Trails

Save, view and share your Web Surfing Sessions as an interactive infographic Map

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Abstract

Web browsers have constantly evolved over the years and content is being added to the web on a behemoth scale. Sometimes we find something interesting on the web and wish to visit the content again without losing it. But with so much to keep track of, we need to save it for later – so that we can easily access, search or share them later.

We need a utility to handle such large inflow of our surfing history and to provide some visual insight into the data. The existing Bookmark Manager tools only work with a linear list of history, bookmarks or saved web content which becomes very hard to manage and view.

Trails is a web app that lets users visualise their web surfing sessions as Maps. This Map of visited links, saved content and search history can be viewed, searched and shared.

Some notable features include:

- Smart Bookmark Manager
- Save links and web page screenshots from all around the Web
- Organize and Categorize with autosuggested tags
- Find fast with guided search
- Share your search Map and work collaboratively

A Detailed Overview

The Trails system comprises of two major components – Trails Chrome Extension and Trails web app.

Trails Chrome Extension

The Trails extension has to be downloaded and installed on the web browser. It uses the Chrome.History API to send the web surfing history of the user to the secure database of the web app. It works as follows:

1. Get users permission to access its history
2. User surfs the web and wants to save the session
3. User clicks the Trails capture button on the side bar to capture his session
4. The extension gets the session history with an API call
5. Session history packaged as JSON
6. JSON sent securely using post method to the Trails web app server

Trails Web App

The web app is further comprised of the components –

1. Capture Session
    a. Tag generator
    b. Screenshot extraction
    c. Visitor Analytics
    d. Save session

2. Map Generator
    a. Dom-HTML parser
    b. Adjacency Matrix generator
    c. DOT Graph export

3. Map View
    a. Vis JS framework
    b. Vis CSS

A basic workflow of the web app can be portrayed as:

- Capture session history from Trails extension
- Get web page screenshots
- Extract web page tags
- Save session into secure Database
- Parse the web pages to extract links to other web pages
- Create nodes if links exist in session database
- Create edge if parsed link matches link in session database
- Export graph in DOT (graph description framework)
- User visits Trails home page
- Home page has collections of all Maps with screenshot, tags and title
- User clicks on a Map to view it
- Vis JS framework simulates the graph network with physics
- Vis CSS framework renders the graph network as a dynamic canvas
- User can expand, download and share this Map