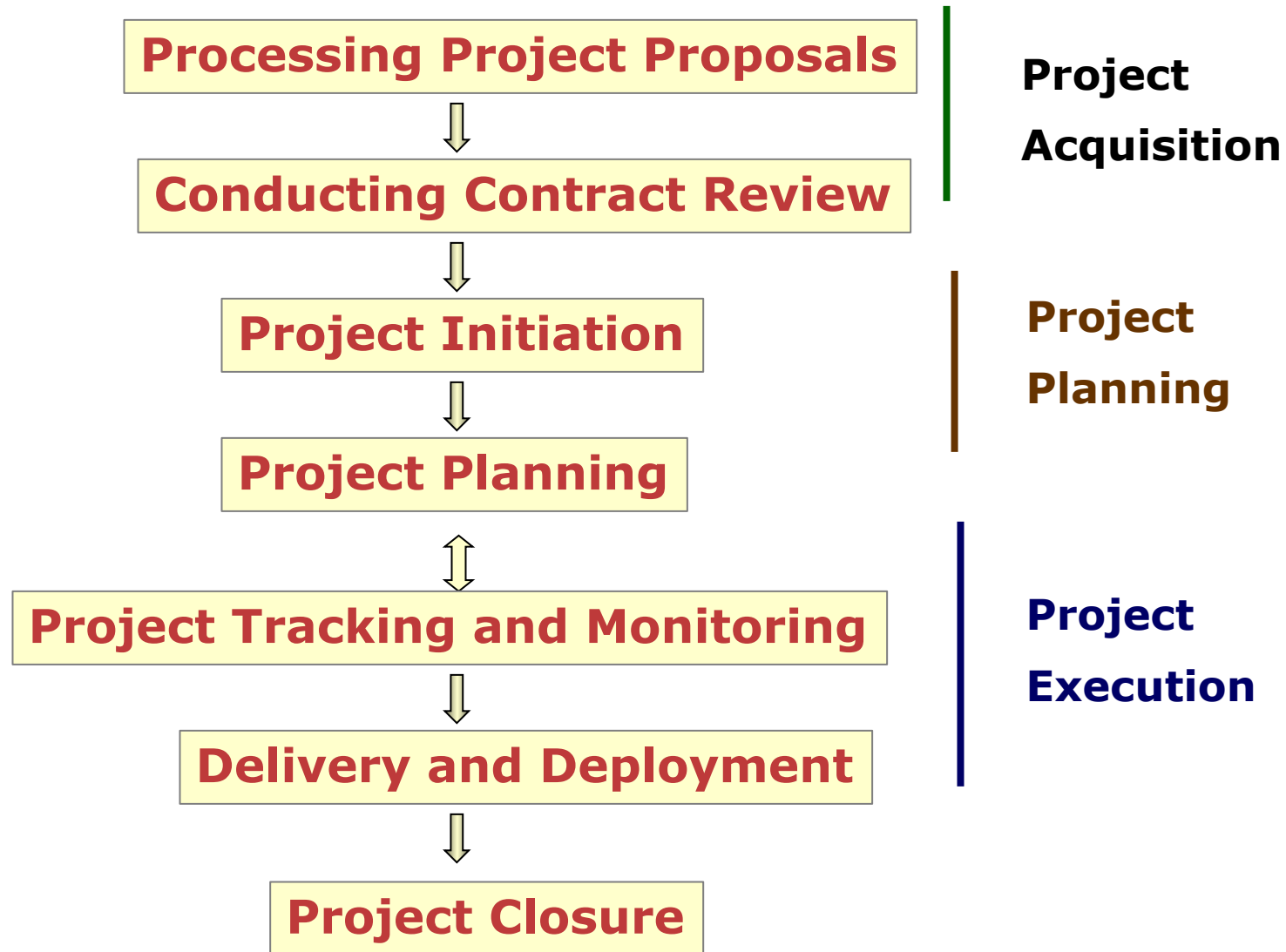# Introduction

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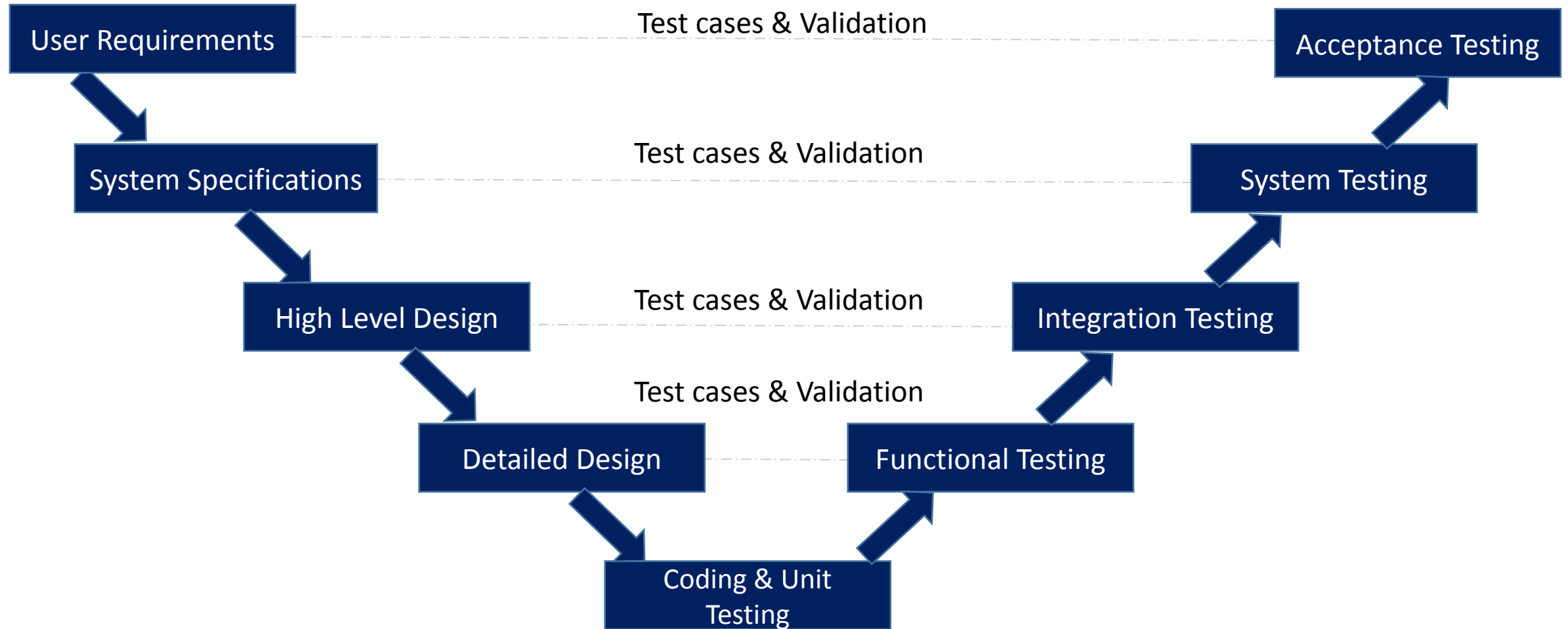
What will be covered in this session?

- We will start Module 2 with a detailed walkthrough of SDLC (V Process) workflow and key documents for each phase
- After that, a detailed walkthrough of Loan Management System (hands-on user experience feel)
- Study of the use cases, test data, test scenarios for Loan Management System
- Hands-on preparation of Test cases, test data, and manual testing of the application, and report generation
- The last section of Module 2 covers various types of Testing – from practical aspect

Part 4: Hands-on Sessions (100 h)

- Use cases and traceability
- Test data and scenarios
- Day to day work
- Defect prevention, RCA and other value add aspects

Part 3: Automated Testing (50 h)

- Selenium Overview
- Web Driver, Locators, Elements and more
- Automation and Runs

Part 2: Concepts of Testing (30 h)

- Types of Testing
- Common testing tools
- Manual Testing – Test cases, Data, Scenarios etc.
- Case-studies and Scenarios

Part 1: The Basics (20 hours)

- Organization & its working
- SDLC & STLC Overview
- Basics of OOPS, Database Java essentials for Testing
- Overview on few Testing roles Job Descriptions

Let's go!!!

High-level workflow

Processing Project Proposals

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Conducting Contract Review

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Project Acquisition

Project Initiation

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Project Planning

Project Planning

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Project Tracking and Monitoring

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Project Execution

Delivery and Deployment

⇩

Project Closure

SDLC – 'a V Process' Model

User Requirements

Test cases & Validation

Acceptance Testing

System Specifications

Test cases & Validation

System Testing

High Level Design

Test cases & Validation

Integration Testing

Detailed Design

Test cases & Validation

Functional Testing

Coding & Unit Testing

User Requirements Phase

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Entry	Customer's requirements/Voice Of Customer*/Contract
Inputs	Request for Proposal
Tasks	Gather customer needs
	Collect customer needs using VOC Collection Plan
	Prepare VOC Collection Plan (Refer ...VOC Collection Plan template)
	Prioritize customer needs using Affinity diagram (Refer ...Affinity Diagram template)
	Document user requirements (URD template)
	Prepare draft Acceptance Test Plan (Refer… ATP template) and draft Acceptance Test Cases (Refer… ATR template). Reviewed, approved and baselined ATP and ATR shall be ready before the Acceptance Testing begins.
	Prepare Traceability Matrix (Refer… Traceability Matrix template)
	Conduct Tollgate Review (Refer… Tollgate Review Checklist for Initiate)
Verification / Validation	URD
	Traceability Matrix
	VOC Collection Plan
	Affinity Diagram
Outputs	URD ATP and ATR Updated Traceability Matrix Tollgate Review Reports Updated Risk Assessment Sheet
Exit	Review and Approval of URD

System Specifications Phase

Entry	Baselined URD
Inputs	URD Project Charter Tollgate Review Report
Tasks	Map Customer Needs to CTQ's & prioritize Customer needs using HOQ – (Refer… HOQ – 1 template) Document unstable requirements (Refer… URD template) Prepare System Test Plan (Refer… STP template) to validate the functionality of the product. Document System Test Report (Refer… STR Template) with the baselined SRS as the reference. Update Traceability Matrix (Refer… Traceability Matrix) Conduct Tollgate review (Refer… Tollgate Review Checklist for initiate)
Verification / Validation	SRS STP & STR Traceability Matrix
Outputs	SRS SRR Draft STP/STR Updated Traceability Matrix Tollgate Review Reports Updated Risk Assessment Sheet
Exit	Approval of SRS and System Specifications

High Level Design Phase

Entry	Approved SRS, Completed / draft STPs and Completed / draft STRs
Inputs	Baselined SRS
	Tollgate Review Report
Tasks	Prepare High Level Design Document (Refer…HLDD template) Develop alternate concepts and select the best concept Perform function analysis Map CTQ's to high-level functions using HOQ – 2 (Refer…HOQ – 2 template) Map high level functions to High Level Design elements using HOQ – 3 (Refer…HOQ – 3 template) Prepare of HLD Scorecards (Refer…HLD scorecard template) Prepare Integration Test Plans (Refer… ITP template) Prepare Integration Test Cases (Refer… ITR template) against the baselined input documents. Update Traceability Matrix Conduct Tollgate review (Refer… Tollgate Review Checklist for Design)
Verification / Validation	HLDs
	ITP & ITR
	Traceability Matrix
Outputs	HLDs
	ITP & ITR
	Updated Traceability Matrix
	Tollgate Review Report
Exit	Approval of HLDs

Detailed Design Phase

Entry	Approval of HLDDs, completed/draft ITP and completed/draft ITRs
Inputs	Baselined HLDDs Tollgate Review Report
Tasks	Prepare DDDs (Refer…DDD template) Prepare Unit Test Plan (Refer…FTP template) and Unit Test Cases (Refer…FTR template) against the baselined input documents Identify critical design elements Prepare Integrated Design Document (Refer… Integrated Design Document template) Map the high-level design elements to Low Level Design elements using HOQ – 4 (Refer…HOQ – 4 template) Prepare LLD scorecard (Refer… LLD Scorecard template) Prepare of HLD-LLD traceability matrix (Refer…HLD-LLD Traceability Matrix form) Update Traceability Matrix (Refer… Traceability Matrix template) Conduct Tollgate review (Refer… Tollgate Review Checklist for Design)
Verification / Validation	DDDs, IDDs
	Traceability Matrix
	FTPs and FTRs
	LLD Scorecard
Outputs	DDD DDD, FTP and FTC Traceability Matrix
	Tollgate Review Reports
Exit	Approval of DDDs

Coding & Unit Testing Phase

Entry	Approved DDDs
Inputs	Baselined DDDs, UTP, and UTRs Coding Standards Tollgate Review Reports
Tasks	Code according to the coding standards and DDDs Version control of the Source Code Revisit Unit Test Plan's (Refer… Unit Test Plan template) Unit test Reports (Refer… Unit Test Report template) Perform Unit Testing Update Traceability Matrix (Refer… Traceability Matrix template) Conduct Tollgate Review (Refer… Tollgate Review Checklist for Testing)
Verification / Validation	Code Review/Inspection against programming standards and DDR Review of UTR against DDD Traceability Matrix Testing Review
Outputs	Source Code Code review report (CRR) (Refer… Code Review Report) Unit Test Report (UTR) Test Results Defect Consolidation Log (Refer… Issue Log template) Updated Traceability Matrix Tollgate Review Reports
Exit	Unit tested and baselined Source code

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Functional Testing Phase

Entry	Unit tested and base lined Source Code
Inputs	Unit tested and baselined source code Reviewed, approved and baselined FTP, FTRs Defect Tracking Form, Defect Consolidation Log Tollgate Review Report
Tasks	Perform Integration Testing Revisit FTP (Refer… Functional Test Plan template), FTR (Refer… Functional Test Report template) Update Traceability Matrix (Refer… Traceability Matrix template) Conduct Tollgate review (Refer Tollgate Review Checklist for Testing
Verification / Validation	Functional Test Reports (FTRs) against LLDDs
Outputs	Functional Test Reports (FTRs) Test Results Defect Consolidation Log (Refer… Issue Log template) Updated Traceability Matrix Tollgate Review Reports
Exit	Functional Tested and base lined source code

Integration Testing Phase

Entry	Functional tested and base lined Source Code
Inputs	Unit tested and baselined source code Reviewed, approved and baselined ITP, ITRs Defect Tracking Form, Defect Consolidation Log Tollgate Review Report
Tasks	Perform Integration Testing Revisit ITP (Refer… Integration Test Plan template), ITR (Refer… Integration Test Report template) Update Traceability Matrix (Refer… Traceability Matrix template) Conduct Tollgate review (Refer Tollgate Review Checklist for Testing
Verification / Validation	Integration Test Reports (ITRs) against HLDDs
Outputs	Integration Test Reports (ITRs) Test Results Defect Consolidation Log (Refer… Issue Log template) Updated Traceability Matrix Tollgate Review Reports
Exit	Integrated, Tested and base lined source code

System Testing Phase

Entry	Completion of Integration Testing
Inputs	Integration tested and baselined source code Reviewed and approved STP and STRs Defect Tracking Form, Defect Consolidation Log Tollgate Review Report
Tasks	Perform System Testing Revisit STP (Refer… System Test Plan template), STR (Refer… System Test Report template) Update Project Charter (Refer… Project Charter template) Update Traceability Matrix (Refer… Traceability Matrix template) Conduct Tollgate review (Refer… Tollgate Review Checklist for Testing)
Verification / Validation	System Test Reports (STRs) against
Outputs	System Test Reports (STRs) Test Results Defect Consolidation Log (Refer… Issue Log template) Updated Traceability Matrix Tollgate Review Report Updated Risk Assessment Sheet
Exit	Tested and Approved System (all functional blocks / modules)

Acceptance Testing Phase

Entry	System Tested Software
Inputs	Reviewed, approved and baselined URD, ATP and ATR Tollgate Review Report
Tasks	Setup UAT environment Update Project Charter Conduct Tollgate review Deliver Software
Verification / Validation	Validation of product against URD and acceptance criteria
Outputs	Baselined version of product with the user documentation Test Results Additional outputs for six sigma projects: Updated Project Charter Tollgate Review Report
Exit	Acceptance by Customer

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Session Recap

What to study?

Addl. learning

Session Objective

Referred

Homework

Discussed

Questions?