Welcome to Sandwich shop 710069439's documentation!

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Download and setup instructions

Installing and running sandwich_shop app:

- Download zip file
- Extract all files into an accesible file location
- On your command line interface run:

```
python -m pip install -e C:/Users/YOUR_DOWNLOAD_LOCATION/sandwich_shop
```

To launch the app run:

```
python C:/Users/YOUR_DOWNLOAD_LOCATION/sandwich_shop/code/main.py
```

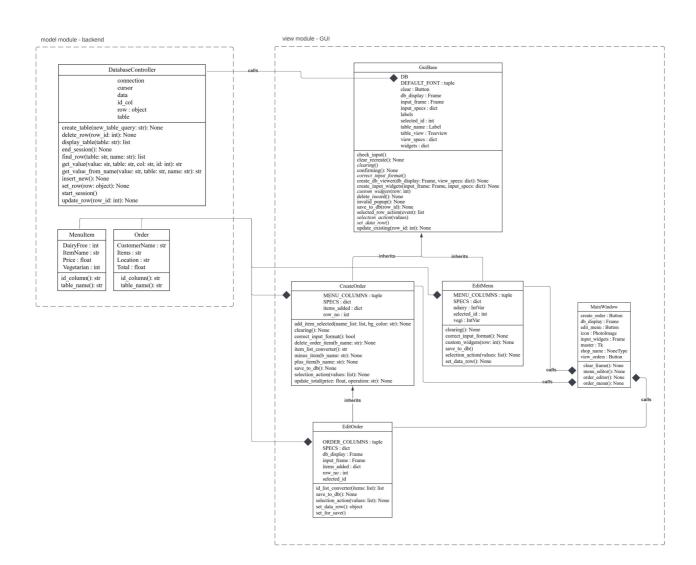
Running the app from within the package:

- Open the sandwich_shop folder in an IDE such as Visual Studio Code from the root directory 'sandwich_shop'
- Run the terminal and check that the file path ends with 'sandwich_shop'
- Install the package by running the command python -m pip install -e .
- To launch the app run:

```
python ../sandwich_shop/code/main.py
```

- OR go to sub-directory 'code', go into the module main.py, run the file
- OR in a python file, add the following lines and run the file:

UML Class Diagram



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code.main module

code.model package

Submodules

code.model.data module

Defines dataclasses in line with the database setup

Sources:

https://docs.python.org/3/library/dataclasses.html

https://www.youtube.com/watch?v=CvQ7e6yUtnw

class model.data.MenuItem(ItemName: str, Price: float, Vegetarian: int = 0, DairyFree: int = 0)

Bases: object

Creates dataclass instance containing all data for a row in the Menu table in database

Parameters:

- ItemName (str) name of sandwich
- Price (float) price in £
- Vegetarian (int) binary value indicator, 1 means yes. Defaults to 0
- DairyFree (int) binary value indicator, 1 means yes. Defaults to 0

Returns:

MenuItem(ItemName=", Price=0., Vegetarian=0, DairyFree=0)

DairyFree: int = 0

ItemName: str

Price: float

Vegetarian: int = 0

static id_column()→ str

Gets name of ID column in database

ID column name Returns:

Return type: str

static table_name()→ str

Gets name of associate table in the database

Returns: table name

Return type: str

class model.data.Order(CustomerName: str, Location: str, Items: str, Total: float)

Bases: object

Creates dataclass instance containing all data for a row in Orders table in the database

Parameters: • CustomerName (str) –

• Location (str) - what3words address

• Items (str) - string of list of item IDs as found in menu table

• Total (float) - total price paid at time of order

Returns: Order(CustomerName=", Location=", Items=[], Total=0.)

CustomerName: str

Items: str

Location: str

Total: float

static id_column()→ str

Gets name of ID column in database

Returns: ID column name

Return type: str

static table name()→ str

Gets name of associate table in the database

Returns: table name

Return type: str

model.data.validate_types(obj: object)→ None

Gets type hints defined in dataclasses to confirm input

Parameters: obj (dataclass) – Menultem or Order

Raises: TypeError – if incorrect data type input, else None

code.model.db_controller module

All database manupulation functions

Sources:

https://docs.python.org/3/library/sqlite3.html

https://www.tutorialspoint.com/sqlite/sqlite_python.htm

https://www.geeksforgeeks.org/python-sqlite/

class model.db_controller.DatabaseController(row: object | None = None)

Bases: object

create_table(new_table_query: str)→ None

Create new sqlite table

Parameters: new_table_query (str) - SQLite query for creating new table

delete_row(row_id: int)→ None

Delete row from table where Name column matches

Parameters: row_id (int) - ID number of row to be updated

 $display_table(table: str | None = None) \rightarrow list$

Returns all rows in a table based on input or table associated with set data row

end session()→ None

Commit changes and close connection

find row(table: str, name: str) \rightarrow list

Finds row od data in a given table based on Name column

• table (str) – name of table to query from

• name (str) – name of item to find in the NAme column of the

table

Returns: list of tuples containing data in each row

Return type: list

get_value(value: str, table: str, col: str, id: int)→ str

Finds data in row in given table by ID of the item

Parameters: • value (str) – column name to get value from

• table (str) - table name

• col (str) - name of ID column to use for search

• id (str) - ID number of the row

Returns: value from the specified column of the found row

Return type: str

get_value_from_name(value: str, table: str, name: str)→ str

Finds row of data in given table by item name

Parameters: • value (str) – column name to get value from

• table (str) – table name

• name (str) - name of item

Returns: value from the specified column of the found row

Return type: str|int

 $\verb"insert_new"() \!\!\to \mathsf{None}$

Parses data dictionary into new row in the relevant table

 $set_row(row: object) \rightarrow None$

Takes instance of a dataclass object, parses into dictionary, gets associated table name

Parameters: row (object) – datalcass object Menultem or Order

start_session()

update row(row_id: int)→ None

Updates the row with given id number to data in set data row

Parameters: row_id (int) - ID number of row to be updated

code.model.utils module

Module for external what3words api call functions https://developer.what3words.com/public-api/docs

model.utils.location_converter(lat_long: str) → str

Calls api to convert latitude, longutude to what3words

Parameters: lat_long (str) – two flaot numbers for coordinates

Returns: what3words

Return type: str

Calls api to convert what3words to coordinates

Parameters: words (*str*) – what3words string

Returns: latitude, logitude converted to string

Return type: str

Module contents

code.view package

Submodules

code.view.create order module

All input widgets and functionality for creating order on the UI

class view.create order.CreateOrder(db display: Frame, input frame: Frame)

Bases: GuiBase

MENU_COLUMNS = ('Item Name', 'Price(£)', 'Vegetarian', 'Dairy Free')

SPECS

= {'input widgets': {'buttons': ['Confirm order'], 'input': {'CustomerName': {'label': 'Customer name:', 'type': 'entry'}, 'Items': {'label': 'Items in order:', 'type': 'frame'}, 'Location': {'label': 'Location (lat,long):', 'type': 'entry'}, 'Total': {'label': 'Total £ ', 'type': 'label'}}}, 'view': {'table_name': 'Select items from the menu', 'table_view': {'columns': ('Item Name', 'Price(£)', 'Vegetarian', 'Dairy Free'), 'table': 'menu'}}}

add item selected(name list: list, bg color: str = 'white') → None

Convert data from selected row into items listed in input widgets

Parameters:

- name_list (list) data points containing item name, quantity, price
- **bg_color** (*str*, *optional*) background color of component. Defaults to "white".

clearing()→ None

Set all input widgets to empty values

correct input format()→ bool

Checks format of input values

True if all conditions are correct, else False **Returns:**

Return type: bool

delete order item($b_name: str$) \rightarrow None

Destroys row of labels for a given item name

Parameters: b name (*str*) – Item name

 $item_list_converter() \rightarrow str$

Converts list of names of sandwiches added to order to list of associated ids

Returns: string of item ids list

Return type: str

 $minus_item(b_name: str) \rightarrow None$

Adds the minus button to decrease quantity of item added

Parameters: b_name (*str*) – Item name in selected row from table

 $plus_item(b_name: str) \rightarrow None$

Adds the plus button to increase quantity of item added

Parameters: b_name (str) – Item name in selected row from table

 $save_to_db() \rightarrow None$

Convert inputs to dataclass object and insert into database

 $selection_action(values: list) \rightarrow None$

Maps values from selected row to items added widgets

Parameters: values (list) – row of selected menu item data

update_total(price: float, operation: $str = '+') \rightarrow None$

Adds or subtracts from total based on plus or minus button click

Parameters: • price (float) – unit price of a menu item

operation (str, optional) -

or - operation selection.

• "+". (Defaults to) -

code.view.edit_menu module

User interface and functionality for editing Menu saved in the database

class view.edit_menu.EditMenu(db_display: Frame, input_frame: Frame)

Bases: GuiBase

MENU_COLUMNS = ('Item Name', 'Price(£)', 'Vegetarian', 'Dairy Free')

SPECS

= {'input_widgets': {'buttons': ['Add/Update', 'Delete record'], 'input': {'DairyFree': {'label': 'DairyFree:', 'type': 'checkbox'}, 'ItemName': {'label': 'Item Name:', 'type': 'entry'}, 'Price': {'label': 'Price £:', 'type': 'entry'}, 'Vegetarian': {'label': 'Vegetarian:', 'type': 'checkbox'}}}, 'view': {'table_name': 'Select menu item to edit', 'table_view': {'columns': ('Item Name', 'Price(£)', 'Vegetarian', 'Dairy Free'), 'table': 'menu'}}}

clearing()→ None

Sets input widgets to empty values

correct_input_format()→ None

Checks correct format of input values

Returns: True if all formats are correct, else False

Return type: bool

custom_widgets(row: int)→ None

Adds custom widgets to those defined in base class GuiBase

Parameters: row (int) – row number for placement in UI grid

save_to_db()

Updates data or saves to database, updates database viewer

Parameters: row id (int) – id number of row in the database. Defaults to 0.

selection_action(values: list) → None

Parses selected row in table view to populate in input widgets

Parameters: values (list) – values from the selected row

set_data_row()→ None

Turns input data into dataclass if datatypes are as expected

Returns: dataclass from input values

Return type: Menultem

code.view.edit_order module

Widgets and functionality for editing recorded orders

class view.edit_order.EditOrder(db_display: Frame, input_frame: Frame)

Bases: CreateOrder

 $ORDER_COLUMNS = ('Customer Name', 'Location', 'Items', 'Total(£)')$

SPECS

= {'input_widgets': {'buttons': ['Update', 'Delete record'], 'input': {'CustomerName': {'label': 'Customer name:', 'type': 'entry'}, 'Items': {'label': 'Items in order:', 'type': 'frame'}, 'Location': {'label': 'Location (lat,long):', 'type': 'entry'}, 'Total': {'label': 'Total £ (when ordered): ', 'type': 'label'}}}, 'view': {'table_name': 'Select order to edit', 'table_view': {'columns': ('Customer Name', 'Location', 'Items', 'Total(£)'), 'table': 'orders'}}}

id_list_converter(items: list)→ list

Conversts list of item ids to names for display

Parameters: items (*list*) – ids of items in the order

Returns: names of ordered items

Return type: list

save_to_db()→ None

Updates data or saves to database, updates database viewer

 $selection_action(values: list) \rightarrow None$

Maps values to widgets, re-creates ordered items list

Parameters: values (list) – row of selected data

set_data_row()→ object

Maps data in input widgets to Order dataclass

Returns: Order dataclass

Return type: object

set_for_save()

code.view.gui_base module

Base class for view, edit, create user interfaces and functionalities

class view.gui base.GuiBase(db_display: Frame, input_frame: Frame, specs: dict)

Bases: object

DEFAULT_FONT = ('OpenSans', 12)

check input()

Checks correct input format as implemented by each child class

Returns: True if all input values are in expected format and datatype, else

False

Return type: bool|None

```
clear_recreate()→ None
```

Destroys database viewer and recreates it so that any changes are reflected

```
abstract clearing()
```

Clears all input widgets

```
confirming()→ None
```

Saves to database, creates pop-up message confirming completion for correctly formatted input, clears all input widgets.

```
abstract correct_input_format()
```

Child class specific input checker

```
create_db_viewer(db_display: Frame, view_specs: dict)→ None
```

Creates Treeview table for viewing database tables

Parameters:

- db_display (Frame) -
- view_specs (dict) SAMPLE_SPECS["view"] view related configurations

create_input_widgets(input_frame: Frame, input_specs: dict)→ None

Creates all input widgets

Parameters:

- input_frame (Frame) -
- input_specs (dict) SAMPLE_SPECS["input_widgets"] widget related configurations

```
custom widgets(row: int)
```

Additional widgets for child classes to specify

Parameters: row (int) – row number to place custom widgets on the UI

```
delete\_record() \rightarrow None
```

Deletes record from the database

```
invalid popup()→ None
```

Creates pop-up message box indicating invalid input

```
save to db(row_id=0) \rightarrow None
```

Updates data or saves to database, updates database viewer

Parameters: row_id (int) – id number of row in the database. Defaults to 0.

```
selected\_row\_action(event) \rightarrow list
```

Gets values of the selected row in Treeview, processes custom to each child class

Parameters: event (click) – listens for click on any row

Returns: values of data in the selected row

Return type: list

```
abstract selection_action(values)
```

Parses and operates on data from selected row in table view

Parameters: values (list|tuple) – values from the selected row

```
set_data_row()
```

Gets data from input widgets into dataclass

```
update_existing(row_id: int)→ None
```

Updates existing record in the database by id

Parameters: row_id (int) - id number of row in the database

code.view.main_menu module

Creates app window and the initial view, initiates relevant interfaces

```
class view.main_menu.MainWindow(master: Tk)
```

Bases: object

clear_frame()→ None

Delete all elements in editor interface frames

```
menu\_editor() \rightarrow None
```

Clears frames, recreates interface for editing the menu

```
order\_editor() \rightarrow None
```

Clears frames, recreates interface for editing orders

```
order_menu()→ None
```

Clears frames, recreates interface for creating order

Module contents

Package containing all Tkinter GUI modules

Sources for all modules:

https://www.youtube.com/watch? v=yQSEXcf6s2I&list=PLCC34OHNcOtoC6GglhF3ncJ5rLwQrLGnV&ab_channel=Codemy.com

noqa E501

https://github.com/flatplanet/Intro-To-TKinter-Youtube-Course

https://www.geeksforgeeks.org/python-gui-tkinter/

https://realpython.com/python-gui-tkinter/

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