

Report

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Report

For my approach to this project, I first needed to identify which applications I wanted to combine. I narrowed these down to four different tools I thought beneficial to studying: A diary, a to do list, a page to access music and a page to help with the studying process through providing tips and contacts to help students in stressful situations.

I first created the diary application. I wanted a user to be able to write an entry and then later review this entry on a different page. To achieve this, I first designed both the page where the user would enter a new diary entry and the page where the user could later look at their previous entries. On the first page, which was titled 'My Diary', the user will find two text fields. In the first, they will be asked to enter the date of the day, and in the second, bigger textfield, they will find the space to create their diary entry for the day. Once they have entered all the required information, they can click on the button that reads 'SAVE'. This button activates a function that will save the data to a csv file (code-lines 70-79). Once this step is completed, the user may proceed to the next page, which they will reach through clicking the button that says 'Previous Entries'. This will close the diary page and open the second page. On this page, the user will find the entries they have previously made, listed with the corresponding date. This is achieved through a function that reads the data of the csv file and then places the corresponding entries into the textfield (code-lines 82-91). To return to the previous page, a button labelled 'back' can be pressed, which activates a function that refers the user back to the previous page.

The second part of the application is the To-Do-List application (code-lines 167-232). This application allows the user to work with to do lists as long as the application is open and running. The first approach to building the to do list included a text box with checkboxes to its left side and a scrollbar to its right side. The user would enter the tasks directly into the textbox and use the checkboxes to tick off the task once it was completed. I abandoned this approach towards the end of the coding process, because I found a more efficient and elegant way that would not require me to rely on lengthy explanations on how to align the entered tasks with the textboxes. Instead of the user entering the tasks directly into the bigger empty textfield, I created a button that reads 'Add task'. Once the user clicks on this button, a window will pop up and the user can write the task into the textfield in the window and click on the button that says 'Add task' on the lower rim of the pop-up window. Once this button is activated, the task will show up on the to do list. If the user clicks on the task and then on the button that reads 'Mark as completed', a ticked checkbox will appear behind the task. If the user wants to delete the task, they can click on it and press the delete button and the task will disappear. To exit the page, the user can click on the button that says 'back' and will be led back to the homepage.

Another application that can be used is the music application (code-lines 237-320). It too requires a working Internet connection. This page can be accessed through clicking on the button on the second page that says 'Music'. Once this button is clicked on, the new page opens. On this page, the user will find different buttons labelled with either playlist names based on different moods (including 'Sad/Emotional Playlist', 'Happy/Uplifting Playlist', and 'Angry Breakdown Playlist') or on different genres (including 'Lounge Music/Soft Mix', 'Soundtrack', '90s Punk', 'Hip Hop' and 'New Pop'). Upon being clicked on, each of the buttons will open a YouTube page which displays the corresponding playlist. This was achieved through using a callback

function for each individual link to a playlist and embedding it in the code for each of the buttons. To leave the YouTube playlist, close the Internet browser.

The last application the user can use is the Study Page (code-line 324-296). It also requires a working internet connection. This page will open once the user clicks on the button on the main page that reads 'Study'. On the study page, the user will find two separate sections: On the left, there are buttons which will lead the user to different webpages which provide tips on studying. The webpages behind these tips include a webpage by the Harvard Division of continuing education, which displays an article, titled 'Top 10 Study Tips to Study Like a Harvard Student', written by Liam Parsons (Parsons, 2022)¹. It can be accessed through clicking on the button that is labelled 'Source 1'. The second webpage can be accessed through clicking on the button that is labelled 'Source 2'. This webpage contains a course on study techniques provided by the University of Groningen on the webpage *Future Learn* (University of Groningen)². The user will find some study tips on this webpage and could enrol in more elaborate courses, which do require a subscription fee. The third button, labelled as 'Source 3' will lead the user to a webpage on which the University of Oxford displays six tips to study successfully (University of Oxford, 2018)³. The fourth button, labelled as 'Source 4' will lead the user to a webpage provided by former students at the University of California, Davis (Simons, Nagasawa-Hinck, 2023)⁴. They provide study techniques specifically aimed at students studying mathematics. On the right side of the page, the user will find five buttons in a section labelled 'Websites for mental health'. The first button, which is labelled as 'Source 1' (code-lines 353f.), will lead the user to the webpage of the 'Deutsche Depressionshilfe', an organisation which provides help for patients and potential patients struggling with depression. The second button is labelled as 'Source 2' (code-lines 356f.) and will lead the user to the website of the Barmer Health insurance Company, which provides access to more informative sources. The third button ('Mental Health Hotlines') (code-lines 359f.) will lead the user to a website which displays different phone numbers for mental health emergencies, whilst the button labelled 'Immediate Help in crisis' (code-lines 362f.) leads the user to a website called 'psychenet' by the 'Deutsche Gesellschaft für Psychiatrie und Psychotherapie, Psychosomatik und Nervenheilkunde e.V.' (dgppn, 2024)⁵ which provides immediate help in crises through Hotlines and links to webpages of professionals. The last part of the page is provided through the function behind the 'Literature Online'-Button (code-lines 365-367). This button allows the user to access a search engine which is specialised on literature research, called 'Sweetsearch' (Dulcinea Media, 2009)⁶. The webpages can be accessed through the buttons, which include

¹ Parsons. 2022. *Top 10 Study Tips to Study Like a Harvard Student*. <https://summer.harvard.edu/blog/top-10-study-tips-to-study-like-a-harvard-student/> [last accessed: 12.03.2024]

² University of Groningen. *Improving Your Study Techniques*. <https://www.futurelearn.com/courses/improving-study-techniques> [last accessed: 12.03.2024]

³ University of Oxford. 2018. *Six tips for studying effectively*. University of Oxford. <https://www.ox.ac.uk/students/news/2018-10-25-six-tips-studying-effectively> [last accessed: 12.03.2024]

⁴ Simons, Alexander; Nagasawa-Hinck, Ally. 2023. *How Do I Study Math Effectively?* University of California, Davis. <https://www.math.ucdavis.edu/resources/learning/math-study-tips> [last accessed: 12.03.2024]

⁵ dgppn. 2024. *Soforthilfe für Erwachsene - Wenn Sie noch am selben Tag Hilfe brauchen!* dgppn. <https://psychenet.de/de/hilfe-finden/schnelle-hilfe/soforthilfe.html> [last accessed: 12.03.2024]

⁶ Dulcinea Media. 2009. *Sweet Search – A Search Engine for Students*. Dulcinea Media. <https://www.sweetsearch.com/> [last accessed: 12.03.2024]

the links to the webpages in their definitions and, additionally, through using a callback function (Sharma, 2021)⁷ (code-lines 271-320) for each individual link, allow the program to access a webpage.

Limitations and Reflection on the work process

The application has several limitations. Firstly, it requires a working internet connection, secondly, the webpages need to be accessible. Should one of the pages be taken offline, the corresponding part of the application would no longer provide the same experience. The data storage provides another problem. If the user does not possess the csv file, the data of the diary will not be stored, rendering this part of the application useless. The design of the application could have been more elaborate and detailed as well, but I was focused more on the functionality of the application rather than its look.

When it comes to the work process, several aspects could have been improved. A big factor was the time management. This project was rather time consuming, not only because of its difficulty, but also because I was procrastinating quite frequently due to fear of breaking the code or making mistakes due to concentration issues. I should have made myself follow a schedule to work on, rather than simply starting and stopping to work whenever I felt pressured to do so. I also should have created a specific plan to follow through with when coding. This should have included a detailed approach to programming each of the applications, one at a time. I should have focused on one application at a time instead of keeping track of the big picture.

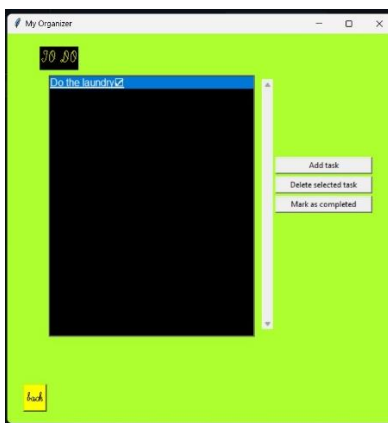
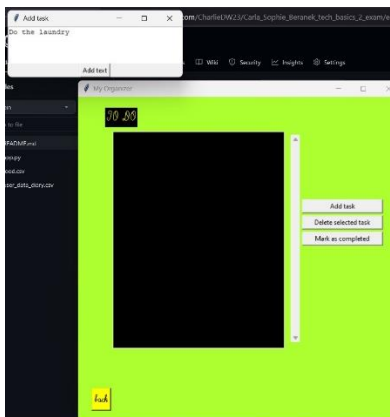
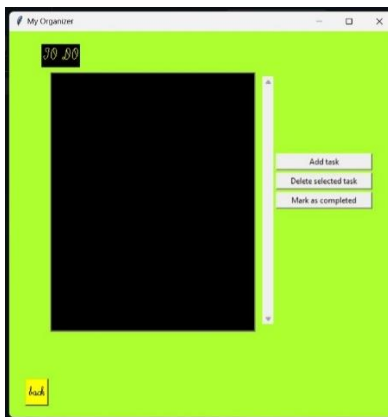
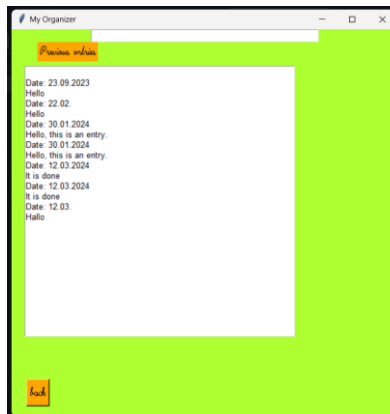
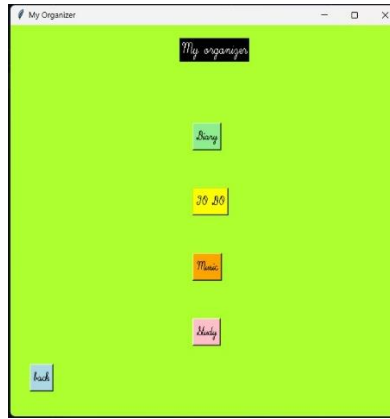
Overall, the project was based on the tkinter library and csv files to store data. The methodology for each individual page varied, but overall, I used a csv file to store data, definitions to create new pages, and the function to embed links in the code for buttons to build the application. Originally, I planned to use at least three csv files for different applications, but the csv files proved to be more challenging than expected. The problem could mostly be found in the function to access and display the data of the csv file. For the diary page, this format did work out, but other files, like I planned to use for the To Do list were not compatible with the definition I had planned to use, so I avoided using the files in other parts of the application, which led me to abandon the eating tracker page in total.

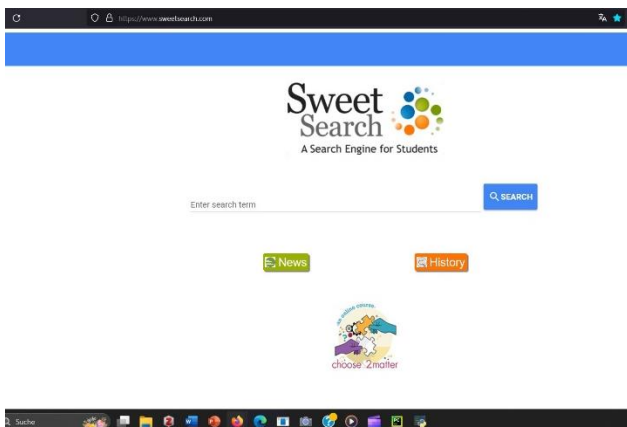
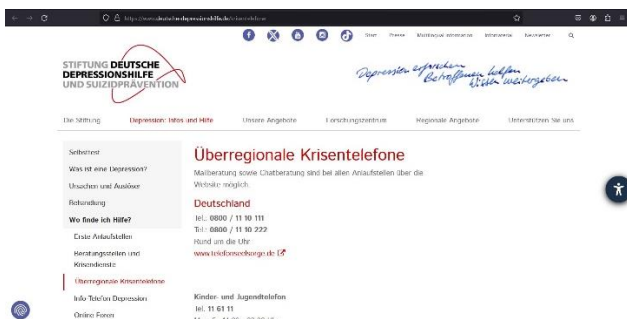
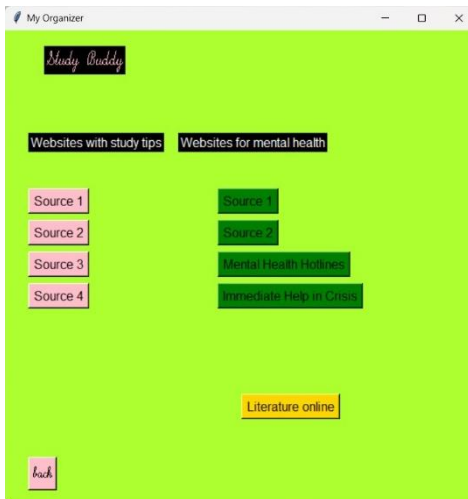
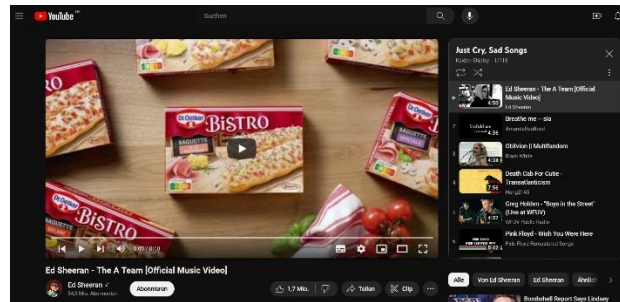
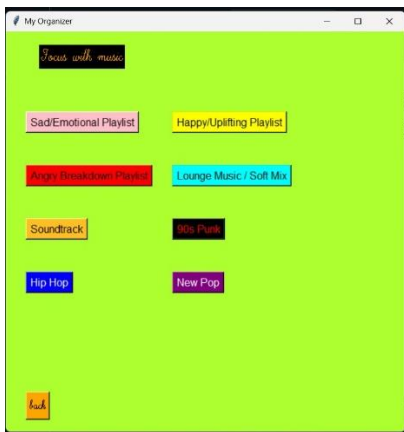
Another aspect was the ordering of files. I used GitHub to store the different stages of the code. This went well and allowed me to focus on the coding instead of worrying about my file structure in PyCharm, which was kept neat. Whilst I kept PyCharm in order, I should have kept the order in GitHub as well. I should have avoided creating two repositories for the final project, which became quite confusing after some time.

Overall, I am quite pleased with the result. I am not sure, whether this will land me an acceptable grade, but it certainly has brought me more experience in programming and a bit more confidence. I have learned that I can rely on my own strategies when it comes to problem solving, but also that it is important to ask for help if one does not see another way out of a difficult situation.

⁷ Sharma. 2021. *How to create a hyperlink with a Label in Tkinter?* Tutorialspoint. <https://www.tutorialspoint.com/how-to-create-a-hyperlink-with-a-label-in-tkinter> [last accessed: 12.03.2024]

Documentation





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