## Background

This intensive 2-day Kanban training class provides an introduction to Lean, Pull Systems and Kanban and will explain how established industrial engineering theory can apply to software development process. Working in small teams, class attendees will analyze and design a kanban system implementation for a real world scenario.

## What you will learn

An introduction to Lean, Pull Systems and Kanban
Value Stream Mapping
Controlling WIP
Implementing different classes of service
Negotiating service level agreements with customers
Implementing a culture of continuous improvement (Kaizen)
How established industrial engineering theory can apply to software development process
Identifying bottlenecks
Classifying bottlenecks as capacity constrained resources or non-instant availability resources
Managing bottlenecks appropriately for improved throughput
Understanding transaction and coordination costs in a kanban process
Defining release and input cadence for a kanban system
Using Metrics and Reporting to drive continuous improvement

## Introduction

Introduction to Lean
What is a kanban system – Imperial Palace Gardens example
Background and history of approach to kanban system for software engineering

## Demand Analysis for Initial Kanban System Design

What are the types of work for your team?
What is the daily, monthly, or seasonal demand for your team's time?
What are sources of customer dissatisfaction?
What are sources of internal dissatisfaction?

## Value Stream Mapping and Tracking

Defining customer-valued work items (deliverables)
Value-stream mapping
Work item tracking (manual and electronic)
Daily standup meetings
Kanban boards
Sticky Buddies

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## WIP

Setting kanban limits

## Simulation Game

Hands on experience working with a realistic kanban system

## Classes of Service

Types of work items
Expediting
Policies for processing work items

## Service Level Agreements

Striking a different bargain
Determining a service level agreement
Monitoring due date performance

## Bottlenecks

Identifying bottlenecks
Capacity constrained resources
Non-instant availability resources
Improving throughput

## Variability

How to identify and classify variability
Strategies to reduce variability

## Scaling Kanban

Standup meetings
Two-tiered kanbans
Swim Lanes

## Release Cadence

Technical transaction costs of release
Customer transaction costs of release
Market variation and demand for releases

## Prioritization Cadence

Feeding the input queue
Transaction costs of item selection and prioritization

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## Metrics and Reporting

- WIP - Cumulative flow
- Lead Time
- Waste Lead Time : Touch Time
- Open Issues and Blocked Work Items
- Lead Time Spectrum Analysis
- Executive Dashboard

## Kaizen Culture

- Meaning of Kaizen
- Trust and transparency
- Alignment
- Focus on Value Delivery
- Empowerment, Delegation (Self-organization)
- Servant Leadership
- Objective Quantitative Management with simple Metrics

## Summary

- Culture
- Policies
- Cadence
- Collaboration
- Continuous Improvement

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