Lab13. Summary project

Script Languages (INZ002025)

Wojciech Thomas

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1 Learning goals

After this lab you should be able to:

1. Create your own Python window application

2 Exercises

Artefacts to be uploaded to ePortal: - file: `lab13.py`

1. Main goal: Create a window application using Python Tkinter module. The application should store data downloaded from the Internet in the database and display summaries of downloaded data and its graphical representation.

2. Find a website that provides data in the JSON format.

   Type the URL and the name of your data source into Lab13.xls spreadsheet available on Teams, to avoid duplication of data sources.

3. Create a menu to:

   - Clear the content of the database.
   - Fill the database with data downloaded from the Internet (see next task).
   - Set some additional options or properties for your app (e.g. colours, fonts etc.).

   Remember to update all widgets affected by the given change. Eg. if you clear the database, the aggregation becomes void, and the canvas is cleared.

4. Download JSON data from the URL of your choice, and store it in the SQLite database. You can store only a subset (eg. selected columns) of the downloaded data.

   What would you do if a user requests the application to download data, and the database is not empty?

5. Inside the main window put the following widgets and objects:

   - **A button** that displays an aggregation of the downloaded data (e.g. sum or an average of chosen value). Use SQL query to calculate a result.
   - **A button** to display selected data from the database as a chart.
   - **A text label** to display aggregation.
   - **Canvas** to display graphical information.
   - **A status line** at the bottom of the window, to display information about the result of the last operation.

6. General remarks:

   - As it is a final project use exceptions to prevent your application from crashing.