Software Requirements Specification for Smart History

Chrome Browser Extension

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Contents

1 Introduction

1.1 Purpose

The purpose of this document is to describe the Smart History, an extension on chrome browser. This document contains the functional behavioral of the project and it also contains the nonfunctional requirements for users and developers to use or start working on this project.

1.2 Project Scope

Smart History is based on the history records of chrome. It provides a user-friendly graphic interface and enables users to have a better experience when searching history.

Users can use Smart History to filter the history, view the statistics about their surfing pattern on the internet. Moreover, Smart History also automatically organizes the history and group related webs and even allow user to take notes or screenshots when working on webs.

1.3 References

- Chrome developer guide book
- w3schools web developer site

2 Overall Description

2.1 Product Perspective

Smart History can be a good replacement of origin chrome history page. Beside basic listing, searching and erasing functions, Smart History provides more useful functions with fancier GUI.

2.2 Product Functions

- ✓ List all history.
- ✓ View history in specific time interval.
- ✓ View most visited history.
- ✓ View history with or without particular patterns.
- ✓ Erase any history in any views above.
- ✓ Search history by key words.
- ✓ Group related history records.
- ✓ Take and store screenshots.
- ✓ Add tags to page.

2.3 User Classes and Characteristics

Smart History aim to all chrome browser users. And it is especially helpful for those users working on their personal laptops or work stations who have needs to frequently review the information they viewed on the Internet.

2.4 Operating Environment

Smart History is developed and tested on chrome browser. But it use the basic elements in web design like HTML, CSS, JSON and Javascript. So it can be applied on other browsers with minor adaptation if the browser offers the history API.

2.5 Design and Implementation Constraints

Saving screen-shot may ask permit to access local storage. All other functions only require access to chrome history.

2.6 Assumptions and Dependencies

Smart History use chrome history as one and only data source, so it will not list any browse records in incognito mode. No Internet connection is needed for all Smart History features, so there is no need to worry about privacy leak.

3 External Interface Requirements

3.1 User Interfaces

Smart History has three components: **Icon**, **Popup Window** and **History Page**.

3.1.1 Icon

Smart History will create a Icon pinned to the toolbar. (see Figure 3.1) Users can hide it any time in chrome extensions setting page, or right click on the icon and select the hide option.

Figure 3.1: Icon demo

3.1.2 Popup Window

Popup Window will show up when user click the Icon. It will list several latest history records and has some common features available, like screenshot, note, tag and search. (see Figure 3.2)

The title button is placed on the top left of the Popup Window. User can go to the History Page by clicking the title.

On the right side of the title are three icons representing tag, note and screenshot. Users can click the icon to use corresponding features.

On the top right is a text box. User can type in key words and press enter to search related history records.

Below list the latest opened pages. Each history record is attached with last visit time and hit rate. User can access the websites by clicking on the list items.

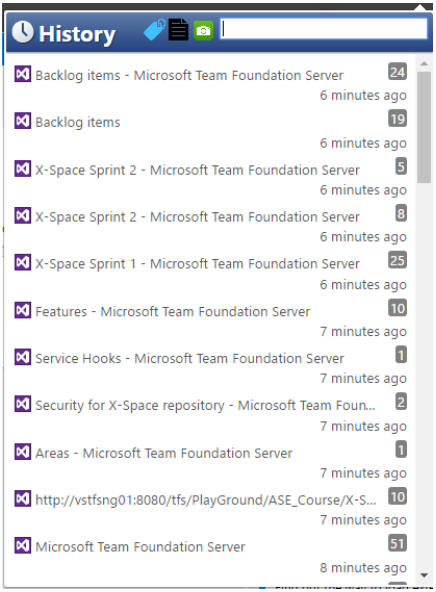

Figure 3.2: Popup Window demo

3.1.3 History Page

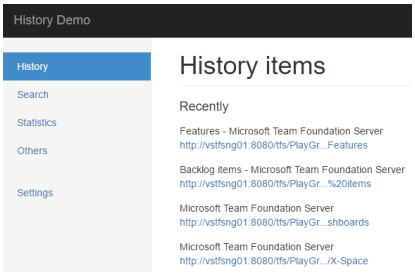

Figure 3.3: History Page demo

History page consists of two main components: Option tabs and Result window.

User can switch from different features on the left side panel. The result will be presented on the right side window.

In the Search tab, there are some fine-grained option to filter the result by date, hit rate, domain, tags, regular expressions, etc.

In the Statistics tab, users can learn their behavior from several charts, like most visited webs/domains, time distribution among domains, etc.

New features will be added into the Other tab base on feedback from users.

Users can set some rules to automatically filter some untitled pages or other pages they do not want to record. Smart History will provide several default rules, user can also set their own rules using regular expression.

Besides, there will be a mini box in the bottom left corner playing the animation of top hit pages. The pages will be show as their titles and keep rotating. So users can access these pages by clicking on them.

3.2 Software Interfaces

Smart History will use basic HTML elements and Javascript functions to demonstrate pages. The chrome history API will be the only data source. No other system requirements if chrome browser runs well.

In default, Smart History will override the chrome history as self-defined History Page. User can block the option in the Setting tab in History Page.

4 System Features

4.1 List all history

Smart History will automatically list dozens of latest history records in the Popup Window and all history records in the History Page.

The history record will contain the title, url, hit rate, last visited time and the logo of each website.

Each listed item will contain a hyperlink point to corresponding web, which can be trigger when users click on it.

Priority This is the most basic feature of Smart History and have the highest priority.

4.2 Filter history

Users can use default and self-defined rules to filter the history records. The rules are written as regular expressions or set as a time scale. Once the rules are applied, the listed history records will not include those match the rules.

User can also define temporary rules in search options. These temporary rules contains four types: time scale, hit rate, domain pattern and key words. They can be applied separately or in any combination.

Priority Filtering function will be used most frequently by users, so it also has the highest priority.

4.3 Erase history

Users can select and erase any number of history in any record list.

Smart History also support delete history records by self-defined rules. Users can simply select some rules and delete all matched records. Users can also do the search first and then select records and delete them.

Priority Erase history is a basic function of origin chrome history page. Since Smart History override that page, it also share the same priority with filtering and listing functions.

4.4 Group history

Smart History will group history according to domain names and transition types.

View history as a group can help users better acquire related information. Also, some pages are actually different part of one single theme. It is redundant and messy to list all of them.

Priority This feature will be a highlight of Smart History and distinct it from other similar extensions. So it has the priority right below the three core functions.

4.5 Take notes

Users may want to record some information of one page. Smart History provide users a fast way to add tag, write down some notes and take a screenshot on the web. The tags can also be used in key word search feature.

Priority Users can use other excellent extensions to take notes. However, Smart History combined it with history records for better organizing. So it has the third priority.

5 Other Nonfunctional Requirements

5.1 Performance Requirements

- ✓ The search result should be given with a very short latency.
- ✓ Graphic User Interface should be user-friendly, most filter rules should be implemented by button and checkbox.

5.2 Security Requirements

- ✓ Smart History MUST not sent history records to ANY entity.

5.3 Software Quality Attributes

- ✓ Smart History should define the rules of regular expression it can process. These rules should be explicit and succinct.