Milestone

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Abstract

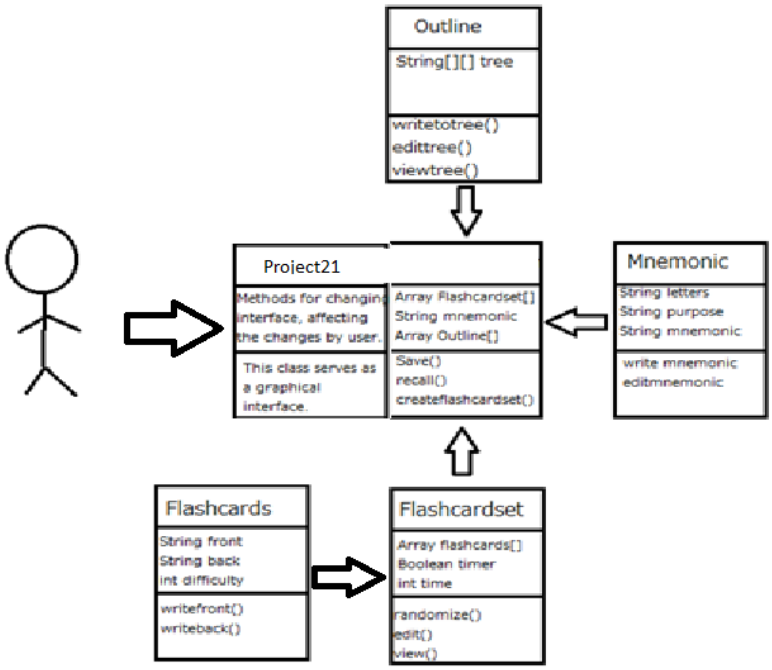
Memorization techniques are integral to students to succeed in their coursework. When I came up with this project my idea was that I needed a way to memorize information that forced me to study in smaller bits than the usual binge studying I do. This program is meant to utilize many techniques of rote memorization as well as other techniques in order to develop memorization of topics. The program is functional as a general flashcard application and simple mnemonic generator. The program will continue to be adapted until it functions as a complete source of Rote memorization materials.

Introduction

Rote memorization is a memorization technique based on repetition, and is a common form of memorization across the world. Techniques for rote memorization include the use of flashcards, mnemonics, and soon an outline section. This program aims to utilize all of these techniques to offer students the best ability to learn. This will be done through three distinct sections of the program a flashcard section, an outline section, and a mnemonic section. The flashcard section of the program possesses multi-sided cards that can contain string values and will can be viewed in normal flashcard manner, one at a time as well as flipped to the other side. In the future, the program will possess option to be set for a subset of the cards to pop up at timed intervals in order to drive rote memory by randomized recollection. The mnemonic aspect possesses a generator that creates a mnemonic from the string of words entered by the user. The final version will contain an outline aspect that will be structured by the student but will be able

to be viewed and edited. Each of these techniques is useful for creating successful memory links in the brain and develop the abilities of rote memorization.

Detailed System Description



This program will possess a class Project21 that will control the interface that the user interacts with as well as manage many functions of the application. The interface will open upon starting the program and will possess buttons detailing the various options the user can undergo. There has been developed a primitive interface from the JAVAFX framework that reacts to some specific user input to operate the application. The program Project21 is also a sort of master class as it connects the GUI class to the other classes controlling the various aspects of the program.

The Project21 class is also important because it possesses the ability to save the various data files created by the user, to recall the saved files, and to create any of the various memorization techniques. In the future, it will have a method that reads through flashcard sets to determine if they possess the variable to be opened at time intervals, and should open the subset of the flashcard set to be questioned. The files are saved through the use of serialization. The serialization works and all of the ".dat" files created can be recalled later on.

Flashcard

This will be the primary memorization technique utilized by this program. The flashcards will be created as objects with few variables outside of the information they are meant to relate to the user. These flashcards are held in an object, Flashcardset, which contains them in an array. The flashcardset has a timer integer which determines the amount of time the user wants this set of flashcards to be opened when the timer button is activated. There is also a method which creates a randomized amount of time between the flashcard launches. Along with these variables it contains the methods to view cards, edit flashcardsets, functions to create subsets that can be viewed. The flashcardsets are able to be created and saved within this application. There is an error that occurs after editing the set, as the file save feature cannot overwrite the old file of the same name. In order to counteract this research is being done into overwriting serialized objects.

Mnemonic

The mnemonic is an important memory technique for objects grouped together. This is an object that takes a string and strips the first letters off of each word. The class possesses a method that writes a mnemonic for the letters given, however good it is. The user will be able to

recall the randomized mnemonic if they do not like the outcome. It is being implemented that the mnemonic can be saved and recalled much like the other objects found in this program.

Outline

The outline memorization technique is useful for memorizing things that are related to each other. It is going to be held in an object outline. The outline will be created by entering string variables in to a textbox with keywords to denote where the string relates to objects already within the outline. This will have the ability to view the outline as well as save and recall much like the other classes. This class has been created but not implemented in this version due to bugs in the code.

Literature Survey

There exist a number of similar applications that have been created throughout the years. These include the software files known as Quizlet, Fresh Memory, and Brainscape. The features of each application was gathered off of the applications webpage.

Quizlet: This application has a number of different aspects. The first of which is a normal flashcard application in which users can flip cards. The next is a study mode in which the user must enter the opposite side of the card. The next option is matching the two sides together after seeing both. The final aspect is the long-term learning problem in which the user is given a frequency in which is meant to tell the user what aspects are most important to study. Students who use quizlet are shown to remember things more than through other memorization methods (Varga, 2).

Fresh Memory: The fresh memory application serves as a regular flashcard application, only the flashcards may possess more than two sides. The application is largely meant for learning foreign languages so the application is able to automatically create flashcards in another language. This program also uses a technique known as spaced repetition to view flashcards, where correctly answered flashcards are asked at a reduced rate to incorrectly answered ones.

Brainscape: This application is yet another flashcard application. In this one the user is able to grade the flashcard based on a scale of 1-5. This scale is then used to determine how often the flashcard is repeated. The program uses the data from over 800 academic profiles to determine the most viable way to learn the material. This program was able to be used with quite a large amount of success (Waterman, 1).

The program being developed, Rote Memorization, is a type of flashcard application much like those listed above. The application has users create a flashcard set and has the user set a time frame. The user can create, view, and save flashcardsets. The user can also edit a pre-existing flashcard set. The flashcard set can be put into timed mode, in which the program timer counts down in the background. When the timer goes off a subset of the full flashcard set is asked to the user. There is also the mnemonic aspect in which the user inputes a phrase, only to have a mnemonic passed out to them. The final aspect is the outline aspect, that was planned but never officially finished. The outline aspect creates an outline that thenis displayed in a GUI output.

User Manual

After prompting the application to run a java window will appear. This window will have three buttons leading to the three operations of this application. The create button is meant to create a set of flashcards. This button opens another Java window, with prompts to enter a string name, size integer, and a time integer. Then you can hit the next button to create the flashcard set. This will prompt another window to open that has two prompts for string values that will be the front and the back of each flashcard. Fill the flashcards and the system will go to the view page.

Alternatively, you could access the view flashcard set page by hitting the button from the original window and entering a string corresponding to a saved flashcard set. Ensure the string entered matches with a saved file or there will be an error. On the view page two windows will open, one with the flashcard and buttons to change and flip the card used to learn the information on the flashcards. The other will possess buttons to save the flashcard set, edit the flashcard set, return to the home window, and to start the timer option.

The final option in this application is accessed by clicking the Mnemonic button from the home screen. The window changes to include a text box, into which you will enter a string. The string must be multiple words long, and the box cannot be left empty. Upon clicking the next button a mnemonic for the string of words will be created and is now viewable. The mnemonic takes the first letter of each word in the string entered and is useful in helping with memorization.

Conclusion

The rote memorization application is working to revolutionize rote learning as we know it through the use of a variety of novel mechanisms. The timer mechanism, once functional, will allow the brain to ease its hold on topics before having them jump back to the fore front, improving recollection times and forcing the user to study while allowing for breaks.

The application also branches away from flashcards, utilizing mnemonics as an extra memorization device. In the future, there is a strive for the use of outlines as well to capitalize on all sorts of rote memorization devices to ensure the easiest memorization of facts.

References/ Bibliography

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2) Vargas, Julie Marie. *Modern learning: Quizlet in the social studies classroom*. Diss. Wichita State University, 2011.