Online Movies Content Management System

Dr.Mark Austin –System Engineering

ENPM 643

Submitted By
Aditya Badhwar

Presentation Agenda

- Introduction
- SDLC Model/Agile Unified Process
- Goals
- UML Diagrams
  - Communication Diagram
  - Sequence Diagram
  - Use Case Diagram
- Validation and Verification
- Software Testing (Dynamic/Static)
- Software Validation tools (Load Runner / Win Runner)

Introduction

- The Online Movies content management system is a Web based system used for storing,controlling,publishing media industry specific data. The idea behind a CMS is to make these files available inter-office, as well as over the web

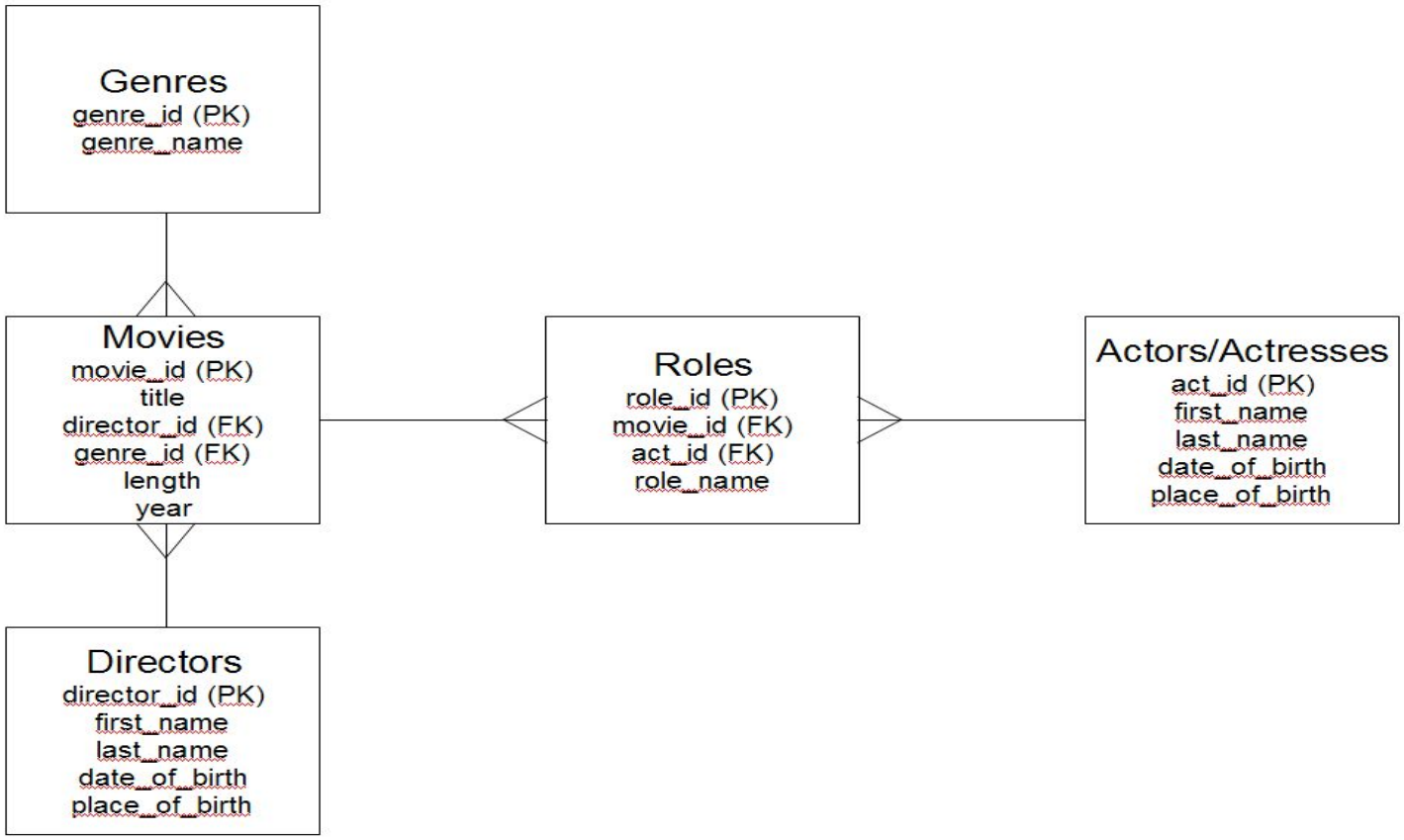
=>The ability to control content through a web interface, irrespective of the web browser

=>Identification of all key users and roles specific to users

=>The ability to track changes made by users

=>Record the changes and undo them if desired

ER Diagram


Genres
genre_id (PK)
genre_name
Movies
movie_id (PK)
title
director_id (FK)
genre_id (FK)
length
year
Roles
role_id (PK)
movie_id (FK)
act_id (FK)
role_name
Actors/Actresses
act_id (PK)
first_name
last_name
date_of_birth
place_of_birth
Directors
director_id (PK)
first_name
last_name
date_of_birth
place_of_birth

SDLC Models

- Waterfall
- Agile (Agile unified process)
- RUP (Rational unified process)
- Iterative
- RAD (Rapid application development)
- Spiral
- XP (Extreme programming)

Agile Unified Process (AUP)

Agile software development is a conceptual framework for software engineering that promotes development iterations throughout the life-cycle of the project

- Minimize risk by developing software in short amounts of time
- Software developed during one unit of time is referred to as an iteration
- Each iteration is an entire software project: including planning, requirements analysis, design, coding, testing, and documentation
- An iteration may not add enough functionality to warrant releasing the product to market but the goal is to have an available release (without bugs) at the end of each iteration

The Agile Manifesto

- Customer satisfaction by rapid, continuous delivery of useful software
- Working software is delivered frequently (weeks rather than months)
- Working software is the principal measure of progress
- Even late changes in requirements are welcomed
- Close, daily cooperation between business people and developers
- Face-to-face conversation is the best form of communication
- Projects are built around motivated individuals, who should be trusted
- Continuous attention to technical excellence and good design
- Simplicity
- Self-organizing teams

AUP comprises four phases

1. **Inception**

   Identify the initial scope of the project, a potential architecture for the system, and obtain initial project funding and stakeholder acceptance.

2. **Elaboration**

   Prove the architecture of the system.

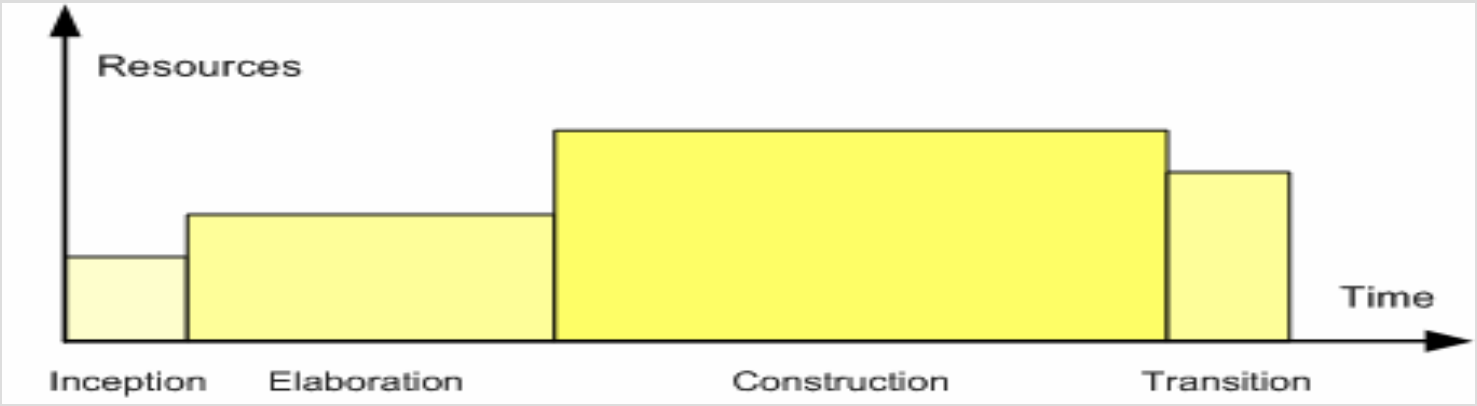
3. **Construction**

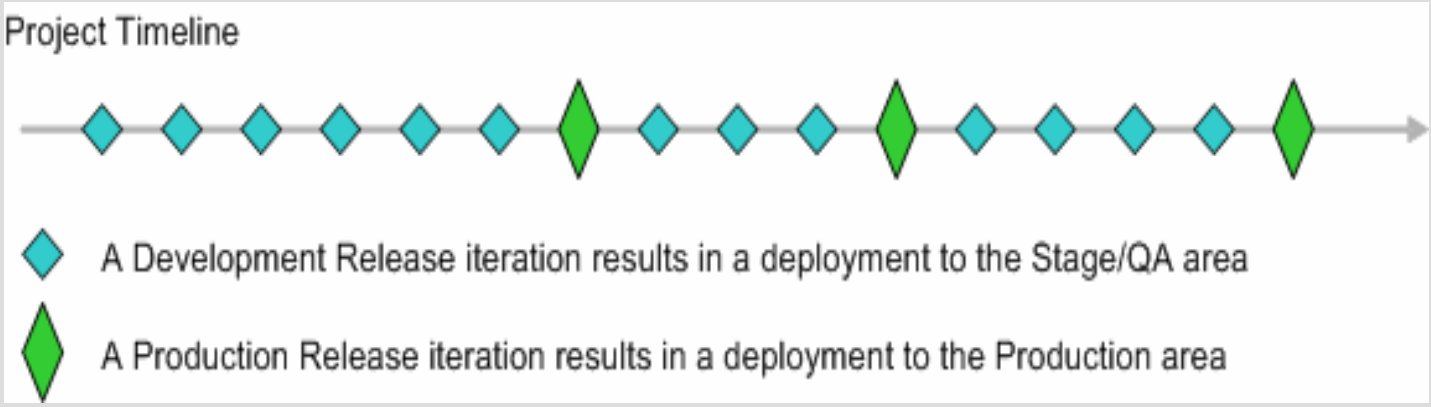
   Build working software on a regular, incremental basis which meets the highest-priority needs of project stakeholders.

4. **Transition**

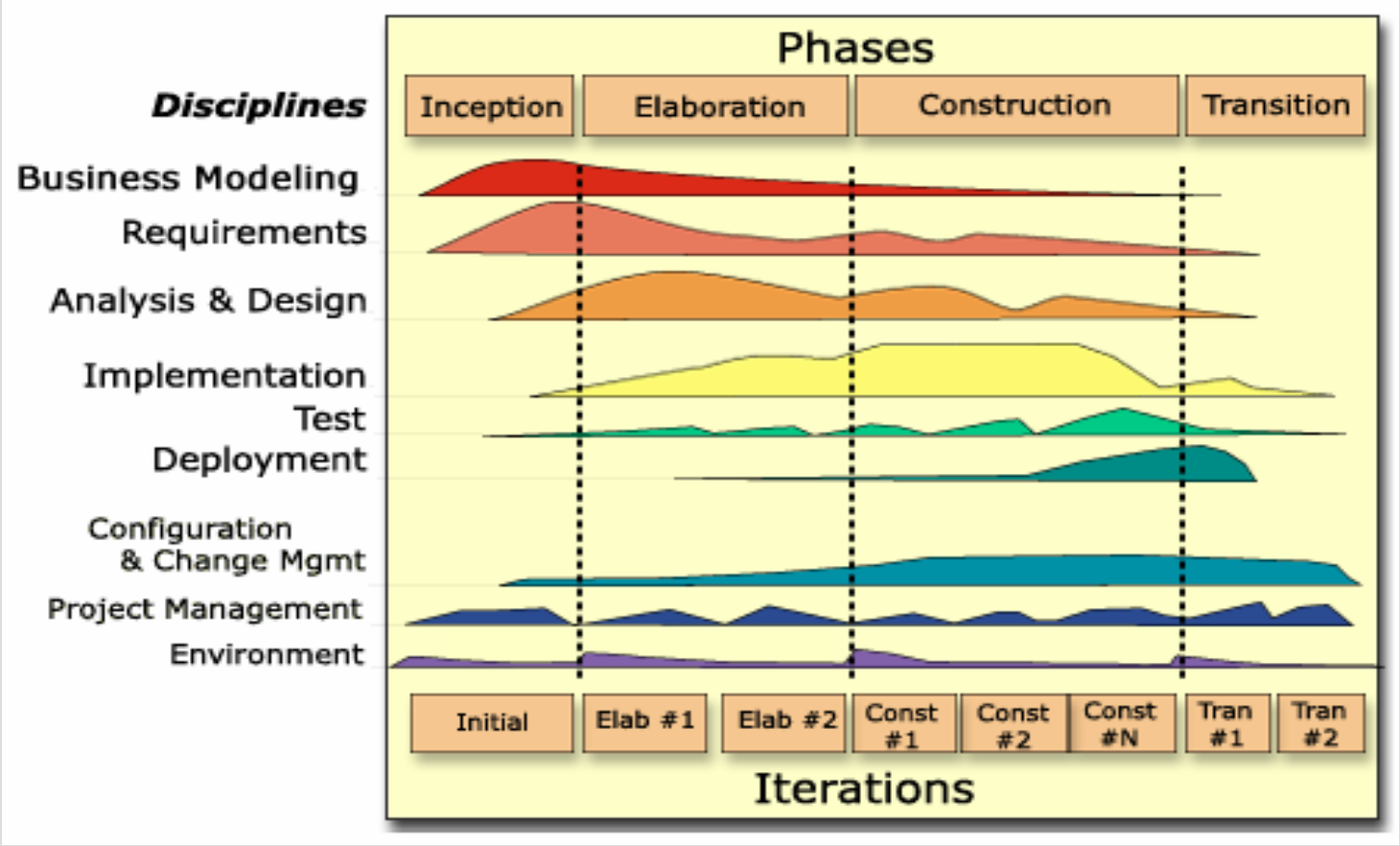
   Validate and deploy the system into the production environment.

AUP Model


Resources
Time
Inception
Elaboration
Construction
Transition


Project Timeline
A Development Release iteration results in a deployment to the Stage/QA area
A Production Release iteration results in a deployment to the Production area

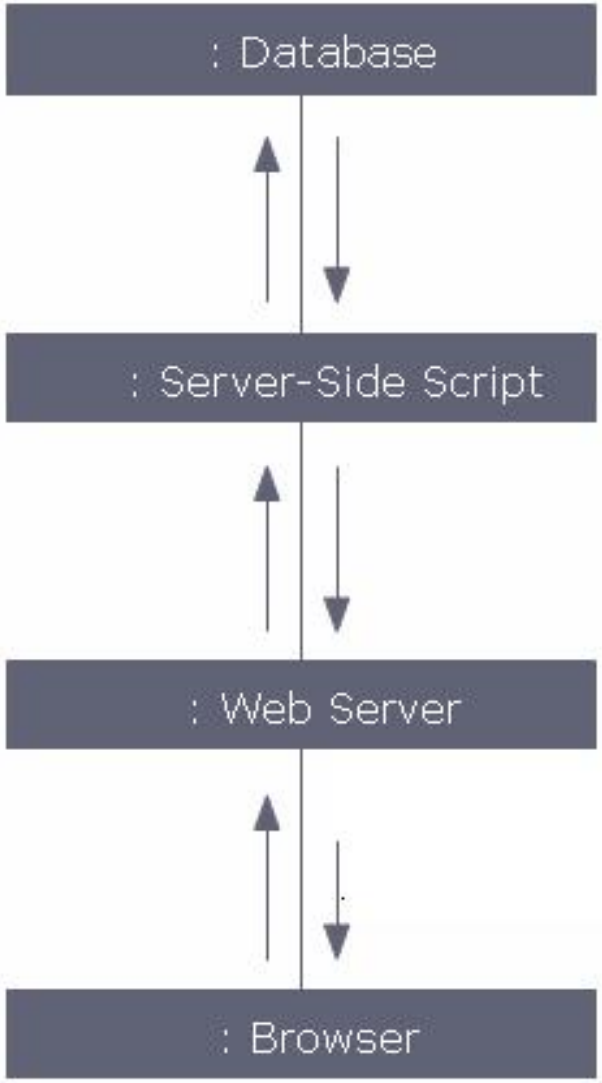
AUP Characteristics



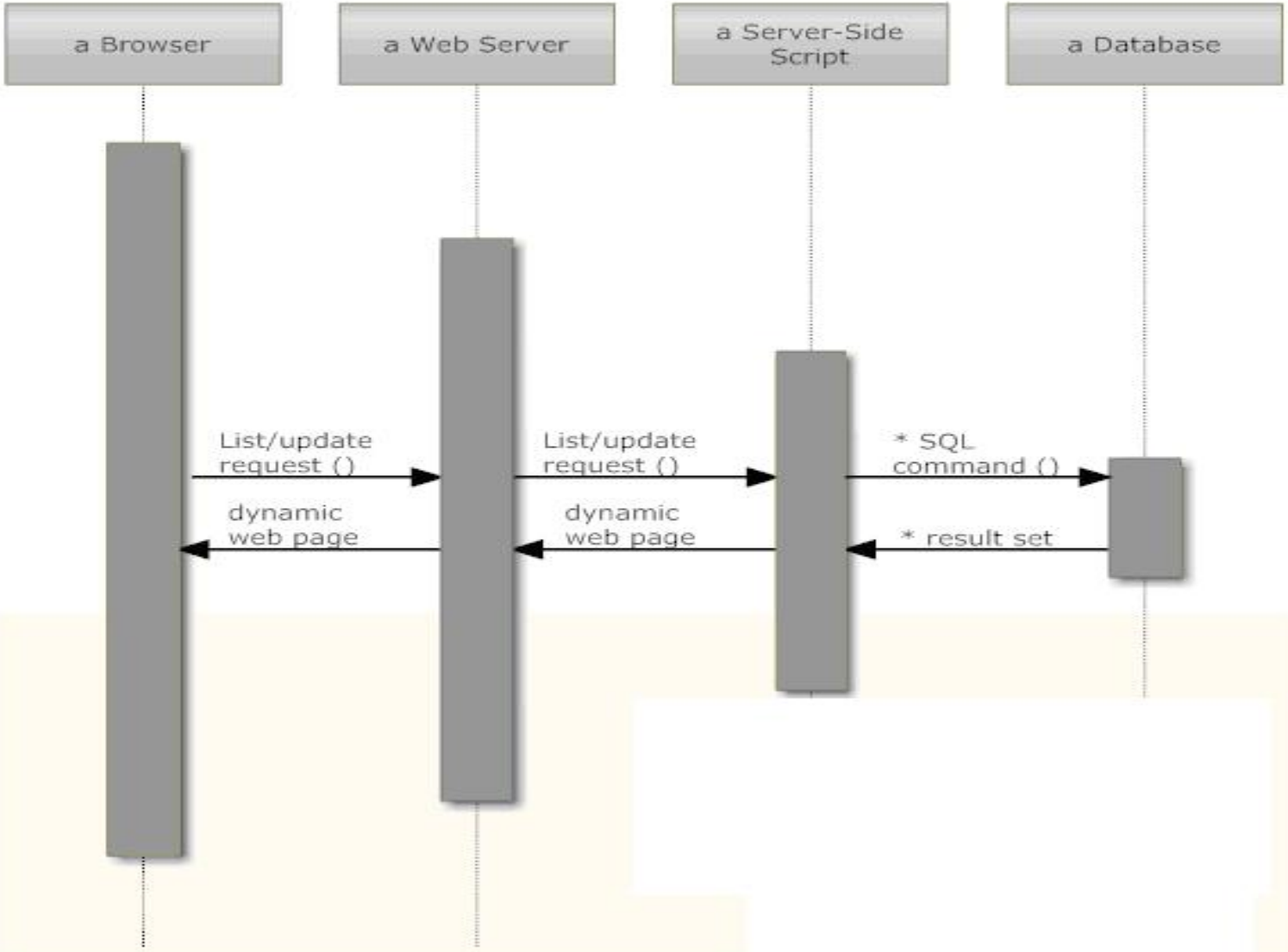
Goals

- Goal1:The system shall permit the users to read and display the data
- Goal2:The System shall authenticate the user and set the access rights to the application
- Goal3:The system shall permit the administrator to add, delete and update records
- Goal4:The system shall permit the staff to have view, sort functionality for all modules
- Goal5:The system shall permit external users to view movie records and there roles

UML Communication Diagram

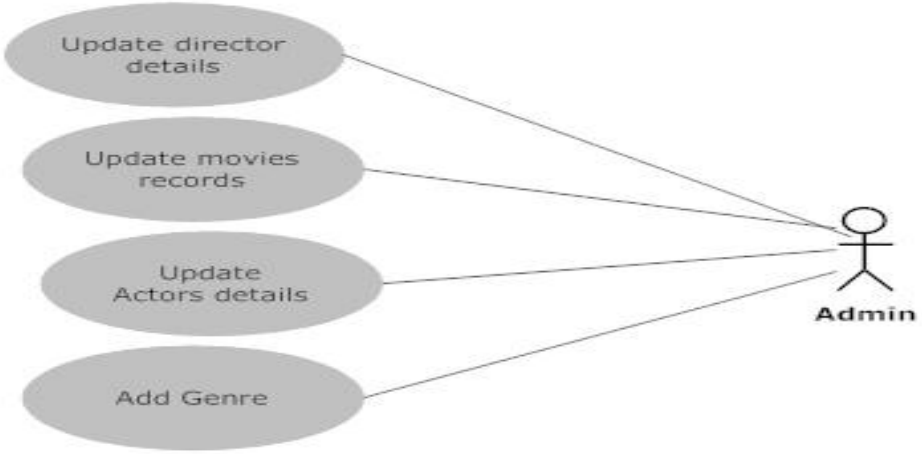


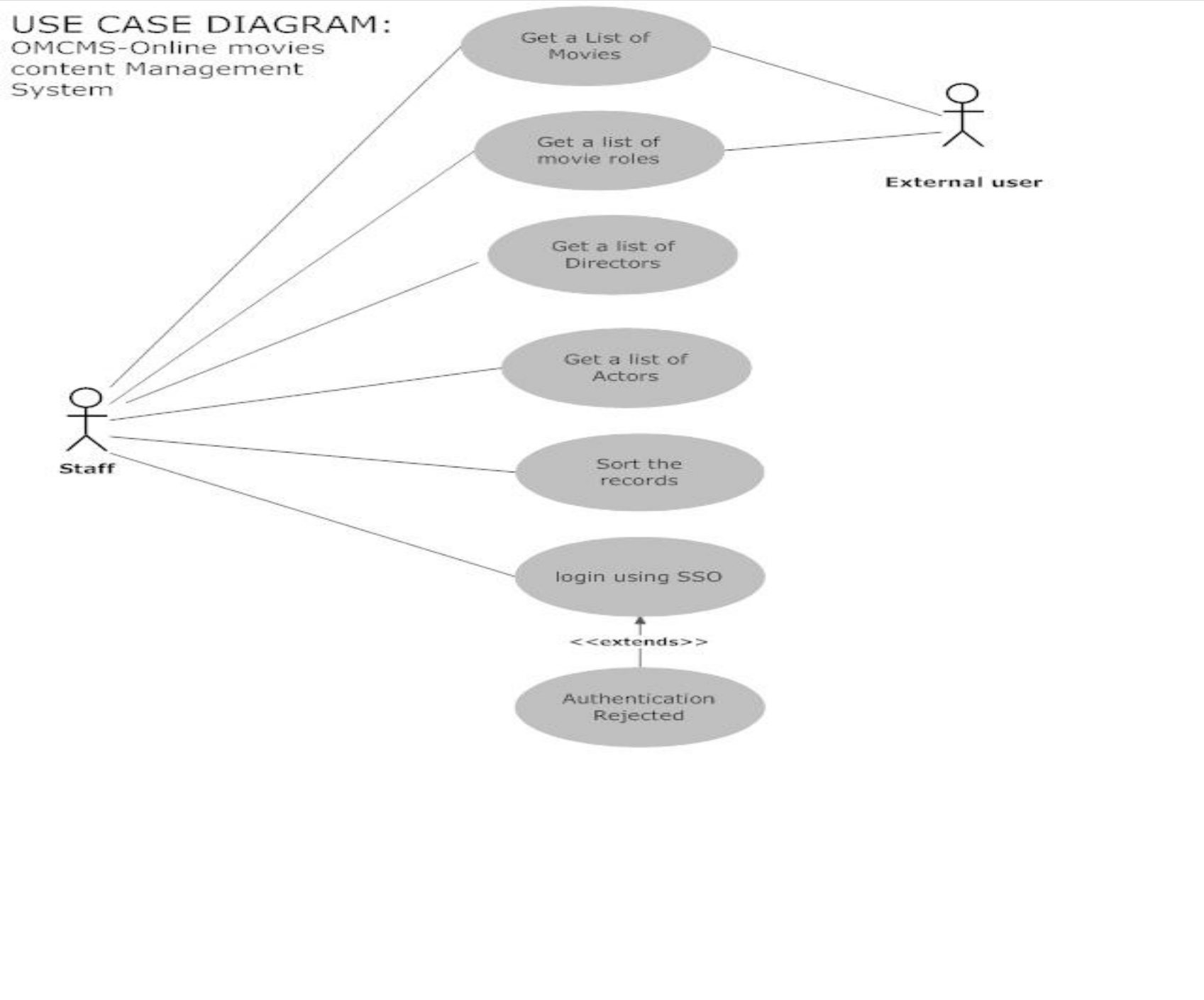
UML Sequence Diagram
PHP Server page



USE CASE DIAGRAM:

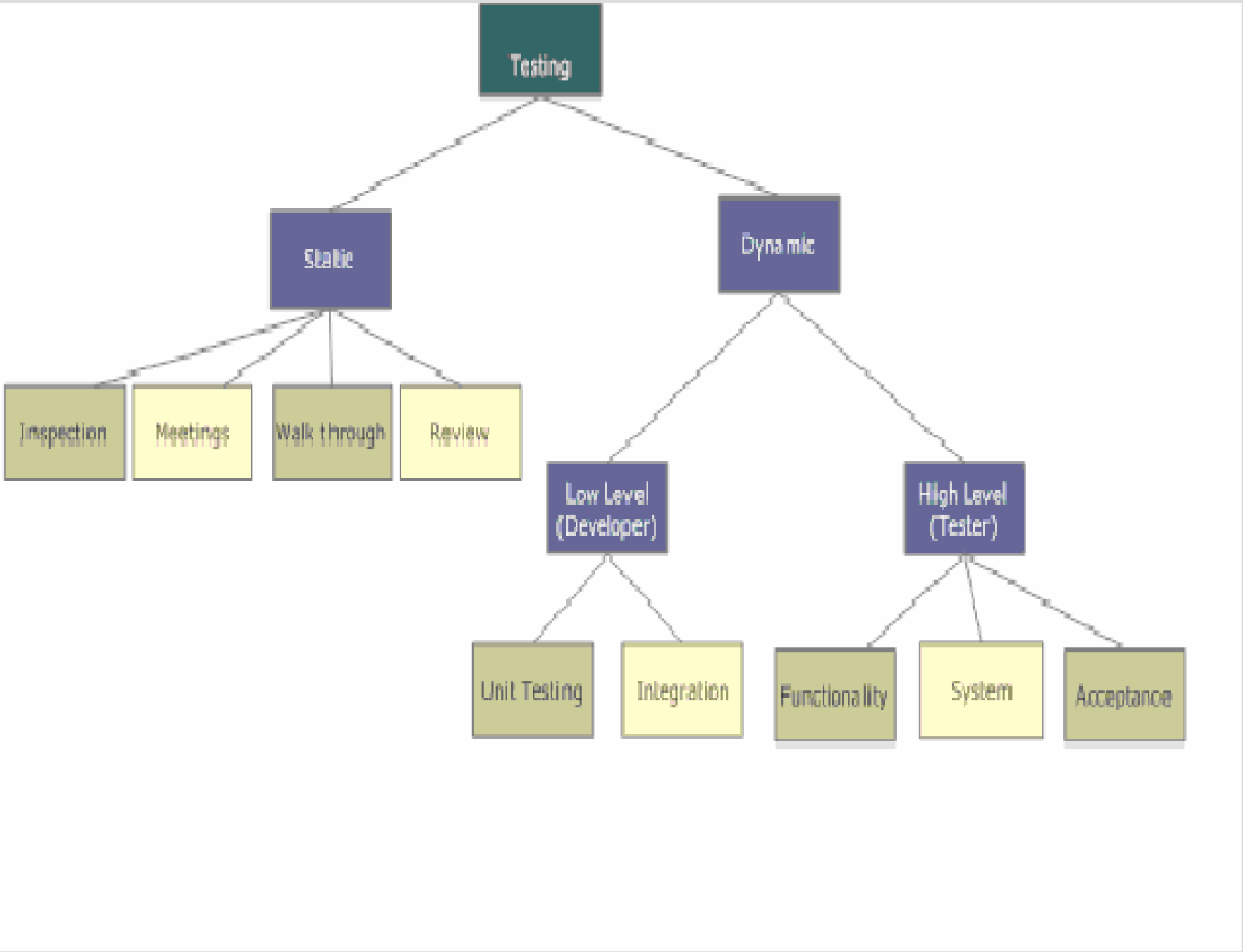
OMCMS-Online movies content Management System




USE CASE DIAGRAM:
OMCMS-Online movies content Management System
Get a List of Movies
Get a list of movie roles
Get a list of Directors
Get a list of Actors
Sort the records
login using SSO
<<extends>>
Authentication Rejected
External user
Staff

Validation and Verification

- **Verification** ensures that the final product satisfies or matches the original design (low-level checking) — i.e., you built the product right. This is done through **static testing.**
- **Validation** checks that the product design satisfies or fits the intended usage (high-level checking) — i.e., you built the right product. This is done through **dynamic testing** and other forms of review


Testing
Static
Dynamic
Inspection
Meetings
Walk through
Review
Low Level
(Developer)
High Level
(Tester)
Unit Testing
Integration
Functionality
System
Acceptance

Static Testing	Dynamic Testing
1)Done by a Senior	1)Done by testers and Developers
2)Verification of the software is done " Are we Building the product Right"	2)Validation of Software is done " Are We Building the Right product"
3)It is Process oriented	3)It is Product Oriented
4)Quality assurance is given	4)Quality Control

Dynamic Testing

- 1. White Box Testing
- 2. Black Box
- 3. Gray Box Testing

White Box Testing

- Check that all the conditions have been executed at least once
- Check all the loops are working to there boundaries
- Check all the Boolean values are on there true/false side
- Check the internal data structure of the software

Black Box Testing

- Check the overall functionality of the application
- Check the external databases and interfaces of the application Links in WebPages)
- Also known as Behavioral testing, as it checks the behavior of the application on the basis of SRS

Win Runner

- Automated Testing
- Used for Functionality and Regression testing
- Works on record and playback method
- Generates a TSL(Test script language) on the basis of recorded actions
- TSL can be changed as per test cases and run to view results

WinRunner - [C:\Users\Guest\director]

File Edit Create Run Debug Tools Settings Window Help

Verify

```
# Mozilla Firefox Start Page - Mozilla Firefox
    set_window ("Mozilla Firefox Start Page - Mozilla Firefox", 2);
    obj_mouse_click ("MozillaWindowClass_0", 977, 44, LEFT);

# Shell_TrayWnd
    set_window ("Shell_TrayWnd", 1);
    toolbar_button_press ("ToolbarWindow32_1", "WinRunner - [Noname2*]"); # Button Number 2;

# Task Switching
    win_activate ("Task Switching");

# University of Maryland Central Authentication Service - Mozilla Firefox
    win_activate ("University of Maryland Central Authentication Service - Mozilla Firefox");
    set_window ("University of Maryland Central Authentication Service - Mozilla Firefox", 1);
    obj_type ("MozillaWindowClass_3","abadhwar<kTab>A@12ditya<kReturn>");

# Confirm
    set_window ("Confirm", 1);
    obj_type ("MozillaWindowClass","<kReturn>");

# Welcome to the Movies Databases - Mozilla Firefox
    set_window ("Welcome to the Movies Databases - Mozilla Firefox", 10);
    obj_mouse_click ("MozillaWindowClass_4", 408, 75, LEFT);
    obj_mouse_click ("MozillaWindowClass_4", 15, 398, LEFT);
    obj_mouse_click ("MozillaWindowClass_4", 871, 74, LEFT);
    obj_mouse_click ("MozillaWindowClass_4", 122, 171, LEFT);
    obj_type ("MozillaWindowClass_3","sanjay<kTab>bansali<kTab>1944\-11\-23<kTab>punjab");
    obj_mouse_click ("MozillaWindowClass_4", 53, 321, LEFT);

# Security Warning
    set_window ("Security Warning", 2);
    obj_mouse_click ("MozillaWindowClass", 255, 122, LEFT);

# IMDb Movies Menu - Mozilla Firefox
    set_window ("IMDb Movies Menu - Mozilla Firefox", 2);
    obj_mouse_click ("MozillaWindowClass_4", 409, 81, LEFT);
    obj_mouse_click ("MozillaWindowClass_4", 15, 400, LEFT);
    obj_mouse_click ("MozillaWindowClass_4", 27, 415, LEFT);
```

Load Testing using LoadRunner

- Load-The Degree to verify how a application performs under limited number of users for a specific period of time
- Stress-Exceeding beyond the maximum load bearing capacity
- Load runner uses vusers (Virtual users) to test a application

Project Report

- Verification Traceability Matrix-Linking the requirements to tests performed
- Assembly of System architecture
- Detailed Requirements

  Level 1,Level 2,Level3

References

- Lecture Notes for ENSE 623 by Dr. Mark Austin
- System Analysis and Design with UML by Alan Dennis
- PHP and MYSQL by Larry Ullman
- www.wikipedia.org
- https://h10078.www1.hp.com/cda/hpms/display/main/hpms_content.jsp

Questions?