DungND

Generate UML diagram from Cpp project (OOP design). Tested on Ubuntu 22.04 and Ubuntu 18.04

The package does two tasks:

- Read header files in the project, and generate classes and their relationship in plantuml format
- Generate UML Class diagram in image format

How to use

- Prerequisite: pip3 guide to install, and MarkupSafe
  `pip3 install MarkupSafe==2.0.1`
- Extract the package:
  `unzip -q cpp_uml_dungnd.zip`
- Go inside the package and install it:
  `cd hpp2plantuml`
  and
  `pip3 install .`
  To use the package "hpp2plantuml" by calling its name, you must do one of the following option:
  `export PATH="~/.local/bin:$PATH"`

  or install with sudo: (not recommended) to install in "/usr/local/bin"
  `sudo pip3 install .`
- There is a folder called "Example", it contains some code implement some behavioral design pattern
- Go inside the "example" folder:
  `cd example`
- There is an example how to run the package, to export UML diagram from a folder. Run it:
  `./export_observer_example.sh`
  It will generate two files: Observer.puml and Observer.svg
  .puml is the description file in "puml" format
  .svg is the image file of generated uml class diagram
- You can test with another folder using command:
  `hpp2plantuml -f path_to_folder`
  For example:
  `hpp2plantuml -f Behavioral/Command`

Some configuration:

- Output filename can be specified by "-o" flag
- If you only want to generate ".puml" file, and export to diagram image using java later, use:

`hpp2plantuml -f Behavioral/Command -s no`
to prevent sending request to server

- "-d" flag will extract dependency relationships from method arguments
- The diagram rendering is done by sending a request to a public server (http://www.plantuml.com/plantuml) It is for testing. If you want to protect your privacy, let's run a local server for rendering. And also, for folder with lots of class, running in local server is more stable than public online server
  `docker pull plantuml/plantuml-server`
  and then:
  `docker run --detach --publish 8080:8080 plantuml/plantuml-server`

  Requirement: docker installed After that, the package can be run against local server as: `hpp2plantuml -f Behavioral/Command -s http://127.0.0.1:8080`
  Option "-s" specify the server to render the image diagram.

  Another option is to use java tool to render image from ".puml" file, no need for docker server. Check "Additional information" part below

Additional information

If your computer has java installed, you can render puml file into image diagram with simple command as guided here: https://plantuml.com/command-line
`java -jar plantuml.jar filename.puml -svg`

- Requirements: java
  `sudo apt install default-jre`
  and graphviz
  `sudo apt install graphviz`
  Please check "java_example.sh" in "example" folder for reference

Resources used in this package

- hpp2plantuml - Package for generating ".puml" from cpp header
- PlantWeb - Package for sending request to server for rendering diagram
- plantuml - plantuml.jar file for generating diagram using java

Format explanation

Element

Please give me some feedback if you have any. Thank you!

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