Teacher dashboard

<https://kabroo.visualstudio.com/DTML.org/_workitems/edit/1129>

Status: Draft / Approved / In production

Introduction

The current teacher dashboard is dtml’s platform for teachers that uses the generic login and includes a system for teachers to input vocabulary using translations of their own language cross referencing dtml’s own dictionary. Teachers can also see general class performance. We want there to be a separate login for teachers as well as a system for inputting words that accesses a larger dictionary. We want a method for viewing individual student performances as well as groups, and a way to see which words are difficult for students to process and create patterns from that data. In addition, we want a way for teachers to put in “topic words” that are associated with a stream of words to teach students and also work with roots and stems for students to better understand the English language.

Short description

We would like to revamp the teachers’ manual word input system to include almost all words in the English language instead of just the ones in the dtml dictionary. However, we will also implement an advanced text cleaning/filtration system to ensure that the inputted vocabulary is appropriate for the students. Furthermore, we will use NLP to work with word clouds so that teachers can input topic words to teach students multiple words at once within the same category. We will also work with the roots and stems of vocabulary to better teach students conjugations in the English language.

We will also improve the data visualization regarding student performances. We hope to include individual student performances as well as trends, and we want the dashboard to collect more data from the students in order to display more accurate trends and results.

Detailed description

Write a detailed description of your project. Include enough detail so that any volunteer can help implement your design. If you have diagrams, this is the section they should go in.

Backend

* NLP clouds for topic words
* Stemming and lemmatization for word roots and stems
* Cross referencing words using web API’s
* Text Cleaning/Filtration system
* Emojis or simple images to associate with words for proper translation
* Data Mining to capture more data using the dtml platform

Frontend

* Separate teacher login
* Student performance plots
* Can link and unlink students from platform

User experience

* Make dashboard more image based
* Allow teachers to customize their platform according to quantity and performance of students

Security impact

Your changes can be used to cheat on the website. It’s not a question, it’s the assumption from which you should start. You should be able to sustain that your change doesn’t introduce ways of cheating.

Deployment plan

If you need to do a database schema migration, the installation of new software in the server, make experimental changes, new technologies, etc, mention that here.

1. Gain access to dtml vocabulary databases and code for current teacher dashboard
2. Acquire web APIs/Databases for new dictionary
3. Display individual student data and trends
4. Experiment with word clouds/filtration systems/roots and stems
5. Display words students are having difficulties with

Cost estimate

No costs at the moment.