Have you used this password before?

Bachelor/Master Thesis

Users are advised to refrain from using the same passwords for multiple accounts. While there is no way an online service can confirm that the password being created hasn't been used on a different platform, some typing behaviors might indicate that. For example, if the user is reusing an old password, the user is likely to type it faster than one that is totally new. The aim of this project is to conduct a study to investigate typing behaviors that can tell us if the user is reusing a password. This can be done through a web interface in the form of a survey that measures the user's normal typing speed, and then asks them to enter 1) a password that they use on different platforms, 2) a password that is slightly different from one that they use on a different platform (e.g., adding a number at the end of an old password), and 3) a password that is totally new. One of the challenges of this project is to find a way to save the typing behaviors (e.g., pauses, typing speeds, errors), without storing the actual password that was entered.

The collected data should be analyzed thoroughly. The outcome will then be used to build a model that can predict whether the user is reusing an old password, making a slight addition to an old password, or creating a totally new one based on the user's input behavior.

Tasks:

- Conducting a large-scale survey and evaluating the data

- Using machine learning to build models that can predict if users have used the given password before

- Collecting mass data (e.g. 1000 entries)

Requirements:

- Web development, including front-end development using Javascript

Contact:

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