

Lab 16 Flash Cards with GUI

Learning Objective: demonstrate creation design of GUI.

To transform the flashcards lab to be run from a console to a GUI. We are creating a front-end easy to add vocabulary and study flashcards app. This GUI will have multiple pages that the user will be able to navigate in a user-friendly way.

Part 1: Create the first page of your GUI. On this page, you will provide a menu for the user to choose from an edit, study, and exit. Do not forget to add self for every attribute and method as an argument.

Create a method `__init__` with arguments self, parent, root

Create an attribute `page_frame` Frame at parent and background white

Create an attribute `label` Label at the attribute `page_frame`, text WELCOME TO FLASHCARDS, font LARGE_FONT, background white

Create an attribute `button_next` Button at attribute `page_frame`, text Exit, width 10, command root.destroy

Create an attribute `button_edit` Button at attribute `page_frame`, text Edit, width 10, command self.edit

Create an attribute `button_study` Button at attribute `page_frame`, text Study, width 10, command self.study

Add the attribute `label` to the pack, side top, pady (150,20)

Add `button_edit` attribute to the pack

Add `button_study` attribute to the pack

Add `button_next` attribute to the pack

Create method `edit`. Call the method `show_page` with argument SecondPage

Create method `study`. Call the method `show_page` with argument ThirdPage

Create method `get_page`. Return the attribute `page_frame`

Part 2: Create the second page of your GUI. On this page, the user will be able to add a new word and definition to the flashcards app. On this page, the user will be able to choose to add, study, menu, and done. Do not forget to add self for every attribute and method as an argument.

Create a method `__init__` with arguments self, parent, root

Create an attribute `page_frame` Frame at parent and background white

Create an attribute `frame_top` Frame at attribute `page_frame`

Create an attribute `frame_middle` Frame at attribute `page_frame`

Create an attribute `frame_bottom` Frame at attribute `page_bottom`

Create an attribute `label_title` Label at attribute `frame_top`, text EDIT FLASHCARDS, font LARGE_FONT, background white

Create an attribute `label_word` Label at attribute `frame_middle`, text "Enter word: ", justify left, font MED_FONT

Create an attribute `label_def` Label at attribute `frame_middle`, text "Enter definition:", justify left, font MED_FONT

Create an attribute `entry_word` Entry at attribute `frame_middle`, width 30

Create an attribute `entry_definition` Entry at attribute `frame_middle`, width 30

Create an attribute `button_add` Button at attribute `page_bottom`, text Add, width 10, command self.add

Create an attribute `button_next` Button at attribute `page_bottom`, text Study, width 10, command self.next

Create an attribute `button_back` Button at attribute `page_bottom`, text Menu, width 10, command self.back

Create an attribute `button_exit` Button at attribute `page_bottom`, text Done, width 10, command self.done

Add the attribute `label_title` to the pack

Add the attribute `label_word` to grid row = 0, column = 0, ipadx = 0

Add the attribute `label_def` to grid row = 1, column = 0, ipadx = 0

Add the attribute `entry_word` to grid row = 0, column = 1

Add the attribute `entry_definition` to grid row = 1, column = 1

Add the attribute `button_add` to the pack

Add the attribute `button_next` to the pack

Add the attribute `button_back` to the pack

Add the attribute `button_exit` to the pack

Add the attribute `frame_top` to the pack side = 'top', pady = (150,20)

Add the attribute `frame_middle` to the pack

Add the attribute `frame_bottom` to the pack

Create method `next`. Call the method `show_page` with argument ThirdPage

Create method `done`. Call the method `show_page` with argument FourthPage

Create method `back`. Call the method `show_page` with argument StartPage

Create method `get_page`. Return the attribute `page_frame`

Part 3: Create the third page of your GUI. On this page, the user will be able to change between flashcard, and flip between the word and description. The user will be able to choose next, flip, menu, and done. Do not forget to add self for every attribute and method as an argument.

Create a method `__init__` with arguments self, parent, root

Create an attribute page_frame Frame at parent and background white
Create an attribute value as a StringVar
Create an attribute next_value as a StringVar
Create an attribute label_value Label at attribute page_frame, textvariable self.value, borderwidth 2, relief 'groove', justify "center", wraplength 500, font MED_FONT
Create an attribute label Label at attribute page_frame, text "STUDY PAGE", font LARGE_FONT, background 'white'
Create an attribute button_next Button at attribute page_frame, text Next, width 10, command self.turn
Create an attribute button_exit Button at attribute page_frame, text Done, width 10, command self.next
Create an attribute button_back Button at attribute page_frame, text Menu, width 10, command root.back
Create an attribute button_card Button at attribute page_frame, text Flip, width 10, command self.card
Add the attribute label to the pack side = 'top', pady = (100,20)
Add the attribute label_value to the pack pady = (0,20), ipadx = 100, ipady = 50
Add the attribute button_next to the pack
Add the attribute button_card to the pack
Add the attribute button_back to the pack
Add the attribute button_exit to the pack
Create method next. Call the method show_page with argument FourthPage
Create method back. Call the method show_page with argument StartPage
Create method get_page. Return the attribute page_frame
Part 4: Create the fourth page of your GUI. On this page, the user will be able to go back to the main page or exit the app by choosing start or exit. Do not forget to add self for every attribute and method as an argument.
Create a method __init__ with arguments self, parent, root
Create an attribute page_frame Frame at parent and background white
Create an attribute label Label at attribute page_frame, text "GOOD LUCK ON YOUR TEST", font LARGE_FONT, background 'white'
Create an attribute button_next Button at attribute page_frame, text Start, width 10, command self.next
Create an attribute button_back Button at attribute page_frame, text Exit, width 10, command root.destroy
Add the attribute label to the pack side = 'top', pady = (150,20)
Add the attribute button_next to the pack
Add the attribute button_back to the pack
Create method next. Call the method show_page with argument StartPage
Create method back. Call the method show_page with argument ThirdPage
Create method get_page. Return the attribute page_frame
Submit: There are NO automated tests for this lab, make sure everything works before submitting. As always, stop by student hours, send an email, check in with a peer, or stop by the STEM Center if you need any assistance.