Document Search Engine

Software Specification Requirements

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1 Introduction

The Internet links are computer networks all over the world so that users can share resources and communicate with each other. A search engine is a software system that is designed to search for information on the World Wide Web. Here we mean by information is video, audio, pdf, documents and many more.

1.1 Purpose

This Software Requirements Specification documentation describes functionality and prerequisites for the QuickSearch, a document search engine. This web application is more effective, quick in providing search results to anyone, anytime and anywhere within a fraction of time.

1.2 Scope

- Any user available and connected to the internet can search the documents available on the web through this web application.
- There are two basic users: **End user, administrator**
- End users:
    - can search on this search engine in two ways in decreasing order of creation date
    - Search result must be in the form of card-ui.
    - For faster and efficient retrieval of data pagination will be there at server and client side.
- Administrator:
    - Will be given one web page where a user can do a CRUD operation of a document and its Meta data.
    - This data can be in various forms/types. Some of them are as below.
        - Non-editable pdf files
        - Images – jpeg, png
        - Documents like word, presentation

1.3 Tools Used

Local Server- XAMPP
XAMPP is completely free and open source cross-platform web server solution stack package. It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing purposes.

1.4 Technologies to be used

HTML5, CSS3, Bootstrap3, JavaScript, AngularJS (framework of JavaScript), JSON,

Front-end framework - AngularJS
AngularJS aka Angular aka Angular.js is an open-source web application framework mainly maintained by Google and by a community of individuals and corporations to develop single-page applications. Aiming to simplify both the development and the testing of such applications by providing a framework for client-side model–view–

controller (MVC) Data transfer can be manually set within the code, or retrieved from static or dynamic JSON resources.

Back-end language – PHP5
PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management system and web frameworks. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page.

Database Platform - MySQL
MySQL is an open-source relational database management system (RDBMS) in July 2013, it was the world's second most widely used RDBMS, and the most widely used open-source client–server model RDBMS. It is named after co-founder Michael Widenius's daughter, The SQL acronym stands for Structured Query Language.

Data Transfer via JSON
JSON is a language-independent data format. It is derived from JavaScript, but now code to generate and parse JSON-format data is available in many programming languages. The official Internet media type for JSON is "application/json". The JSON filename extension is ".json".

1.5 Software Interface

Client on internet: Any HTML5 supported browser (Chrome v9+, IE v9+, Mozilla v8+, Opera v8+)
Web Server: Windows based web server, XAMPP installed
Database Server: MySQL

1.6 Hardware Requirements:

Server Side			
	Processor	**RAM**	**Disk Space**
IBM DB2	Intel Corei3 3rd gen+ Or AMD – 2 GHz	2 GB	5 GB

Client Side			
	Processor	**RAM**	**Disk Space**
IBM DB2	Intel Corei3 3rd gen+ Or AMD – 2 GHz	2 GB	5 GB

1.7 References:

- Basics of internet search engines (http://softnik.com/)
- Web Search Engine (https://en.wikipedia.org/wiki/Web_search_engine)
- Microsoft Server Configurations (URL: http://www.microsoft.com/en-in/servercloud/products/windows-server-2003/)
- Creately application to draw UML diagrams (https://creately.com/)
- IBM Sample software requirements specifications (www .bit.ly/1RITB44)

2 Specific Requirements

2.1 Use-case reports

Use case diagram is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well.
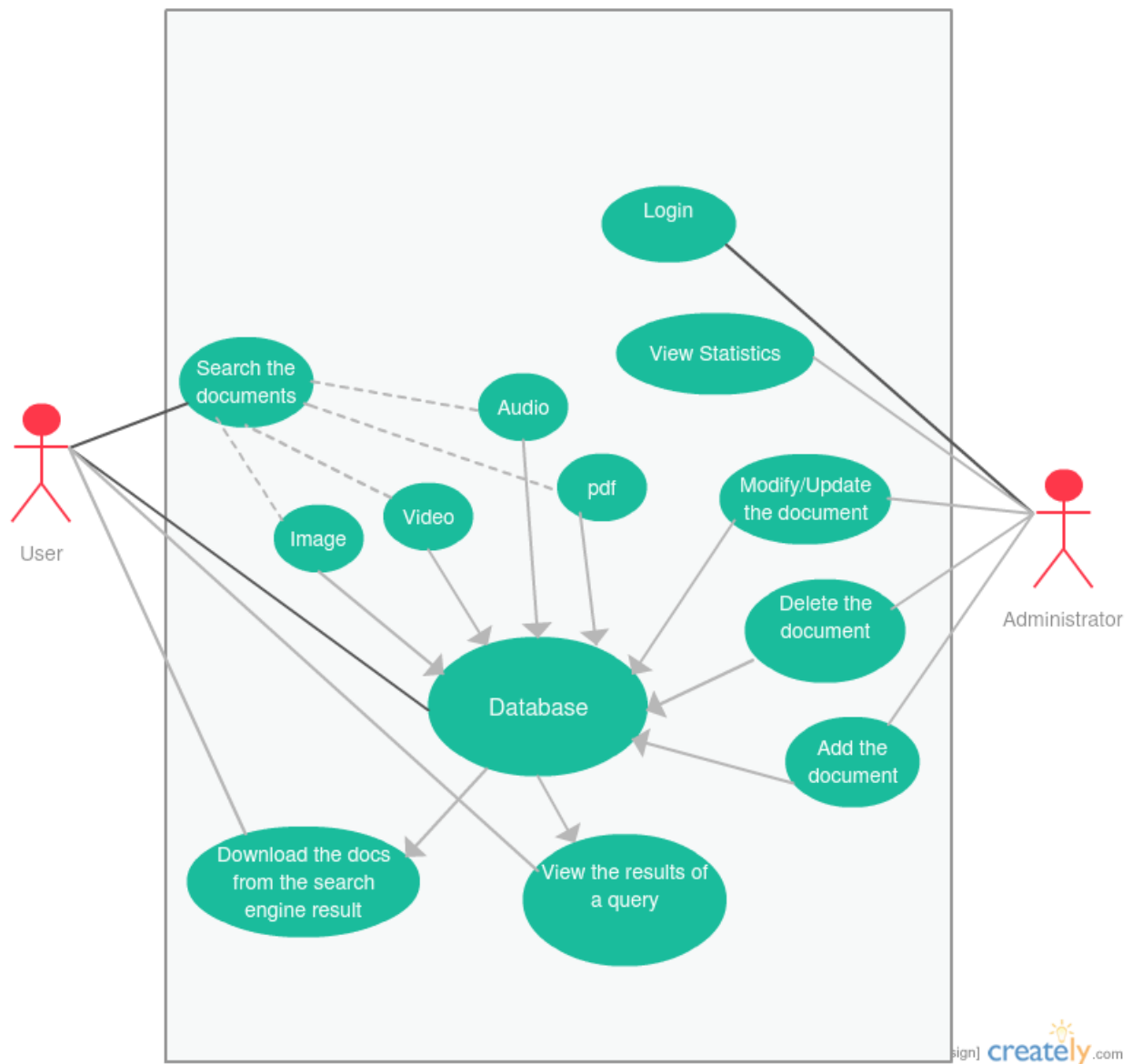
Document Search Engine

Figure 1: Use case diagram

Use case Description	
Login	User or administrator both can log in into the document search engine for the personalized results
Logout	Once logged in, User or administrator both can log out from the document search engine
Register	New user can register himself/ herself to use document search engine
Search the doc	User can search the documents available on the web
View the results of a query	Once queried, user can view the results of his/ her query
Download the docs from results	User can download the docs which he/she has searched.
Add the document	Administrator can add new documents to the web
Modify the document	Administrator can modify the document as per the need.
Delete the document	Administrator can delete any document available on the internet.
View Statistics	Administrator can view the Statistics of queries fired by the users.

Figure 2: Use cases with its functions

2.2 Activity Diagram

Activity diagrams are graphical representations of work-flows of stepwise activities and actions with support for choice, iteration and concurrency. In the UML, activity diagrams are intended to model both computational and organizational processes i.e. work-flows, Activity diagrams show the overall flow of control.

ACTIVITY DIAGRAM
FOR
DOCUMENT SEARCH ENGINE

User

Enter Search Keyword

No match

Show Error, Alternate keywords and Document not found

Show General Matches and document links
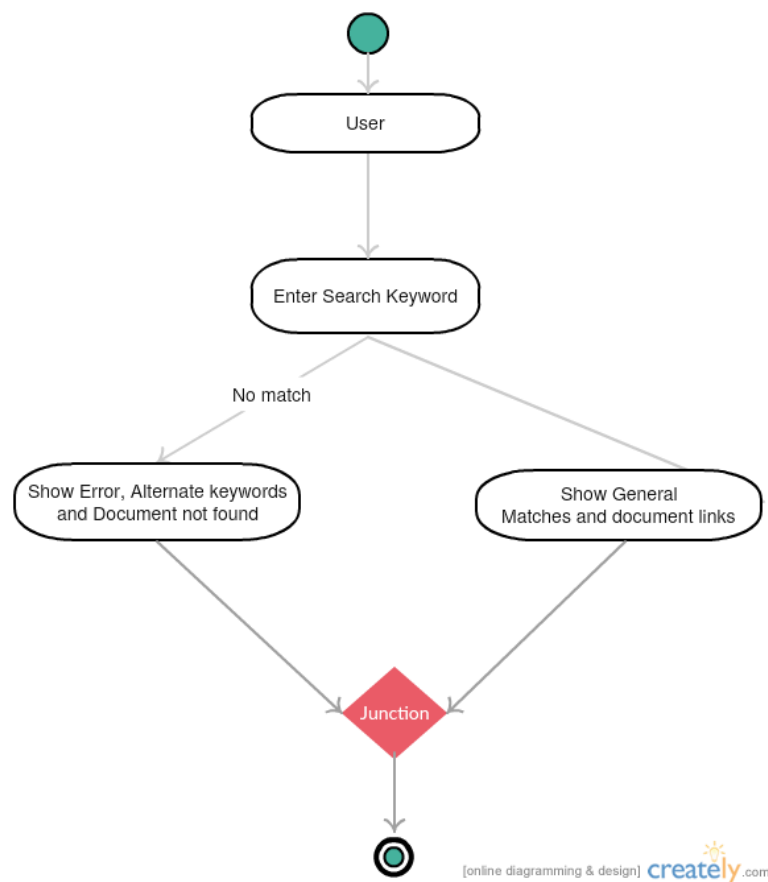
Junction

[online diagramming & design] creately.com

Figure 3: Activity Diagram

2.3 Sequence Diagram

A Sequence diagram is an interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario.
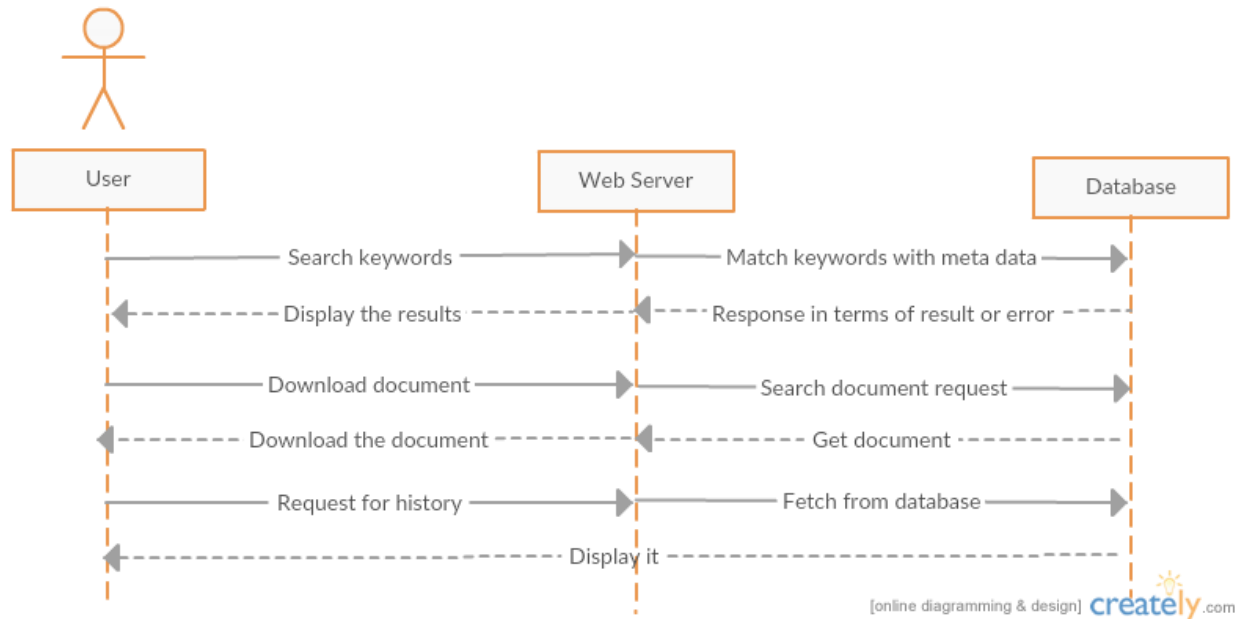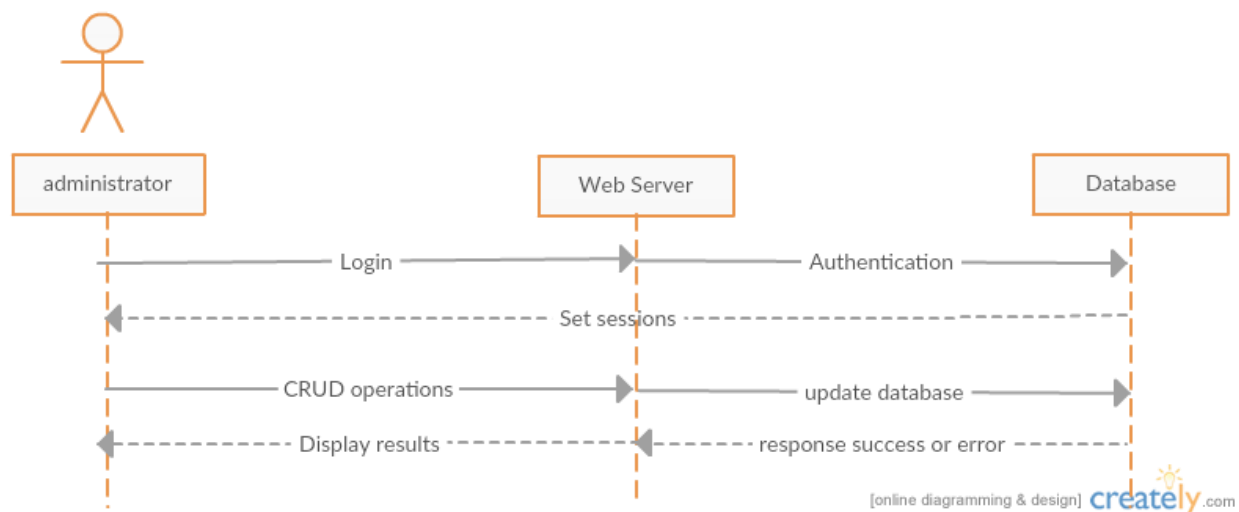

Figure 4: Sequence Diagram for user

Figure 5: Sequence diagram for administrator