
Bandara H.M.V.N.
100055X

Online Research Optimizer
[Extension for Google Chrome Browser to manage collected web information]
Software Architecture Document

Version 1.0

Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

Revision History

Date	Version	Description	Author
15/8/2013	1.0	Initial Software Architecture Document	Bandara H.M.V.N.

Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

Table of Contents

1.	Introduction	4
1.1	Purpose	4
1.2	Scope	4
1.3	Definitions, Acronyms, and Abbreviations	4
1.4	References	4
1.5	Overview	4
2.	Architectural Representation	4
3.	Architectural Goals and Constraints	4
4.	Use-Case View	5
4.1	Use-Case Realizations	5
5.	Logical View	6
5.1	Overview	7
6.	Process View	8
7.	Deployment View	9
8.	Implementation View	9
9.	Data View The extension will be installed to the browser and the local data storage reserved for the browser will be shared for the extension also. And the downloaded files can be stored in the same location or any other location (have to check feasibility)	9
10.	Size and Performance	10
11.	Quality	10

Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

Software Architecture Document

1. Introduction

1.1 Purpose

This document provides a comprehensive architectural overview of the system, using a number of different architectural views to depict different aspects of the Online Research Optimizer , Google Chrome Extension . It is intended to capture and convey the significant architectural decisions which have been made on the system.

1.2 Scope

The Online Research Optimizer extension will be developed in several phases which iteratively develop several sub components of the system. This documentation will be more focus on the sub components base architectural view of the extension.

Several architectural concepts will be adopted to design , develop and describe the Online Research Optimizer , Google chrome extension.

1.3 Definitions, Acronyms, and Abbreviations

1. RUP-Rational Unified Process
2. VP-Visual Paradigm
3. ORO - Online Research Optimizer
4. GC - Google Chrome

1.4 References

- Online Research Optimizer -Project Development case
 - Online Research Optimizer -Project Requirement Specification
 - Online Research Optimizer -Project Schedule
- [0] <https://developers.google.com/chrome/>
- [1] <https://plus.google.com/+GoogleChromeDevelopers/about>
- [2] https://developer.chrome.com/extensions/api_index.html
- [3] <http://developer.chrome.com/extensions/devguide.html>

1.5 Overview

This document will describe the main architectural aspects of the system using architectural diagrams and descriptions.

2. Architectural Representation

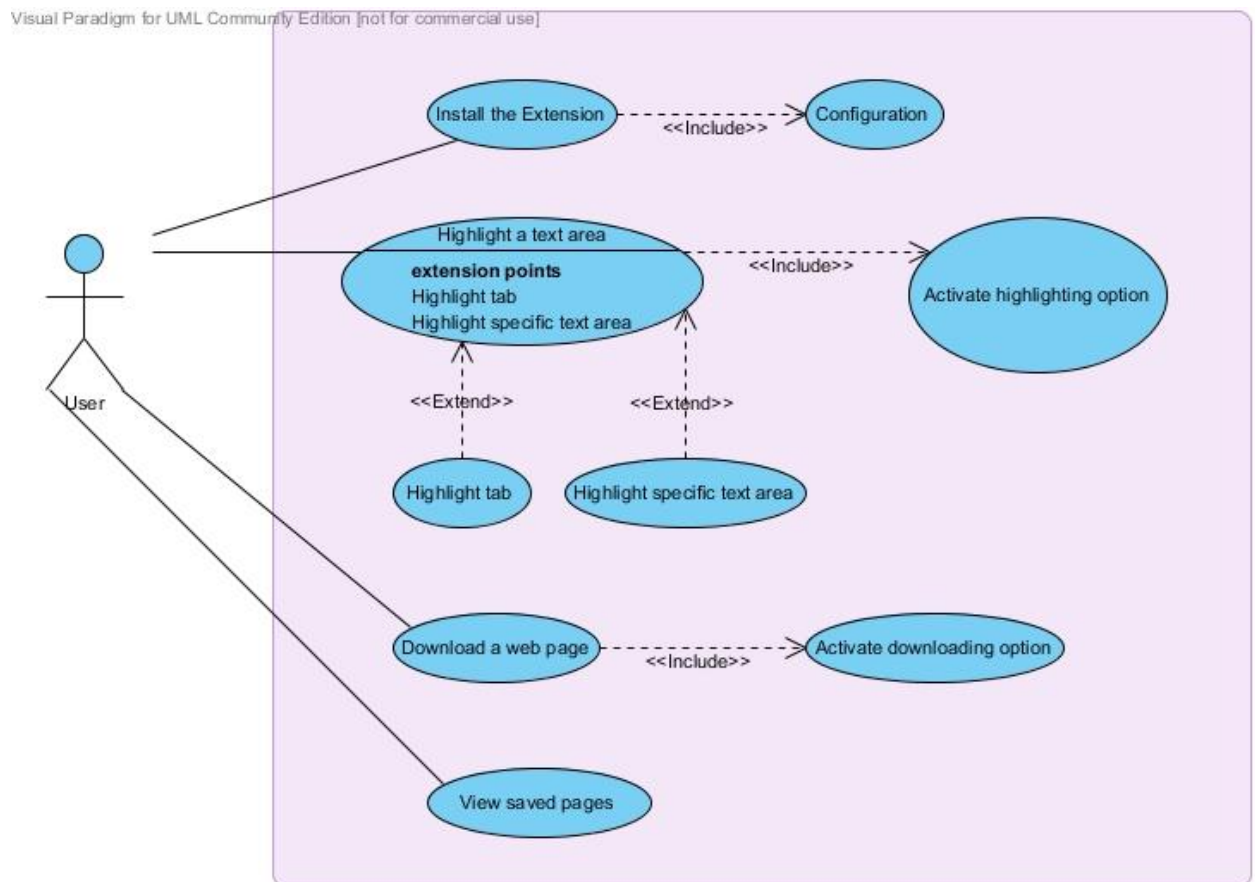
Online Research Optimizer extension consist of several sub components. This architectural design is basically developed considering the importance of those components. and the architecture of the interconnection of those components and the internal architecture of the sub components are described using several architectural representations like use cases , design diagrams..etc.

3. Architectural Goals and Constraints

Online Research Optimizer extension is specifically developed for Google Chrome web browser. So there are some architectural specifications and standards which are defined by Google to follow when designing the extension. The Google Chrome API's and the architecture of the web pages should also be considered. There is a standards defined by Google to create the project structure as well.

Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

4. Use-Case View



4.1 Use-Case Realizations

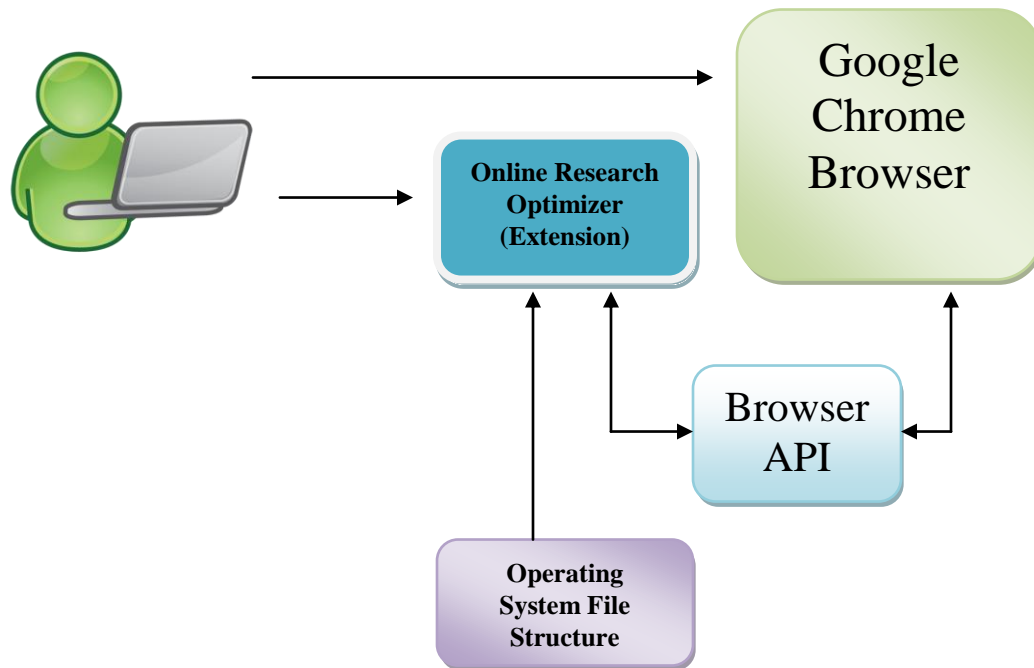
Online Research Optimizer extension user has 3 main cases.

- Select and highlight a text area
- Add annotations (optional)
- download a web page and view it

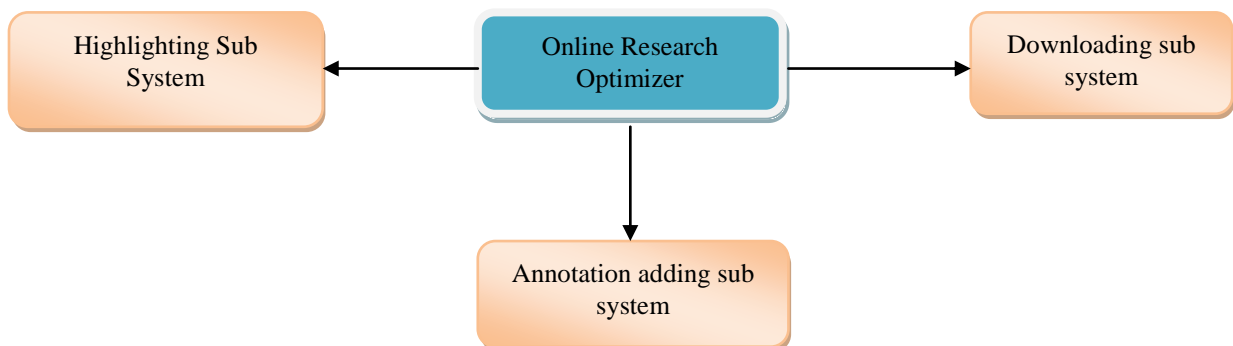
The user can install the extension as the first step. Then a user can activate the extension and deactivate it when necessary. If user want to highlight a certain text field user can activate and select the text highlighting option and highlight the text. Then if user want to save it then user can download the web page, and view it later.

Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

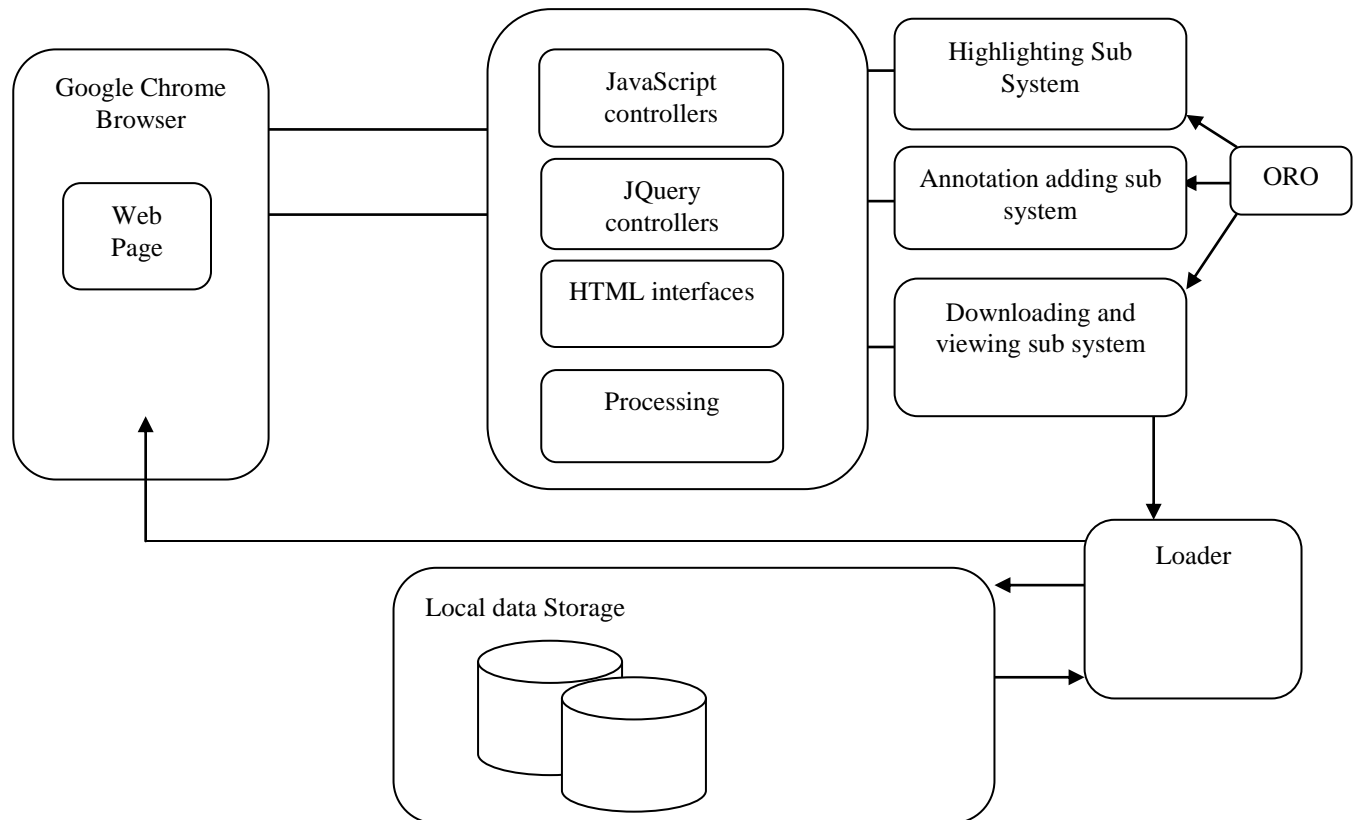
5. Logical View



The main sub systems of the ORO.



Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	



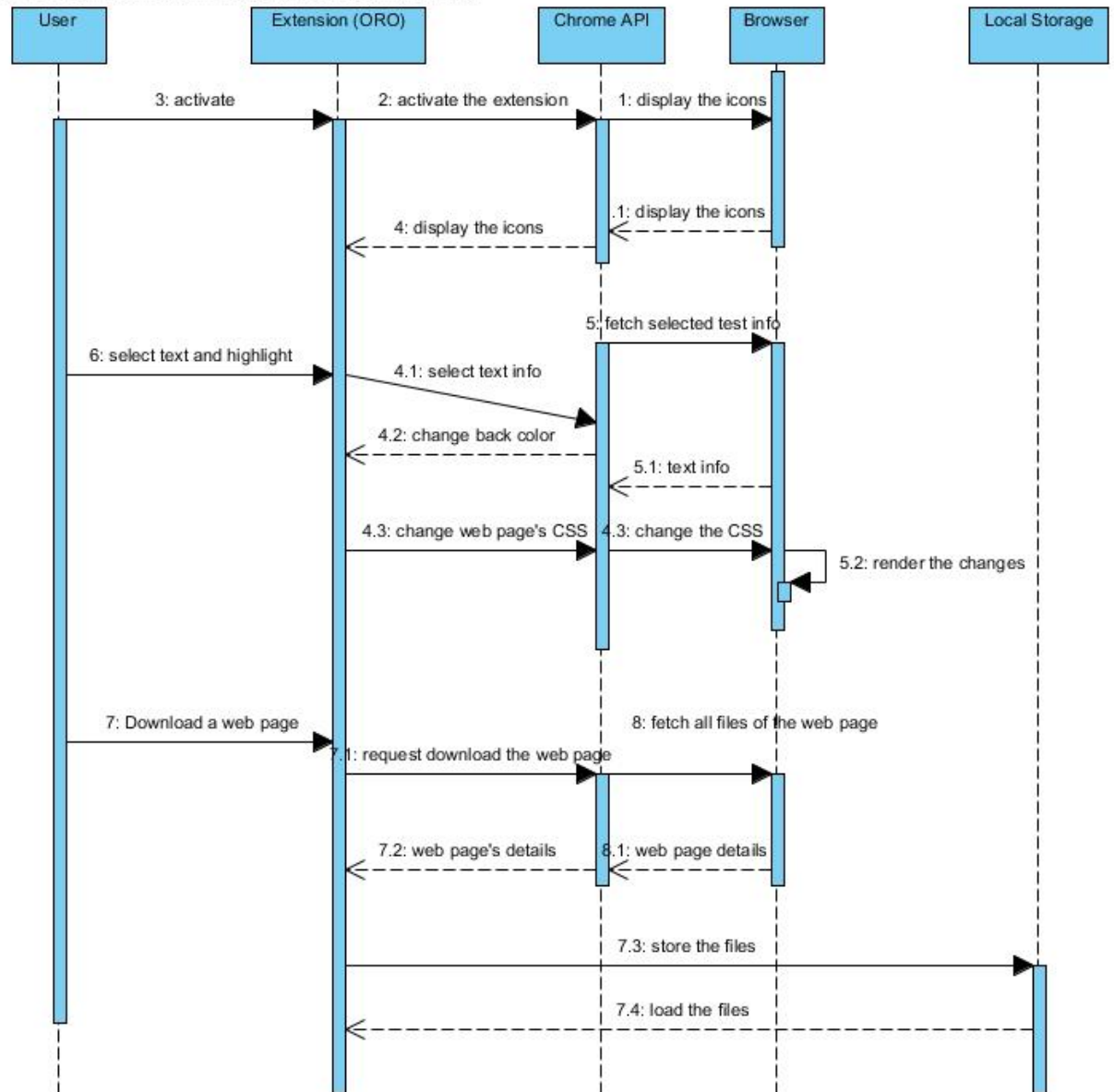
5.1 Overview

The above logical diagrams can be considered as high-level abstraction of the overall system. The interaction of the System components and the dependencies of the system like the browser settings and the API's are shown on these.

Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

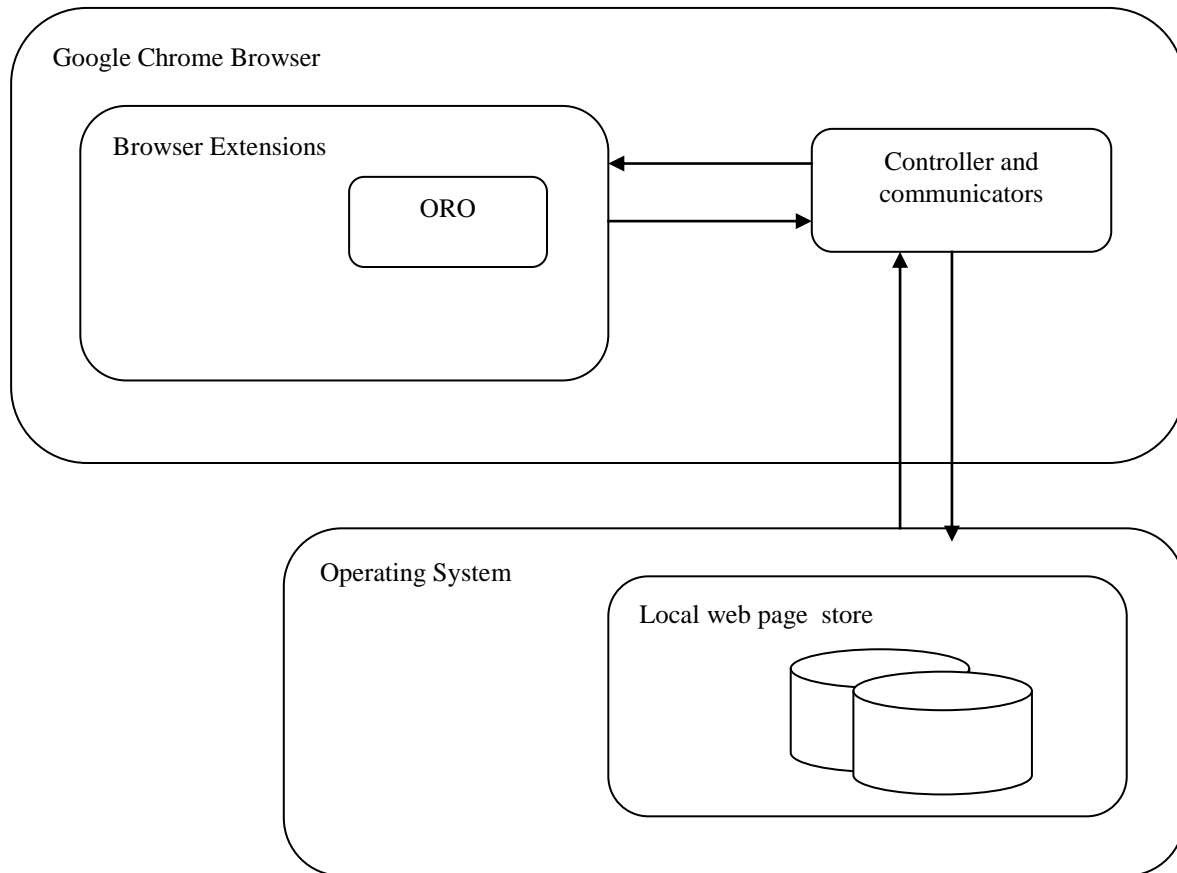
6. Process View

Visual Paradigm for UML Community Edition [not for commercial use]



Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

7. Deployment View



8. Implementation View

This view is almost the same as the Logical view for this application. Implementation will be done according to the component wise basis and finally they will be connected to form the whole system.

9. Data View

The extension will be installed to the browser and the local data storage reserved for the browser will be shared for the extension also. And the downloaded files can be stored in the same location or any other location (have to check feasibility)

Online Research Optimizer	Version: 1.0
Software Architecture Document	Date: 15/8/2013
Software Architecture Document	

10. Size and Performance

The size of the package is less than 2MB and the performance of the extension will depend on the version of the Chrome browser and the API's performance level. And suitable connectors must be used to handle the component interconnection.

11. Quality

The system architecture has give us a way to enhance the maintainability , extensibility and to improve the efficiency and understandability.

- The recovery time after failure is less than 2 seconds
- Real time performance can be obtained
- Browser performance will not affected
- Security vulnerabilities will not be a problem since it will not access any user credentials or system files