

Beginning JAVA

by E-Learning

Project Proposal

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Abstract

Technology interested for education also technology for education has merged between media and computer for learn that call “E-Learning”. Student needs to know something more than in class or other class. E-Learning has many type such as CD-ROM, DVD-ROM, network, intranet. This learning applies online learning based on web application. E-Learning has the benefit for the most of the people who want to learn. At the present, E-Learning has development abreast to superior technology with internet and the internet has improved for use. Therefore, it is easy to learn from the internet. Elements of E-Learning is Education Management System, Education Management System for control and coordinate to system work to correct. This element is most important of E-Learning. Contents consists of extensive of subject. Next is Communication, Communication between student and Instructor by e-mail, chat for understand. Finally Evaluation, Evaluation measure from homework, assignment for the student can use by them. This application is a web application for learning for JAVA language that JAVA language is acceptable language for computer language. The most study about computer use JAVA for beginning program. This application create web for E-Learning and do the assignment at the web page without use program for run JAVA source code.

E-Learning for JAVA helps for convenient for the student can use this web application make lab assignment and instructor can assign to assignment in this web application. Web application can do check result of instructor by itself. This web application makes to reduce the time for the check to lab assignment. Lab assignment can check in the page for instructor.

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Chapter One | Introduction and Background

1) Introduction and background

E-learning is system teaching, learning or any way that transfer of the content through the electronic media such as CD-ROM, network, internet or satellite. In the type of study is coming into the marketing in Thailand. For example, teaching with CD-ROM, web-based learning or online learning.

At the present, the education in Thailand has the technology to help learning. It make to easy and fast to send the information. The system use the internet for solve some problem which teacher assistant take a long time to check the assistant, the teacher don't have the time to check or busy , if the student has some undertaking, they can't come in the class and make the next class have to late we build beginning JAVA by E-learning to solve the problem.

Therefore, this project to solve the entire problem that the mention on above. It make to convenient, comfortable and fast. The most important thing in this project is make sure the assignment is truth. It makes the advantage in the both side between student and instructor.

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Chapter Two | Literature Review

2.1) Business Review

2.1.1) Overview

Beginning JAVA by E-Learning is a web application for convenient make to lab assignment. Lab assignment can make in web page for write source code of JAVA. Instructor can assign to lab assignment and input result of assignment to website. The web application can check result of the lab assignment by itself.

2.1.2) Target

The main target of JAVA by E-Learning is run code of JAVA in web page, and this application can check result by them. It has the advantage in the both student and instructor. They should have a laptop and run on the web browser.

2.1.3) Benefits

- User gets more the convenient.
- Student can use it everywhere.
- Instructor easy to check assignment.
- System can reduce time to check assignment.
- This application can check result is more accurate.

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2.2) Alternative Solution Review

2.2.1) Javalaunch.com

- Javalaunch.com

Javalaunch.com is web for JAVA and HTML information and Javalaunch.com is still have function for try to beginning JAVA and HTML, people who want to learn JAVA and HTML can learn in this web and has enough for learn JAVA and HTML, Javalaunch.com can run code in web page.

• Pros

- Website can run source code in web page without program task editor for run.
- Website has information for variable.
- Website has more learned function.

• Cons

- Website doesn't have teach, but make study by themselves.
- Website not show syntax error.

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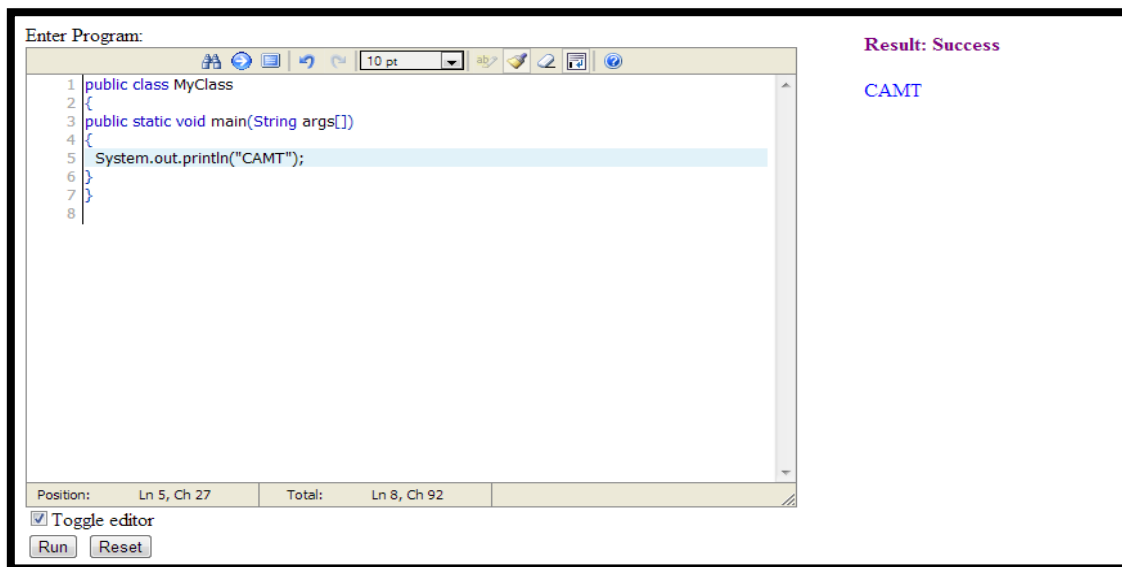


Figure 1 : javalaunch.com Graphic User Interface

2.2.2) www.programr.com

- www.programr.com

www.programr.com is web for learn language and function for program and operating system such as JAVA, C++, HTML, C#, RUBY, PYTHON, ANDROID, iOS etc, View & run 100s of examples right in browser. This web has example for condition. Has exercise for practice writes source code and can Code & run full-fledged projects online.

• Pros

- Website can run source code in web page without program task editor for run.

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- This website has Multilanguage for learn.
- Share & embed your projects anywhere on the web.
- View & run 100s of examples.

• Cons

- System run source code it show too windows.
- Website it slows to run source code.

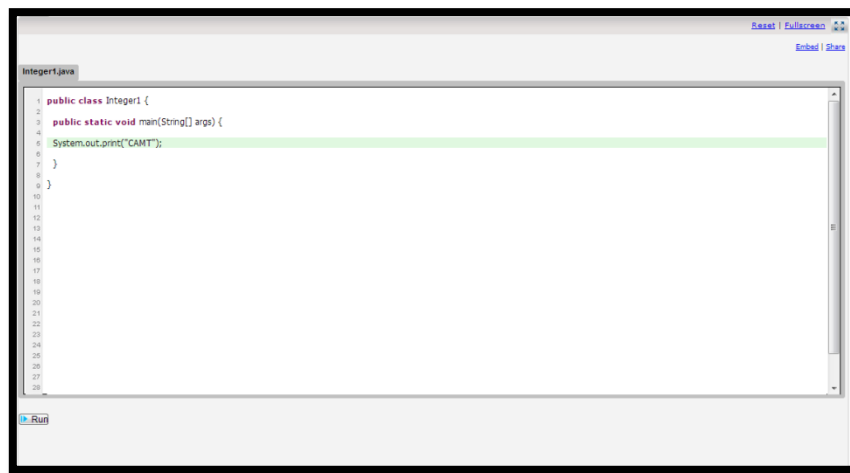


Figure 2 : programr.com Graphic User Interface

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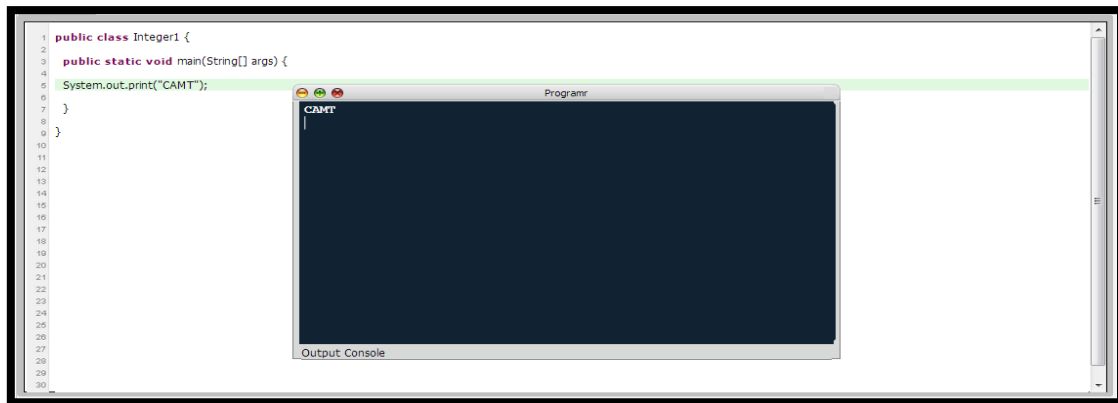


Figure 3 : programr.com compile interface

2.2.3) cmuonline

- cmuonline

cmuonline is website for CMU student for learn each subject, cmuonline use “moodle” software, which type of moodle software is Learning Management System (LMS). CMU instructor can post slide, homework, assignment for in this web. cmuonline has separate for Faculty it cause easy to search subject. When student add subject for learn, that subject it show list on left tab in web page.

• Pros

- Website simple to login, because login by student ID.
- Website easy to search, in website separate subject are Faculty.
- Website have many function such as slide, video.

• Cons

- User can't delete subject in list.
- This website can learn only student, instructor, and personnel in CMU, other people can't learn in this website.

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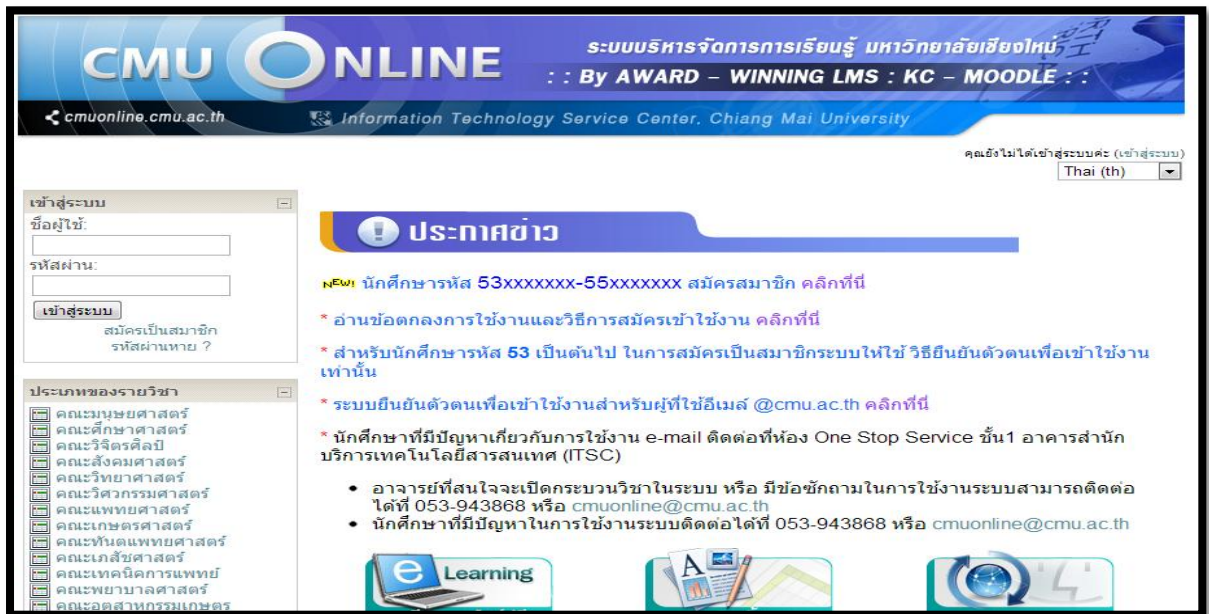


Figure 4 : cmuonline.com graphic user interface

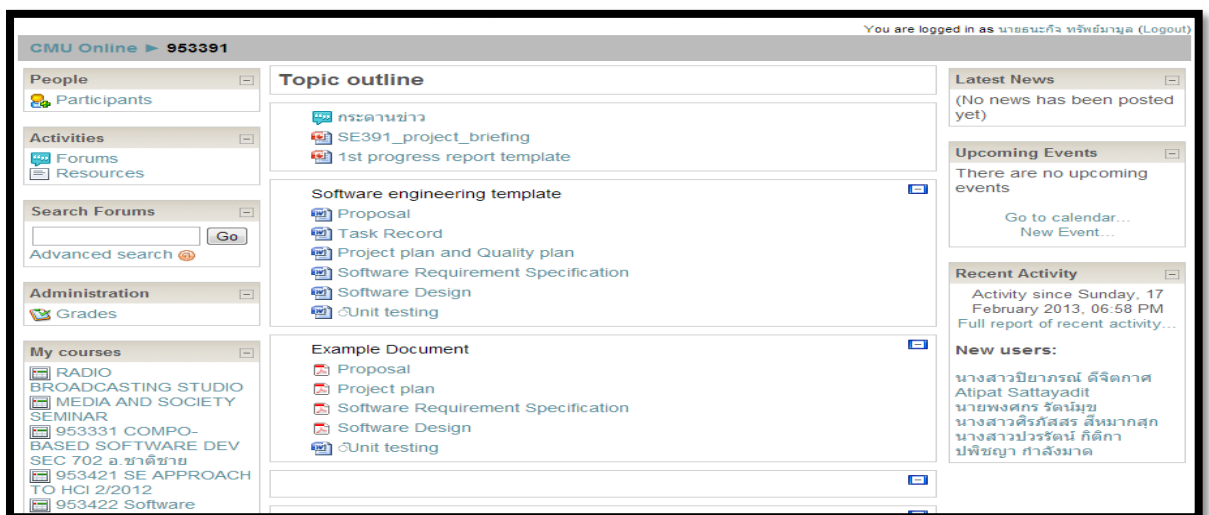


Figure 5 : cmuonline.com graphic user interface

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2.3) Technology Review

2.3.1) HTML5



HTML5 is the latest version of Hypertext Markup Language, the code that describes web pages. It's actually three kinds of code. HTML, which provides the structure Cascading Style Sheets (CSS), which take care of presentation and JavaScript, which makes things happen. HTML5 add new feature in HTML such as reduce the need for external plugins (like Flash), better error handling, more markup to replace scripting, the development process should be visible to the public and HTML5 should be device independent.

- Alternative Technologies

1) HTML

2) Tool

- The selection of This Technology

HTML 5 is a language to create website that make it interesting when users use it. It defines a structure of user interface of website. HTML 5 has support more language and have more function than HTML, such as play video, show locate in Geography, keep file in off line status, show graphic.

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2.3.2) Cascading Style Sheets (CSS)



Cascading Style Sheets (CSS) is the language for describing the presentation of Web pages, including colors, layout, and fonts. It allows one to adapt the presentation to different types of devices such as large screens, small screens, or printers. At the present CSS is widely used and CSS have the ability to edit the display of web pages is enough.

- Alternative Technologies

None

- The selection of This Technology

CSS is making up for web page it make to beautiful form use CSS's syntax. CSS it makes increase ability of HTML 5.

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2.3.3) JavaServer Pages



JavaServer Pages (JSP) is technology enables Web developers and designers to rapidly develop and easily maintain, information-rich, dynamic Web pages that leverage existing business systems. As part of the Java technology family, JSP technology enables rapid development of Web-based applications that are platform independent. JSP technology separates the user interface from content generation, enabling designers to change the overall page layout without altering the underlying dynamic content.

- Alternative Technologies

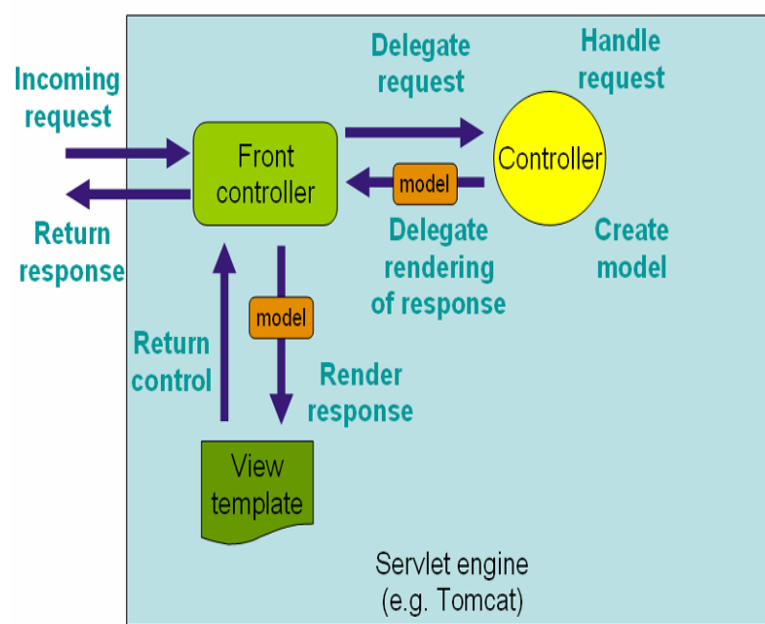
- 1) ASP .NET
- 2) Cold Fusion
- 3) Perl
- 4) Python
- 5) Ruby
- 6) PHP

- The selection of This Technology

JSP pages are compiled dynamically into servlets when requested so that page authors can make to improve the presentation code can also be precompiled JSP pages if needed.

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2.3.4) Spring MVC Framework



Spring MVC Framework is an open source application framework based on Java for building Java web applications. Spring MVC Framework developed by Spring Source Company. Spring provides the support for Hibernate, JSP, struts, JQuery, and many other frameworks. Spring helps the developer to create high performing, easily testable and reusable code.

- Alternative Technologies

None

- The selection of This Technology

Spring's MVC is very flexible. Unlike Struts, this forces your Action and Form objects into concrete inheritance.

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2.4) Development Tools Review

2.4.1) IntelliJIdea



IntelliJ IDEA was the first Java™ IDE to extensively implement many of the refactorings worked out and recommended in the ground-breaking book *Refactoring: Improving the Design of Existing Code* by Martin Fowler et al. Since then, code refactoring has been a major focus of development, with every release to date adding new and/or expanded refactorings. This page details some of the more significant Java refactoring features of IntelliJ IDEA (you will actually find many more in the product, plus code refactorings for JSP, XML, CSS and HTML, and JavaScript).

- Alternative Technologies

- 1) NetBeans
- 2) Eclipse

- The selection of This Technology

Static code analysis tool that allows you to maintain and clean up your code through analysis performed without actually executing the code.

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2.4.2) MySQL



MySQL is the world's most popular open source database software, with over 100 million copies of its software downloaded or distributed throughout its history. With its superior speed, reliability, and ease of use, MySQL has become the preferred choice for Web, Web 2.0, SaaS, ISV, Telecom companies and forward-thinking corporate IT Managers because it eliminates the major problems associated with downtime, maintenance and administration for modern, online applications.

- Alternative Technologies

- 1) Informix
- 2) Oracle
- 3) Sybase
- 4) Solid
- 5) PostgreSQL
- 6) Generic ODBC

- The selection of This Technology

We choose MySQL because MySQL is basic database in programming, and manage information in MySQL. MySQL is free to cost.

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Chapter Three | Quality Standard

3.1) ISO29110 for Very Small Entity (VSE)

ISO29110 is the Software Life Cycle Profiles and Guidelines for Very Small Entities (VSEs) standards and technical reports are targeted at Very Small Entities (VSEs). A Very Small Entity (VSE) is an enterprise, organization, department or project having up to 25 people. ISO29110 concerns on project management process and software implementation process.

3.1.1) Project Management process

- **Purpose**

The purpose of the Project Management process is to establish and carry out in a systematic way the tasks of the software implementation project, which allows complying with the project's objectives in the expected quality, time and cost.

- **Selected process**

- Project Planning
- Project Execution
- Project Assessment and Control
- Project Closure

3.1.2) Software Implementation process

- **Purpose**

The purpose of the Software Implementation process is the systematic performance of the analysis, design, construction, integration and test activities for new or modified software products according to the specified requirements.

- **Selected process**

- Software Implementation Initiation
- Software Requirement Analysis
- Software Architectural and Detailed Design
- Software Construction
- Software Integration and Tests
- Project Delivery

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Chapter Four | Project Plan

4.1) Motivation

Nowadays, many people learning via electronic media that called “E – Learning System” this system can help you can learn by your own. If user have device that can connect the internet, user can use it everywhere that user want. It make convenient for student, but student don’t understand some topic, our program can help you for solve this problem.

Beginning JAVA by E-Learning is system that teaching about computer programming by e-learning, the reason that inspire us to do this program is we want to make convenient for student, teacher or teacher assistant. Programs have assignment part that can practice that you learn and can check it accurate or not. Program can keep score if you submit assignment and program is easy to use, it simple web form anyone can use it.

So program have more useful for people that interest to learning and hope people that use this program have a good basic coding in JAVA because good basic is important thing.

4.2) Aim and Objective

4.2.1) Aim

The aim of this project is develop e-learning JAVA via web application, users learn by themself and practice by do assignment then submits to keep score.

4.2.2) Objective

- Users can use anytime anywhere.
- Users can learn and review by yourself.
- Help users get more comfortable and save their times.

4.3) Deliverables and Limits

4.3.1) Deliverables

• Progress Report I

- Users Registration System
- Log in and Log out System
- User Information page
- Design Assignment System

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- **Progress Report II**

- Web page that consist of assignment that user practice coding
- Checking Assignment System

- **Progress Report III**

- Web page that consist of all material that user learn by yourself
- Report student score statistic
- Media for ShowPro
 - 1 Project Poster
 - 30 seconds promotion video clip
 - 5 minutes demo video clip

- **Documents**

- Project Proposal
- Project Plan
- Software Requirement Specification (SRS)
- Software Design Document (SDD)
- Testing Document
 - Test Plan
 - Unit Test Report
 - System Test Report
- Traceability Record
- 1 CD-ROM stores all source code ; relate file , all document and poster file in PDF format
- 1 project poster

4.3.2) Limits

- System can run on many browsers, but the effectiveness browser is Google Chrome.
- Require internet connection.

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4.4) Feature Work

Feature #1 : consist of user registration page

Feature #2 : consist of log in and log out system

Feature #3 : consist of user information page

Feature #4 : consist of design assignment system

Feature #5 : consist of learning and assignment page

Feature #6 : consist of checking assignment system

Feature #7 : consist of score statistic page

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4.5) Schedule & Milestones

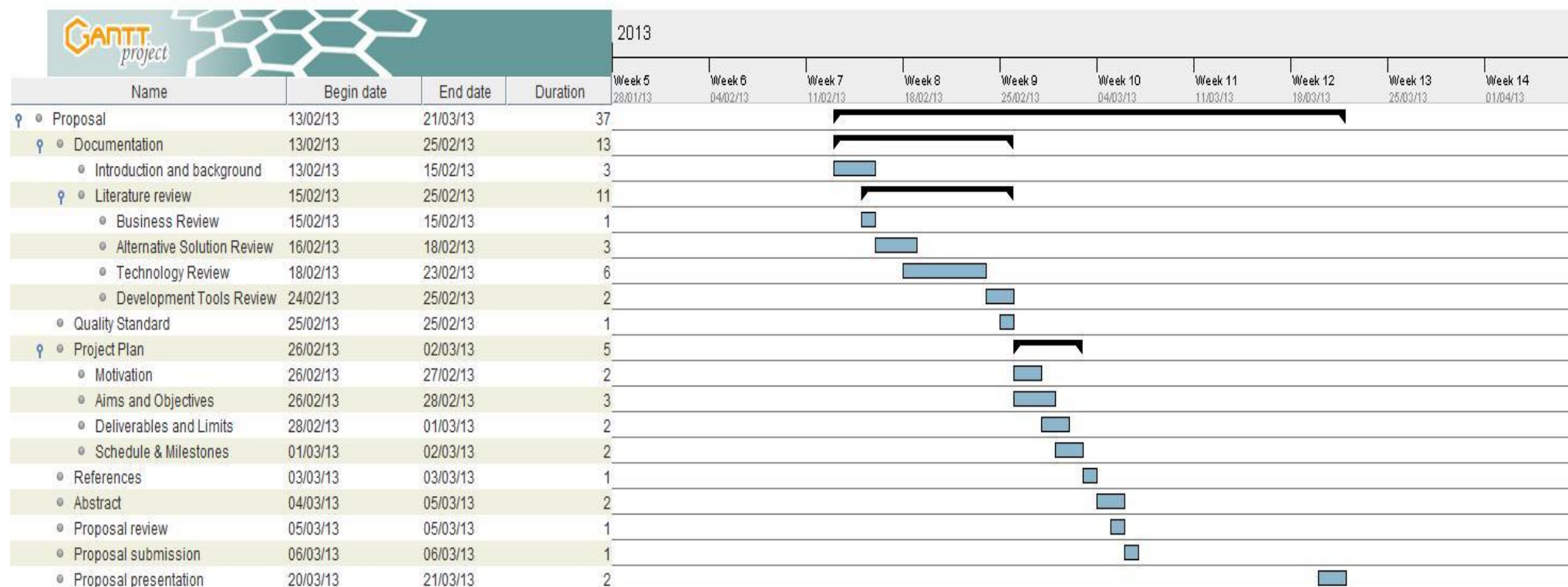


Figure 6 : Proposal phase

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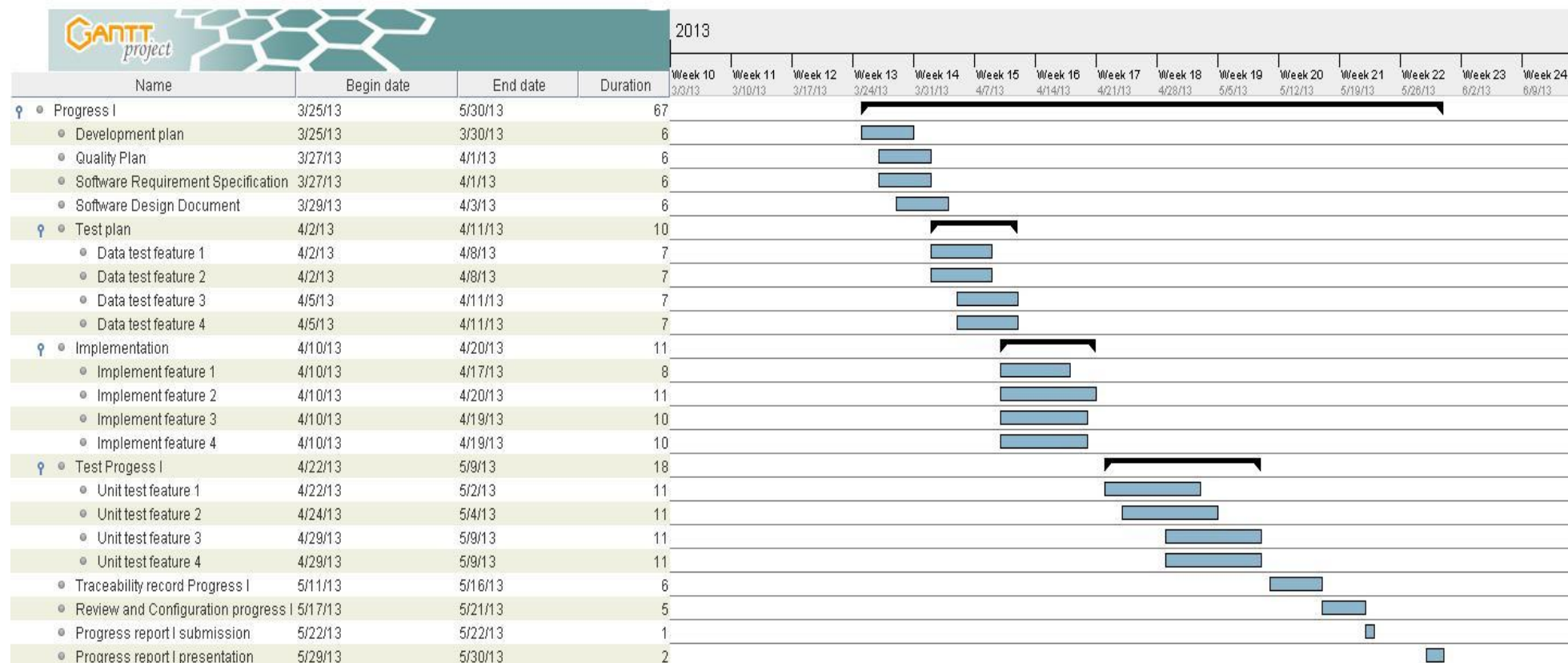


Figure 7 : Progress I phase

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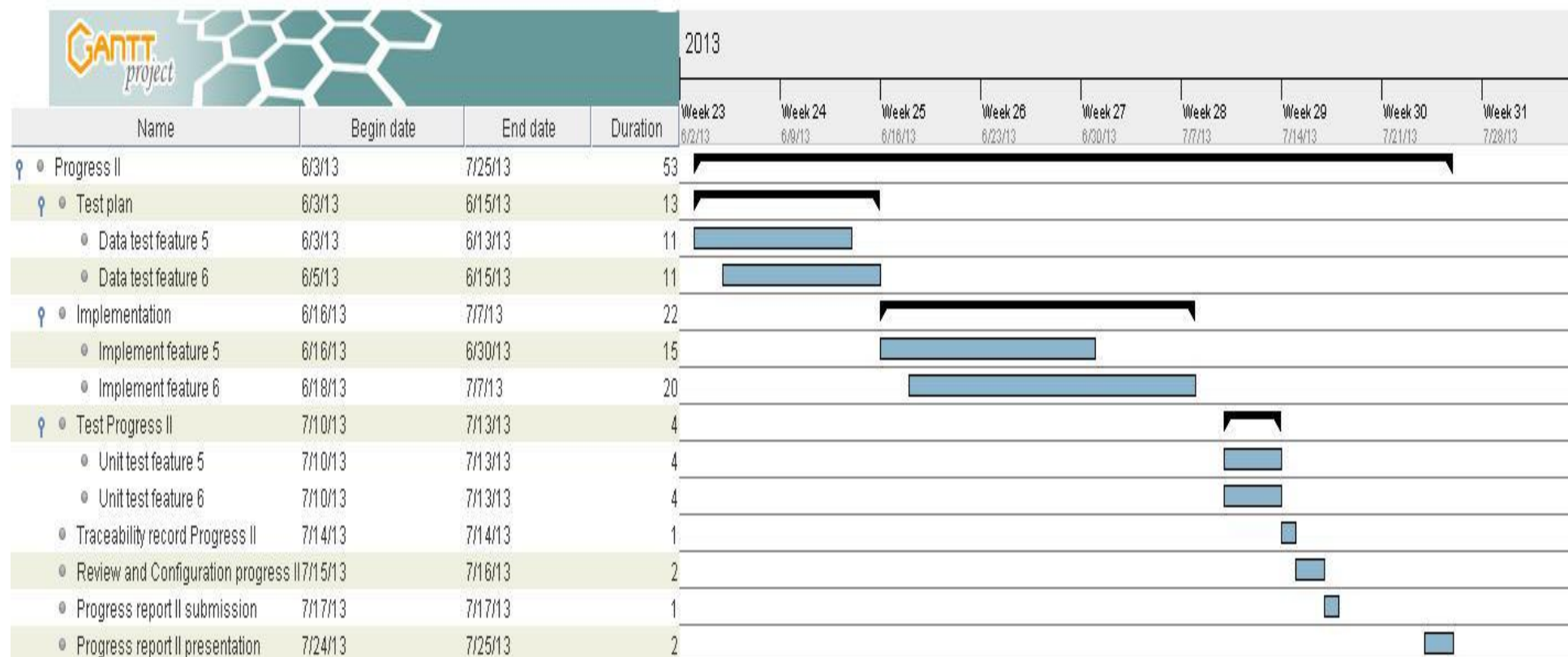


Figure 8 : Progress II phase

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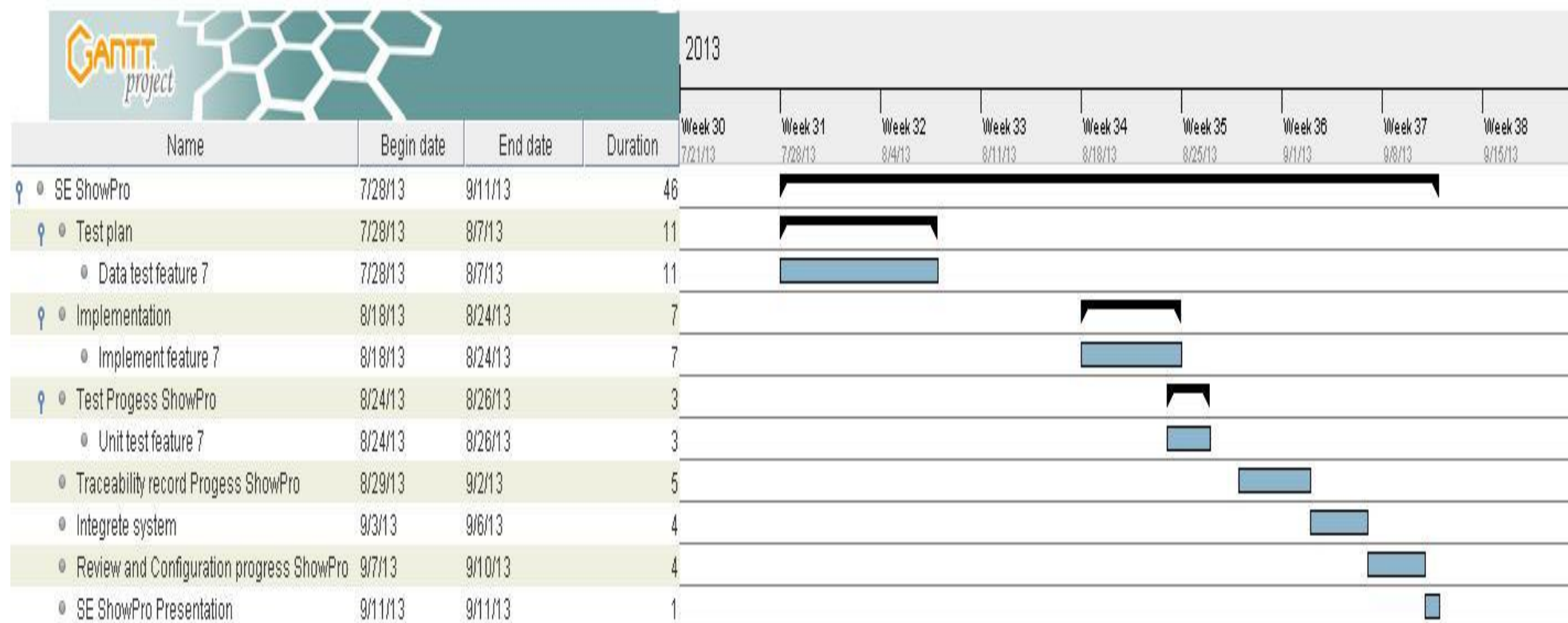


Figure 9 : SE ShowPro phase

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[1] Topic : HTML5 information

Book : Jon Duckett , *HTML&CSSdesign and build website* (United States of America: Indiana, 1976), page 428-432

Source : <http://www.techradar.com/news/internet/web/html5-what-is-it-1047393>

[2] Topic : Cascading Style Sheets information

Book : Jon Duckett , *HTML&CSSdesign and build website* (United States of America: Indiana, 1976), page 6

[3] Topic : JSP.NET information

Source : <http://www.oracle.com/technetwork/java/overview-138580.html>

[4] Topic Spring MVC Framework information

Source : <http://static.springsource.org/spring/docs/2.0.x/reference/mvc.html>

[5] Topic : MySQL information

Book : Kittipoom Worrachut , *MySQL* (Thailand: Bangkok, 2002), page 15-22

Source : <http://www.mysql.com/about/>

[6] Topic : IntelliJ IDEA

Source : <http://www.jetbrains.com/idea/features/refactoring.html>

[7] Topic : ISO291110 information

Source :
<http://www.iso.org/iso/home/search.htm?qt=29110&sort=rel&type=simple&published=on>

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