E.S.tension (email search chrome extension)

Application Summary:

The E.S.tension is a Google Chrome extension that can parse websites and extract email addresses from them. User can navigate to any website, and just one click extension icon and all email addresses on the current website will be shown on the popup.

User also has the option to save the search results into database. If user provides a query word, the extension can filter out email addresses from the current page according to their relevance to the query.

The Google Chrome web browser is needed to run this application.

Installation and usage:

1. Installation: open terminal and direct to the directory where you want to download the extension. Use the following command to download from the GitHub repo (https://github.com/yuemingpang/CourseProject.git):

```
git clone https://github.com/yuemingpang/CourseProject.git
```

2. Unzipped the file and find the "app" folder. Open Google Chrome web browser, and direct to the extensions page. On the top right corner, enable developer mode. Use load unpacked button and select the "app" folder to unpack. Now you will find the extension installed as below:
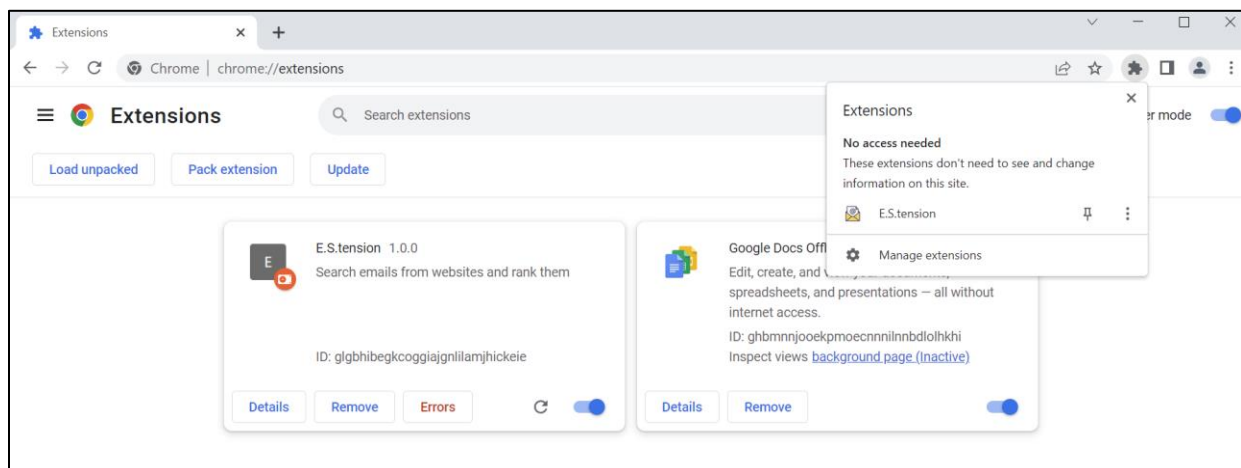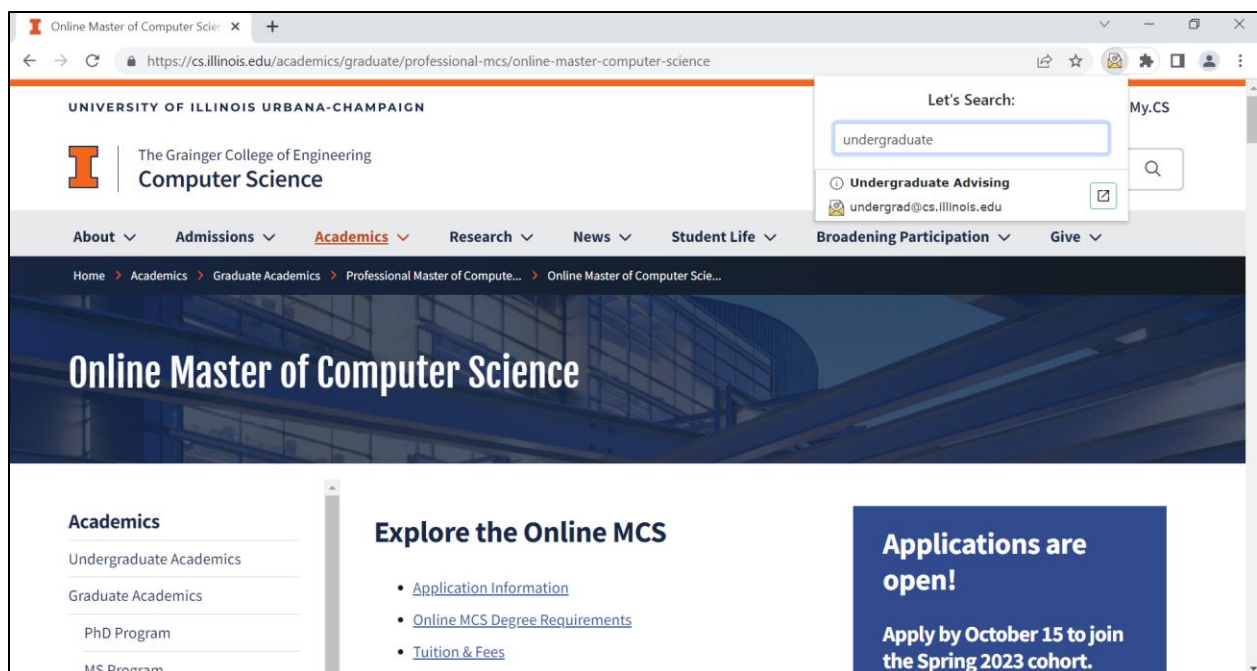
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3. Pin the extension to the browser so that you can easily access to it. For example, if we go to one of our computer science page (https://cs.illinois.edu/academics/graduate/professional-mcs/online-master-computer-science) and open the popup, all email addresses will be shown and ranked in alphabetical order. Each email address is labeled with its purpose.
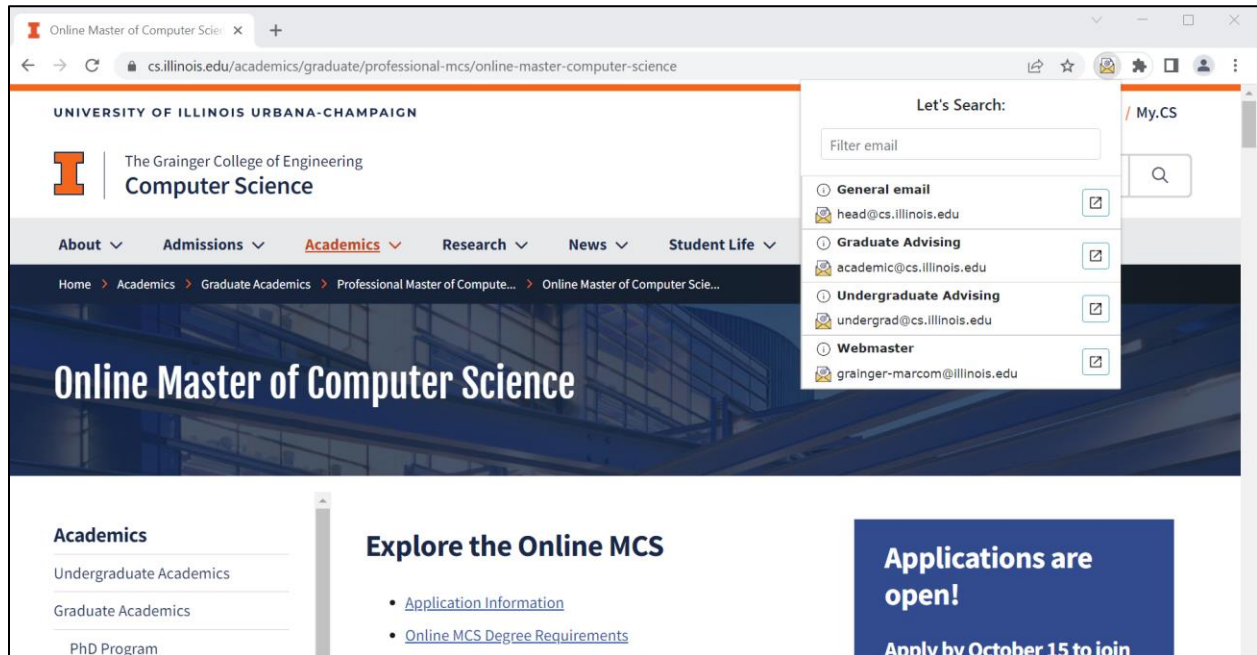
4. Click the pop button will open your mailbox and send an email to this address. Enter any query term will filter out any irrelevant email addresses:

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Implementation details:

The source code is available at our GitHub repo (https://github.com/yuemingpang/CourseProject.git).

manifest.json

It records important metadata, defines resources, declares permissions, and identifies which files to run in the background and on the page.

content.js

It directly interacts with a web page and executes JavaScript in the context of a web page. We use a regular expression to match with the format of email address. Every match will be added to the list and send to popup that will be showed to the user.

The purpose of each email address is extracted. First, the app checks if the purpose is in the same line as the email ex: Sales: sales@costno.com. if not, it traverses up the DOM for the next elements. It skips elements that are phone number or address. It's not perfect but it works well for most websites we test.

If the user enters a specific query word, the extension will use TF (term frequency) to filter out irrelevant email addresses. Only related email addresses will be shown on the popup.

background.js

It uses Chrome APIs and stores email addresses on the background. However, we didn't store anything in the background, so it is empty. For future improvement, we can add a database and store all email addresses to better experiment the ranking function.

popup.html, popup.css, and popup.js

It controls the logics and appearance of the extension popup. HTML controls the layout of the popup window. CSS gives the popup window its style and colors. JavaScript file defines the onclick of the buttons and send request to content.js for matching the emails.

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Developers and contributions:

Tasks	Lead developer	Assisting developers
Build the skeleton of the chrome extension	Yueming Pang, Schillaci Mcinnis	Yuling Gao
Implementation of web crawler and indexer	Yuling Gao, Schillaci Mcinnis	Yueming Pang
Implementation of the ranking function	Schillaci Mcinnis	Yuling Gao, Yueming Pang
Software verification, debugging, and documentation	Yueming Pang, Yuling Gao, Schillaci Mcinnis	
Software usage tutorial presentation	Yueming Pang	
Team coordination and other deliverables	Yueming Pang	