ADH Search Engine

***For SE 6362/001 - Advanced Software Architecture and Design***

**Preliminary Project Plan (Phase 0)**

By **ADH Team**

**Rotating Team Leader**

Haoliang Wang

**Team Website**

<http://paris.utdallas.edu/adhteam/>

**Project GitHub**

<https://github.com/ADHTeam/ADH-Search-Engine>

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**Version History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Comments** | **Author** |
| 1.0 | 26-Aug-17 | Initial attempt | Dongcheng Li |
| 1.1 | 28-Aug-17 | Overall structure of the document | Dongcheng Li |
| 1.2 | 29-Aug-17 | Typesetting | Ali Ghanbari |
| 1.3 | 30-Aug-17 | Revise title, review, and elaboration | Haoliang Wang |
| 1.4 | 30-Aug-17 | Page numbers and final review | Ali Ghanbari |

**Meeting Records**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Date** | **Duration** | **Location** | **Participants** | **Summary** |
| 001 | 24-Aug-17 | 12:45 - 13:15 | CB | All | Initial proposal for team website and team organization |
| 002 | 29-Aug-17 | 12:45 - 14:00 | CB | All | Final decisions for technical issues and each team member's responsibility |

* **Ali Ghanbari** *Sign:*
* **Dongcheng Li** *Sign:*
* **Haoliang Wang** *Sign:*

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# Introduction

This document presents the overview, organization, and managerial and technical process associated to our search engine. Final product of our project is going to be a simple, yet powerful and fast, (web) search engine. We call the resulting system ADH Search Engine. Roughly speaking, the system crawls web pages (as many as possible) and indexes keywords found in them. It later consults the index to answer queries. Furthermore, it uses a variant of Google’s PageRank Algorithm[2] to rank its output, so that pages with higher rank will appear first in the search output.

## 1.1 Deliverables

The following table summarizes the list of deliverables needed to fully present the project.

|  |  |  |
| --- | --- | --- |
| **Deliverable No.** | **Date** | **Description** |
| 0 | 31-Aug-17 | Preliminary project plan (present document) |
| 1 | 28-Sep-17 | Interim Project I submission & presentation |
| 2 | 10-Oct-17 | Final Project I submission |
| 3 | 9-Nov-17 | Interim Project II submission |
| 4 | 28-Nov-17 | Final Project II submission, presentation and demo |

## 1.2 Definitions, acronyms and abbreviations

|  |  |
| --- | --- |
| CSS | Cascading Style Sheets |
| GUI | Graphical User Interface |
| DBMS | Database Management System |
| OS | Operating System |
| HTML | Hyper Text Markup Language |
| J2EE | Java 2 Enterprise Edition |

# 2. Organization

In this section, we are going elaborate on process model and team organization.

## 2.1. Process Model

We are going to adapt Waterfall[3] process model. Therefore, we are going through Communication (to gather and analyze user requirements), Planning (to plan and identify risks), Modeling (to do architectural and detailed design), Construction (to implement and test), Deployment (to deploy the final product) phases.

## 2.2. Team Organization

The team ADH[[1]](#footnote-1) comprises of three members: Ali Ghanbari, Dongcheng Li, and Haoliang Wang. Management in our team is going to pass from one member to another in a periodic manner. The role of manager will be to monitor activities of the team, and will decide if the team is progressing as it is supposed to. Besides transient responsibilities (such as management) we have fixed responsibilities as well. For example, Ali will always be responsible for revising final deliverables, Haoliang is going to be the fixed maintainer of the team website (also its database and all other on-line issues regarding the team website), and Dongcheng will be assigned to the fixed responsibility of conducting thorough tests on the final implementation. Finally, we need to mention that all the team members will be equally involved in design and implementation activities.

# 3. Technical Perspective

In this section we are going to present technical presents related to the project. These include the tools, programming frameworks, and programming languages that we are going to use.

## 3.1. Tools & Frameworks

The following table lists the tools that we are going to use in our project.

|  |  |
| --- | --- |
| **Tool** | **Purpose** |
| Eclipse | Java IDE |
| Apache Ant | Code Building |
| MS Win Server 2003 R2 | Our server OS |
| MySQLi | Our DBMS |
| MS Outlook and WeChat | Communication among team members |
| MS Word | Typesetting documents of the project |
| MS Excel | Maintaining data and charts |
| MS PowerPoint | Presenting the results of each phase of the project |
| MS Project | Planning the activities of the project |
| GitHub | Storing our project in a shared repository |

Finally, the following the table lists all the programming/scripting languages and frameworks that we are going to use in our project.

|  |  |
| --- | --- |
| **Language/Framework** | **Purpose** |
| Java | Implementation of the project |
| J2EE | Taking advantage of its API for our multitier architecture |
| JUnit | For conducting unit/integration tests |
| PHP+Joomla | Team website |
| Apache Tomcat | For writing our web search engine |
| HTML+CSS | GUI |

# Bibliography

[1] Lawrence Chung, Advanced Software Architecture and Design Syllabus, SE 6362, Section 001, Fall 2017. <http://utdallas.edu/~chung/SA/syllabus.htm>

[2] L. Page, S. Brin, R. Motwani, and T. Winograd, “The PageRank Citation Ranking: Bringing Order to the Web.” Info. Lab., Stanford University, Tech. Rep., 1999.

[3] R. S. Pressman, Software Engineering: A Practitioner’s Approach, NY: McGraw-Hill, 2010.

1. ADH is an acronym for Ali-Dongcheng-Haoliang [↑](#footnote-ref-1)