

YorBot

Development in Python

Style Guide: <https://google.github.io/styleguide/pyguide.html#316-naming>

Style Examples:

https://sphinxcontrib-napoleon.readthedocs.io/en/latest/example_google.html

File Module

Purpose:

The File Module contains a collection of classes that provides the core data structure behind many of YorBot's functionalities and features. The `fileData` class provides a fast data structure to find and access stored data (e.g. images). While the `fileSearchEngine` class implements different algorithms to search through the stored data using any of the `file attributes`.

`file_data.py`

Developer: `Haosen L` , `Nathan K`

`fileData`

Purpose: This class provides a runtime-optimized data structure for `fileManager`.

Technical Overview: `fileData` utilizes a list and two dictionaries to accelerate the runtimes for the fileManager functions. The list stores `fileVertex` objects, which contains information on file name, extra information, tags, score, and creation time; one

dictionary stores the list indices of the corresponding file name and a secondary dictionary is used to track which file names correspond with a certain tag.

Dependencies:

❖ [fileVertex](#)

Status	Method Signature	Return	Description
Completed ▾	<code>__init__(self)</code>	None	fileData constructor.
Completed ▾	<code>__len__(self)</code>	int	Returns the number of elements stored in the fileData object.
Completed ▾	<code>__getitem__(self, filename: str)</code>	fileVertex	Returns the fileVertex associated with the given filename.
Completed ▾	<code>__setitem__(self, filename: str, data: tuple)</code>	None	Adds the given data to the fileData object.
Completed ▾	<code>__contains__(self, filename: str)</code>	bool	Checks if the given file name exists in the fileData object.
In Development ▾	<code>__str__(self)</code>	str	Returns a str representation of the fileData object.
Completed ▾	<code>append(self, filename: str, url: str=None, tags: list=[], score: float=0.0)</code>	None	Adds the given data to the fileData object.
Completed ▾	<code>remove(self, filename: str)</code>	fileVertex	Removes the given file name from the fileData object, returns the removed data as a fileVertex.
Completed ▾	<code>clear(self)</code>	None	Clears all data stored in the current fileData object.
Planned ▾	<code>update(self)</code>		
Planned ▾	<code>rand_file(self)</code>	fileVertex	Returns a random fileVertex in the fileData object.

fileData Attributes

fileData contains the following attributes:

Attribute Name	Type	Description
file_dict	dict	A mapping for file name and their index in vertices_list
tags_dict	dict	A dict for associating a tag with a set of filenames
vertices_list	list	A list of fileVertex to store file information.

file_search_engine.py

Developer: Haosen L , Nathan K

fileSearchEngine

Purpose: This class provides a search engine feature for...

Technical Overview: fileSearchEngine utilizes ...

Status	Method Signature	Return	Description
Planned			
Planned			
Planned			

Status	Method Signature	Return	Description
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Planned ▾

file_vertex.py

Developer: Haosen L ▾

fileVertex

Purpose: This class stores all information on a file.

Technical Overview: fileVertex has 5 attributes, listed here:

Status	Method Signature	Return	Description
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Completed ▾

__init__(self, filename: str, info: dict={}, tags: list=[], score: float=0.0)

None

fileVertex constructor.

Completed ▾

__str__(self)

str

Returns a str representation of the fileVertex object.

fileVertex Attributes

fileVertex contains the following attributes:

Attribute Name	Type	Description
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filename	str	The name of the file
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Attribute Name	Type	Description
info	dict	A dict of information associated with the file.
tags	list	Tags associated with the file.
score	float	A score associated with the file.

file_edge_with_data.py

Developer: [Haosen L](#) ▾

fileEdgeWithData

Purpose: This class provides a...

Technical Overview: [fileEdgeWithData](#) utilizes ...

Status	Method Signature	Return	Description
Completed ▾	<code>__init__(self, filename1: str, filename2: str, relationship: float)</code>	None	fileEdgeWithData constructor.
Completed ▾	<code>__str__(self)</code>	str	Returns a str representation of the fileEdgeWithData object.

file_manager.py

Developer: [Haosen L](#) ▾, [Nathan K](#) ▾

fileManager

Purpose: This class provides an interface to interact with files in a local directory.
Intended to work with a Discord Bot.

Technical Overview: The fileManager class uses `fileData` as the underlying data structure to store and track all of the file names and its `attributes`.

Status	Method Signature	Return	Description
Completed ▾	<code>__init__(self)</code>	None	fileManager constructor.
Testing ▾	<code>rand_url(self)</code>	str	Returns a random file url from main.
In Development ▾	<code>add_file(self, filename: str, tags: list)</code>	None	Creates a new entry for the given file name.
In Development ▾	<code>add_tags(self, filename: str, tags: list)</code>	None	Adds the given tags (<i>iterable</i>) to the given file name.
In Development ▾	<code>file_info(self, filename: str)</code>	dict	Returns a dictionary containing the given file name's attributes.
Planned ▾	<code>update_info(self, filename: str, new_info: dict)</code>	None	Updates the given file name's attributes with the given dict of attributes.
Planned ▾	<code>bookmark_file(self, filename: str)</code>	None	Bookmarks the given filename.
Planned ▾	<code>unbookmark_file(self, filename: str)</code>	None	Removes the given file name from bookmarked back to main.
Planned ▾	<code>delete_file(self, filename: str)</code>	None	Moves the given file name to deleted.
Planned ▾	<code>list_images(self)</code>	list	Returns a list of the file names in the main directory.
Planned ▾	<code>list_bookmarked(self)</code>	list	Returns a list of bookmarked file

Status	Method Signature	Return	Description
			names.
Planned ▾	list_deleted(self)	list	Returns a list of deleted file names.
Planned ▾	clear_deleted(self)	None	Permanently removes all deleted files.
Planned ▾			

Natural Language Processing (NLP)

Module

Purpose:

The NLP Module provides autocorrect functionalities for [YorBot](#).

autocorrect.py

Developer: [Haosen L ▾](#), [Nathan K ▾](#)

autocorrect

Purpose: This class...

Technical Overview: [autocorrect.py](#) ...

Status	Method Signature	Return	Description
Completed ▾	<code>__init__(self)</code>	None	letterTrie constructor.

In Development ▾	<code>__str__(self)</code>	str	Returns a str representation of the letterTrie object.
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letter_trie.py

Developer:

Haosen L ▾

,

Nathan K ▾

letterTrie

Purpose: This class...

Technical Overview:

letter_trie.py

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Status	Method Signature	Return	Description
Completed ▾	<code>__init__(self)</code>	None	letterTrie constructor.

In Development ▾	<code>__str__(self)</code>	str	Returns a str representation of the letterTrie object.
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letterTrie Attributes

letterTrie

 contains the following attributes:

Attribute Name	Type	Description
front	trieNode	The very front trieNode that leads to other trieNodes.

Attribute Name	Type	Description
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trie_node.py

Developer:

Haosen L

,

Nathan K

trieNode

Purpose: This class...

Technical Overview: [trie_node.py](#) ...

Status	Method Signature	Return	Description
In Development	<code>__init__(self, value: Any, children: Dict[Any, trieNode])</code>	None	Constructs a trieNode with a given value and an optional dict of children trieNodes.

In Development	<code>__str__(self)</code>	str	Returns a str representation of the trieNode object.
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trieNode Attributes

[trieNode](#) contains the following attributes:

Attribute Name	Type	Description
value	Any	Any value.

Attribute Name	Type	Description
children	Dict[Any, trieNode]	A dict of children trieNodes.

Color Module

Purpose:

The Color Palette Module provides color palette generation related functionalities for [YorBot](#).

color_gen.py

Developer: [Haosen L](#) , [Nathan K](#)

Purpose: This file

Technical Overview: [color_gen.py](#) ...

Status	Method Signature	Return	Description
Planned	draw_palette(colors: List[Tuple] , size: int=50)	PIL.Image	Returns a PIL Image object containing colored squares of the given color (r, g, b) values and size of the squares in int pixels.

[Planned](#)

Anime Module

Purpose:

The Anime Module provides anime-related functionalities for [YorBot](#).

anime_planet.py

Developer: [Haosen L](#) , [Nathan K](#)

Purpose: This program contains functions for web scraping anime character info on Anime Planet.

Technical Overview: anime_planet.py stores web scraped contents using [pickle](#) if the program is run directly. Otherwise, this program can be imported and can return standard python data structures.

Status	Method Signature	Return	Description
Completed ▾	get_character_urls(min_page: int, max_page: int)	list	Returns a list of anime/manga characters from a given int range of page numbers on the Anime Planet character database.
Completed ▾	get_character_details(url: str)	dict	Returns the character details as a dict from the given Anime Planet character url.
In Development ▾	run_program()	IO	Runs the program with an UI.

genshin_kqm.py

Developer: [Haosen L](#) ▾

Purpose: This program contains functions for web scraping anime character info on Anime Planet.

Technical Overview: `anime_planet.py` stores web scraped contents using `pickle` if the program is run directly. Otherwise, this program can be imported and can return standard python data structures.

Status	Method Signature	Return	Description
Completed ▾	<code>get_character_urls(min_page: int, max_page: int)</code>	set	Returns a set of anime/manga characters from a given int range of page numbers on the Anime Planet character database.
Planned ▾	<code>get_character_details(url: str)</code>	dict	Returns the character details as a dict from the given Anime Planet character url.
Planned ▾	<code>run_program()</code>	IO	Runs the program with an UI.

Random Module

Purpose:

The Random Module provides rng-related functionalities for [YorBot](#).

yor_random.py

Developer: Nathan K ▾

Purpose: This library provides functions for YorBot's random functionalities.

Technical Overview:

Status	Method Signature	Return	Description
In Development ▾	magic_8ball()	str	Returns a str representing a phrase randomly picked from a pool of answers.
In Development ▾	measure_rng(guess: int, min: int, max: int)	float	Returns a float that measures your RNG from the given ints.
Planned ▾			