SOEN 6311 Winter 2020 Project Description

This course project follows the main aspect of a software process, namely 1) software specification, 2) software development, 3) software validation and 4) software evolution. The 4 deliverables are structured according to these four aspects.

1. Problem Definition

The main *problem* for this project to solve is to build a multiuser software system to share information between users and intelligent tools that aim to help user complete their work tasks more efficiently. Such a system is called Information Capture and Dissemination Environment (ICDE) shown in Figure 1.

2. The ICDE System

This ICDE case, associated context description and the figures are from Book Essential Software Architecture, 2nd Edition by Ian Gorton. ICDE is part of a suite of software systems for providing intelligent assistance to professionals such as financial analysts, scientific researchers, intelligence analysts etc. To this end, ICDE automatically captures and stores data that records a range of actions performed by a user when operating a workstation. For example, when a user performs a Google search, the ICDE system will transparently store in a database:

- The search query string
- Copies of the web pages returned by Google that the user displays in their browser

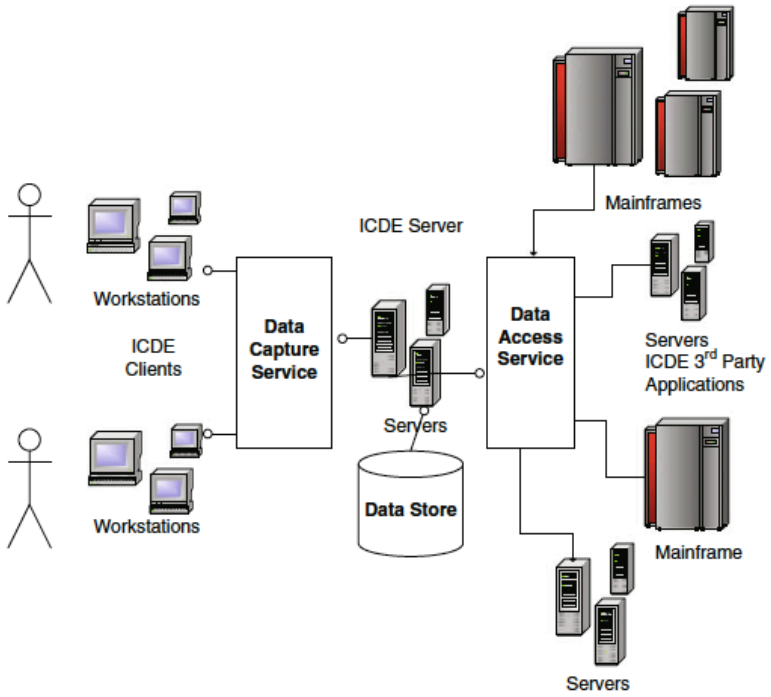

Figure 1 ICDE Reference Context

This data can be subsequently retrieved from the ICDE database and used by third-party software tools that attempt to offer intelligent help to the user. These tools might interpret a sequence of user inputs, and try to find additional information to help the user with their current task. Other tools may crawl the links in the returned search results that the user does not click on, attempting to find potentially useful details that the user overlooks.

A use case diagram for the ICDE system is shown in Figure 2. The three major use cases incorporate the capture of user actions, the querying of data from the data store, and the interaction of the third party tools with the user.

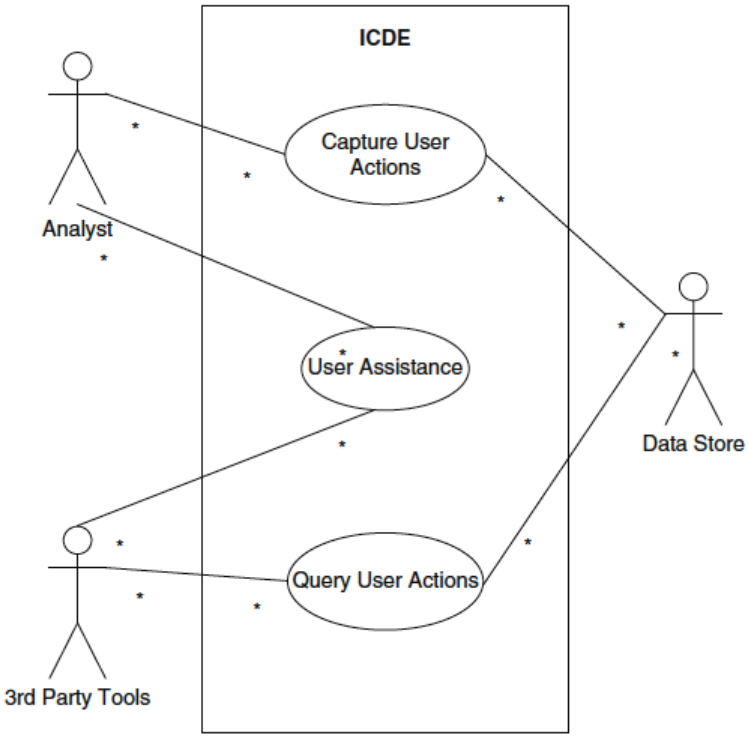

Figure 2 Use Cases of ICDE

The initial product of ICDE v1.0 targets a small user trial involving a few users, aiming for successful function development and deployment with the core features of the data collection, data storage and data query. The ICDE v2.0 further provides support for third party tools to leverage ICDE to build applications.

3. Project Demand

The project is to follow the software process to engineer the ICDE system for a specific domain application. Each team should build the core ICDE and define an application for ICDE to solve. Each application should leverage the ICDE's core function of data collection, data storage and data query.

3. Deliverables and Schedule.
The report or written documents required for deliverables should follow the template from https://www.ieee.org/conferences/publishing/templates.html. Mis-formatted documents will result in not being marked.

Deliverable 0 : Team Registration and Engineering Setup
Due Date: Week 2 Friday 23:55pm Moodle Site
Deliverable Format: Registration and Engineering Setup Report
Content: 1) Team member's details (name, sid, program and email, SE background). 2) Tools decided on team development including public / private code repository for version control (for code, data and design document), IDE, programming language, group communication software, progress tracking tools.

Deliverable 0: is not marked but missing the submission or late submission will result in mark deduction portion to the total project marks.

Deliverable 1: Software Specification – 8 Marks
Due Date: Week 5 Monday 23:55pm Moodle Site
Detailed requirement will be posted later.

Deliverable 2: System Model and Design – 7 Marks
Due Date: Week 7 Monday 23:55pm Moodle Site
Detailed requirement will be posted later.

Deliverable 3: Implementation, Deployment – 10 Marks
Due Date: Week 11 Monday 23:55pm Moodle Site
Detailed requirement will be posted later.

Deliverable 4: Final Class Time Demo/ Report – 5/5 Marks
Due Date: 1. Week 13 Lecture Time Group Presentation and Demo
2. Final Project Report, Week 14 Monday 23:55pm.
Detailed requirement will be posted later.