

Iteration Plan

Data Mining of Digital Library Usage Data

Team 07

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April 24, 2005

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Version control

Date	Author	Version	Changes made
4/24/2005	Vu Nguyen	1.0	<ul style="list-style-type: none">• 1st Draft•

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1 Iteration Overview

This document outlines the plan for the iteration #3 of Data Mining of Digital Library Usage Data project. The iteration is performed by the client in Summer 2005. This iteration plan documents the capabilities to be implemented and testing in the iteration. It also provides detailed plan on hardware, software and human resources, schedules, budget and approach to the development of the planned capabilities.

1.1 Capabilities to be implemented

The capabilities to be implemented in this iteration are new features from evolution requirements as well as new changes incurred during construction phase of the project. The following capabilities are planned to be implemented in iteration #3.

Table 1 Capability to be implemented CAPI-9

CAPI-9	Advanced analysis
Relevant	C-2 Log Analysis SR-3: Relationship generation LR-1 System Dependability - Stable data import/export LR-3 Usability – Maximizing the host resources LR-4 Performance – Organizing data meaningfully for users. LR-5 Performance - data of current scale

Table 2 Capability to be implemented CAPI-10

CAPI-10	New clustering algorithm
Relevant	C-2 Log Analysis SR-3 Relationship generation LR-3 Usability – Maximizing the host resources LR-4 Performance – Organizing data meaningfully for users. LR-5 Performance - data of current scale

1.2 Capabilities to be tested

All capabilities listed in section 1.1. Fundamentally, all capabilities are unit tested by the developer/maintainer. The capabilities will be integrated and thoroughly tested at integration and system level.

In summary, the following requirements will be tested:

CAPI-9 Advanced analysis:

- C-2 Log Analysis
- SR-3: Relationship generation

- LR-1 System Dependability - Stable data import/export
- LR-3 Usability – Maximizing the host resources
- LR-4 Performance – Organizing data meaningfully for users.
- LR-5 Performance - data of current scale

C-API-10 New clustering algorithm:

- C-2 Log Analysis
- SR-3 Relationship generation
- LR-3 Usability – Maximizing the host resources
- LR-4 Performance – Organizing data meaningfully for users.
- LR-5 Performance - data of current scale

1.3 Capabilities not to be tested

All capabilities will be tested.

1.4 Objective

The objective of the iteration is to complete new features suggested by the client, potential users and reviewers (such as CSCI 577 staff). The following are specific goals:

- The following use-cases to be implemented and their associated requirements (listed in Section 2.1) will be fully tested:
 - Advanced analysis
 - New clustering algorithm
- Scalability and performance:
 - The log analysis module must support up to 130,000 objects or nodes. Maximum time should be less than 10 minutes.
 - The clustering module must support up to 130,000 objects or nodes. Maximum time should be less than 20 minutes.
- Quality/Defect density
 - The system does not have any high and medium criticality defects
 - The system does not have more than 10 low criticality defects
- Other goals
 - All parts of the code follows the design

2 Plan

2.1 Tool Support

The following tools are used in all iterations associated with this project:

Hardware Tools:

1. The developers will use machine at ISD
2. Project artifacts including source code and data are stored in a Configuration Management machine hosted at ISD.

Software Tools:

1. Microsoft Office 2000
2. Microsoft Project 2002
3. Rational Rose
4. USC COCOMO II
5. Adobe Acrobat 5.0
6. C/C++, H3viewer
7. Subversion
8. Anjuta IDE
9. OpenMotif

Both hardware and software tools are provided by University of Southern California (USC)

2.2 Schedule of Activities

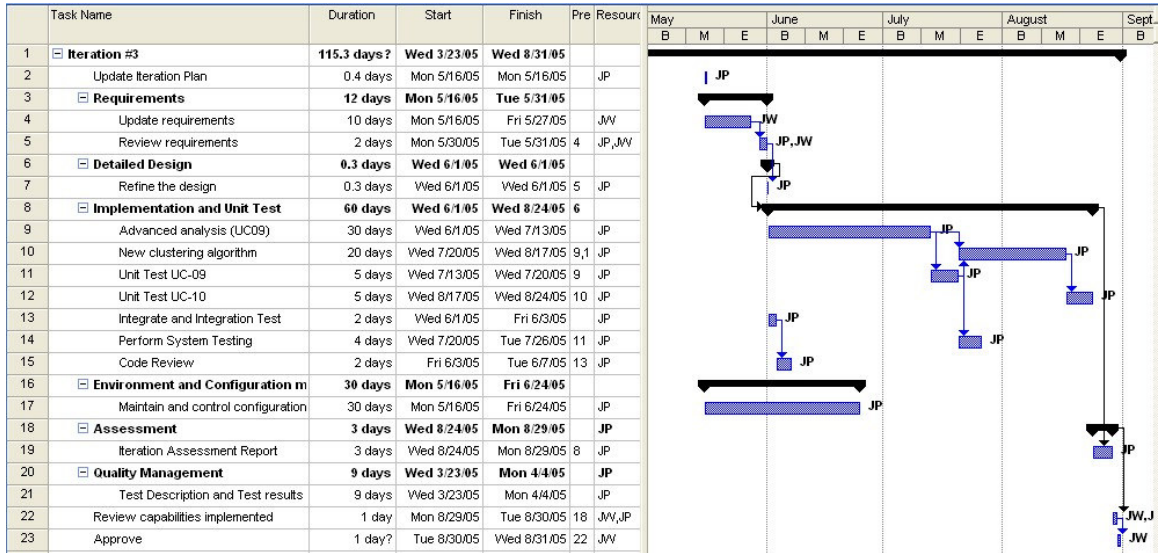


Figure 1 Iteration #3 Plan

2.3 Resources

Human resources:

The maintainer, Jeff Pearson is responsible for implementing and testing the capabilities in this iteration.

Jewel H. Ward, the client representative, is also involved in the development and testing of capabilities by providing data and support for the development team.

Budget:

The maintainer, Jeff Pearson, is employed at USC ISD. The amount of time dedicated for the project is 5 hour per week.

There is no other financial resource required for this iteration.
Refer to [LCP Section 5.2] for more information.

Constraints:

- The system must be tested in Mac OS X and Linux
- Use open source COTS (MCL and H3Viewer components)

2.4 Team Responsibilities

Refer to LCP Section 3 which details the responsibilities of stakeholders and development responsibilities of the development team.

3 Approach

This section describes the general approach to be followed for the iteration.

The development team is divided into two groups, 2 developers each. Each group is responsible for implementing and unit testing a set of functionality planned in the iteration. Two developers of each group will be working on the same functionality.

Risk Management

According to LCP Section 4.1.4 and FRD Section 4, the top risks are tracked and monitored during the iteration. Risk mitigation is also planned to overcome or mitigate the effect of each risk have been identified.

Quality Management

Project artifacts including source code, data are placed in the configuration management system using Subversion to ensure the consistency and correctness of the artifacts.

Excel spreadsheet is used for documenting and keeping track the defects of the system.

Refer to LCP Section 4.4 and Quality Management Plan for more information

Testing

All the capabilities will be tested in the iteration. Unit testing of each capability is generally performed the developer.

The capabilities will be tested at integration and system level to ensure all capabilities will work well together in the system.

Please refer to the Test Plan for more information on testing.

4 Assumptions

- The client continues supporting for the development of new features in the system throughout support phase.
- People are using current USC Digital Archive System.
- ISD continues logging usage data in Digital Archive System

Refer to the Assumption section in LCP section 1.2 for more information.

5 Common Definition Language

ARB

Architecture Review Board

FRD

Feasibility Rationale Description

LCA

Life Cycle Architecture

LCO

Life Cycle Objective

IOC

Initial Operational Capability

LCP

Life Cycle Plan

OCD

Operational Concept Description

SSRD

Software and System Requirement Definition

SSAD

Software and System Architecture Description

PR

Progress Report

QMP

Quality Management Plan

SSSP

System and Software Support Plan