

## **Chrome Extension Prototype – Next Steps**

### **Connecting to a Database**

The most pressing next step for the prototype is to connect it to a database and have it be populated by actual questions, users, and points.

Connecting a Chrome Extension to a database requires a web-app to be created to act as a “middle man” for the extension.

The web-app would be connected to a database, and the extension would be connected to the web-app. This way, the extension will be able to communicate with the web-app, which in turn will be able to query the database.

This would allow questions to be retrieved from a table of questions, and would let users register and compete against each other.

### **Shibboleth Authentication**

Another step that would come along with connecting the extension to a database is handling Shibboleth Authentication for students so that we can retrieve data about their school and know which school to give points to when they answer questions.

The student should be able to sign in with their andrewID school account through the extension.

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## **Chrome Extension Prototype – Potential Features**

### **Question Creation**

There are a number of ways that the quiz questions in the extension could be generated.

#### **Crowdsourcing**

There could be a system in place for users to submit their own quiz questions, perhaps a point bonus would be offered to those who do

#### **Question Bank**

There may be existing public question banks that could be used for quiz questions. Questions from CMU’s “Computing at Carnegie Mellon” course could be a potential source of questions.

#### **Auto Generated Questions**

Question templates (i.e. How many times have you changed your [web service] password in the last [time period]?) could be generated with random time periods and web services to create a large volume of questions. The web services could be selected by observing the sites that the user visits (i.e. Facebook, Reddit, GitHub, etc.)

**Encouraging Answering Questions through Streaks**

Similar to Snapchat and Duolingo, a user could earn streaks for answering questions on 3 more consecutive days. This would be a feature for encouraging the user to continue answering questions in addition to the inter-school competition with the leaderboard.

The user could even earn more points if their streak is high enough (i.e. bonus 25 points if they have a 5 day streak)

**Point Loss for visiting Unsafe Sites**

If the user visits an unsafe website (i.e. thepiratebay.com), they could lose points right away. This form of immediate feedback might be effective in dissuading people from visiting sketchy sites similar to the extension “WOT: Web of Trust” which was covered in the literature review document.

The loss in points could be reflected in the popup.html page when they land on the unsafe site.

**Showing Frequented Sites on Question Page**

One of the default functionalities of Chrome’s new tab is the ability to quickly visit your most frequented sites. This is convenient and might potentially be missed with the addition of this extension. A potential feature might be to add a list of the user’s frequented sites on the right side of the question page (newtab.html).