

Angry Bosses: A job portal

Software Engineering Course Project

Project Plan Document



Group 9

Moezo Saleem 13100040

Syeda Ramla Hassan 14100160

Amyr Karim Virani 14100210

Muneeb Farrukh 13020137

Instructor

Dr. Hamid Abdul Basit

Session 2012-2013

Department of Computer Science

Lahore University of Management Sciences

Lahore

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Project Plan Document

Project Type

Angry Bosses is an online Job portal with a database for storing company and user records.

Process Model

Iteration and incrementation development methodology will be used because this will lead to regular testing of the software to see if it meets the user requirements. And any change in the user requirement will be immediately catered to.

Project Deliverables

1. Requirements document
2. Project plan
3. System design document
4. Test reports
5. Final code
6. Software manuals e.g. user, installation

Project Tasks

Tasks to determine product statement

1. Identify customers' requirements
2. Analyze the requirements
3. Meet with the staff
4. Prepare a questionnaire according to customers' requirement
5. Derive the new requirements observed from questionnaires and project constraints
6. Analyze constraints and propose a solution
7. Define a final list of requirements
8. Define project purpose and scope
9. Identify user characteristics
10. **Milestone:** Product statement defined

Tasks to determine functional specification

1. Define webpages and their functions
2. Model each webpages' Input functions/output functions
3. Discuss and analyze with customer
4. Review with team members
5. **Milestone:** Functional specification defined

Tasks for scheduling

1. Group meetings schedule
2. Deliverables Scheduling
3. Collective Coding Session Scheduling
4. Gantt charts
5. Pert chart
6. **Milestone:** scheduling accomplished

Tasks to determine estimation

1. Cost estimation
2. Software model specified
3. Project based estimation
4. FP calculations
5. H/w and s/w cost estimations
6. Customer meeting
7. **Milestone:** estimations calculated

Tasks for designing phase

1. Data flow diagrams for the proposed system
2. Entity relationship diagrams
3. Normalization of tables
4. Rough design of tables
5. Database Schema designs
6. Database Tables relationship diagrams
7. Data dictionary
8. **Milestone:** final design

Tasks for coding/implementation

1. Designing the database in SQL
2. Designing mockup page images and icons in Adobe Photoshop and Illustrator
3. Converting mockups to CSS and HTML
4. Designing forms in HTML and PHP
5. Creating forms and pages in PHP
6. Connectivity handling
7. Error detection in forms
8. Coding of all server-side processing
9. Coding of all client-side processing
10. **Milestone:** coding accomplished

Tasks for risk management

1. Customer meeting on fixed intervals to identify progress
2. Analyze the progress and derive the risks if there may be any

3. Derive solution to overcome the risks
4. **Milestone:** risk control achieved

Tasks for testing

1. Devising test cases
2. Test cases run
3. Web Server Testing
4. Cross-Browser Testing
5. Distribute to few users to test for errors of bugs if any
6. Implement the final project after removing any bugs and repeating this for a fixed duration
7. **Milestone:** system tested

Project Scheduling

Number of weeks allotted for the project: 3 months one week (13 weeks)

Total time needed for the project: 520 hours

Total Number of Staff Members: 4

No. of Hours dedicated per staff member: 10 hours/week or 40 hours/month

Time for Software requirements gathering and SRS document: 3-4 weeks

Time for Design of the project including completed class diagram: 2 weeks

Time for testing: Continuous testing will be done (after each phase)

One week will be dedicated to testing codes

Time for implementing the code: 7 weeks

Below is the scheduling Gantt chart:

[illegible]

Team Structure

Role	Responsibility	Person
Team member/ coder/designer	Interfaces part of the software requirement document, use cases, coding related to SQL searching, HTML forms and website design	Moeezo Saleem
Team member/ coder/ designer	Part of the software requirements document, some use cases, coding in SQL and PHP	Syeda Ramla Hassan
Team member/ coder/ designer	Validation of forms using JQuery and designing using CSS	Amyn Karim Virani
Team member/ coder/ designer	Database Schema designs and coding for PHP and testing the code.	Muneeb Farukh

Task and Member Assignment Table

Allocation of People to Activities

No.	Activities	Members
1.	Tasks to determine product statement Tasks for designing phase Tasks for coding/implementation	Syeda Ramla Hassan
2.	Tasks to determine functional specification Tasks for scheduling Tasks for coding/implementation	Moeezo Saleem
3.	Tasks for coding/implementation Tasks for testing	Amyn Karim Virani
4.	Tasks to determine estimation Tasks for coding/implementation Tasks for risk management	Muneeb Farrukh

Resource Allocation

Tasks/Activities	Resources
Tasks for designing phase	Local machine running SQL, Apache and NetBeans
Tasks for coding/implementation	A web server with SQL
Tasks for testing	Labor and different web browsers

Project/Product Estimates

Project Estimation by Function Point Analysis:

External Outputs: 6 average = $6 \times 5 = 30$

External Inputs: 6 average = $6 \times 4 = 24$

External Inquiries: 2 high = $2 \times 6 = 12$

Internal Logic Files: 2 high = $2 \times 15 = 30$

External Interface Files: 1 high = $1 \times 10 = 10$

Total Unadjusted Function Points: 106

Value Adjustment factor points:

1. Data communications = 3
2. Distributed data processing = 0
3. Performance = 5
4. Heavily used configuration = 2
5. Transaction rate = 5
6. On-Line data entry = 5
7. End-user efficiency = 5
8. On-Line update = 5
9. Complex processing = 2
10. Reusability = 3
11. Installation ease = 0

Multiplied Value adjustment factor = $35 + 65 / 100 = 1$

Total Adjusted Function Points: 106

Project Estimation by Use Case Point Analysis:

Use Case Complexity	Weight	Number of Use Cases	Product
simple	5	3	15
average	10	13	130
complex	15	4	60

Unadjusted use case weight: 205

2 average actors= 4

1 complex actor= 3

Unadjusted actor weight= 7

Unadjusted use case points= 212

Factor Weight Assessment Impact:

Factor	Weight	Assessment	Impact
Distributed system	2	0	0
Performance objectives	2	4	8
End-user efficiency	1	5	5
Complex processing	1	2	2
Reusable code	1	2	2
Easy to install	0.5	0	0
Easy to use	0.5	5	2.5
Portable	2	1	2
Easy to change	1	3	3
Concurrent use	1	4	4
Security	1	4	4
Access for third parties	1	1	1
Training needs	1	0	0

Total TFactor= 33.5

TCF= 0.935

Enviromental Factor:

Factor	Weight	Assessment	Impact
Familiar with the development process	1.5	4	6
Application experience	0.5	3	1.5
Object Oriented experience	1	2	2
Lead analyst capability	0.5	3	1.5
Motivation	1	3	3
Stable requirements	2	3	6
Part time staff	-1	2	-2

Difficult Programming Language	-1	1	-1
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Efactor= 17

EF= 0.89

Factor	Description	Weight
UUCW	Unadjusted Use case weight	205
UAW	Unadjusted actor weight	7
TCF	Technical complexity factor	0.935
EF	Environmental factor	0.89

Use Case Points= $212 \times 0.935 \times 0.89 = 176.42$

Tools and Technology with reasoning

Front End Tools

Adobe Photoshop, Adobe Illustrator, HTML, CSS, JavaScript, JQuery Plugins

Reasons

Adobe Photoshop will be used to make all the graphics required for the website, such as navigation bar design, buttons, etc. Adobe Illustrator will be used in order to facilitate the design process in case vector images (e.g for the logo) are required for some part of the website.

HTML is a powerful front-end language that is used to display information in web pages. To display all the content, we would be using HTML in association with CSS and JavaScript. We would be creating all the webpages in HTML.

Cascading Style Sheets, CSS, are very useful in designing content of webpages. In order to make sure that our design is separated from our content and processing, we would be using CSS to define layouts and design elements in our webpages.

JavaScript is a very powerful language that can be used to model client-side processing in web browsers. JQuery is a vast JavaScript Library that allows us to write less JavaScript code while delivering the same features. We would be using JQuery and other JavaScript plugins from around the web in order to deliver smoother user interaction and client-side processing, such as roll-over navigation, form-processing, etc.

Documentation Tools

Microsoft Word, Microsoft Visio

Reasons

Microsoft Visio would be used to create diagrams. These diagrams would be imported in to Microsoft Word in order to create a complete documentation. We will be writing all the technical material and text using Microsoft Word.

Modeling Tools

Rational Rose

Reasons

In order to support the design phase of our system, we will be using Rational Rose since it is one of the most common tools used in the industry. It is a convenient and powerful tool.

Project Management Tools:

Microsoft Project

Reasons

We will be using Microsoft Project in order to keep track of our project and keep checking if we are in pace with the decided schedule.

Development Tools:

Programmers Notepad, XAMPP

Reasons

We will be using Programmer's Notepad to write most of our HTML, CSS, JavaScript and PHP Code.

We will be running the code offline using XAMPP, which creates an offline simulation of a webserver. We would be able to add a local MySQL database to XAMPP and also run and test our project offline on it.

Back End Tools

MySQL Database, PHP, Linux Web Server

Reasons

Our project requires a medium that can store a large amount of information. Due to this purpose, we will be using a MySQL Database which can be run on online Linux Servers.

PHP is a very powerful and robust language with one of the best open-source support around the web. It is one of the most common programming languages used to develop online web portals. We will be using PHP for all the server side processing scripts in our system.

Linux is one of the most commonly used webserver and we would therefore be running our website on a Linux Web Server. It is supportive of MySQL and PHP.