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1 # -*- coding: utf-8 -*-
2
3 from datetime import datetime
4 import pytz
5 import os
6 from os import listdir
7 from os.path import isfile, join
8 import pathlib
9 import cw_file_utils as cw_fu
10 import pkg_resources
11
12 class Jarvis:
13     # lowercase are internal to class params
14     timezone = 'America/New_York'
15     startuptime = datetime.now(pytz.timezone(timezone))
16     longDateFormat = "%d-%b-%Y, %H:%M"
17     shortTimeFormat = "%H:%M"
18     utility_files_dir = 'utility_files'
19     data_dir = 'data'
20     data_subdir1 = '01_original'
21     data_subdir2 = '02_working'
22     data_subdir3 = '03_train'
23     data_subdir4 = '04_test'
24
25     data_subdirs = ['01_original', '02_working', '03_train', '04_test']
26
27     PROJECT_NAME = ''
28     ROOT_DIR = ''
29     ROOT_DATA_DIR = ''
30     DATA_DIR = ''
31     DATA_DIR_ORIG = ''
32     DATA_DIR_WORK = ''
33     DATA_DIR_TEST = ''
34     DATA_DIR_TRAIN = ''
35     WORKING_DIR = ''
36     UTILITY_DIR = ''
37
38
39
40     def __init__(self,
41                 ROOT_DIR,
42                 PROJECT_NAME
43                 ):
44
45         self.ROOT_DIR = ROOT_DIR
46         self.PROJECT_NAME = PROJECT_NAME
47         self.UTILITY_DIR = join(self.ROOT_DIR, self.utility_files_dir)
48
49         self.startup()
50         self.showenvironment()
51         self.environmentScan()
52         self.greeting()
53
54     def startup(self):
55         print("Wha...where am I?")
56         self.ROOT_DATA_DIR = join(self.ROOT_DIR, self.data_dir)
57         self.DATA_DIR = join(self.ROOT_DATA_DIR, self.PROJECT_NAME)
58         self.WORKING_DIR = join(self.ROOT_DIR, self.PROJECT_NAME)
59         self.DATA_DIR_ORIG = join(self.DATA_DIR, self.data_subdir1)
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60     self.DATA_DIR_WORK = join(self.DATA_DIR, self.data_subdir2)
61     self.DATA_DIR_TRAIN = join(self.DATA_DIR, self.data_subdir3)
62     self.DATA_DIR_TEST = join(self.DATA_DIR, self.data_subdir4)
63     print("I am awake now.")
64
65     def whattimeisit(self):
66         now = datetime.now(pytz.timezone(self.timezone))
67         print("The current time is " + now.strftime(self.shortTimeFormat))
68
69     def showenvironment(self):
70         print("I am inspecting the local environment...")
71         print("Your environment has been configured: ")
72         print("PROJECT_NAME:      " + self.PROJECT_NAME)
73         print("ROOT_DIR: " + self.ROOT_DIR)
74         print("ROOT_DATA_DIR: " + self.ROOT_DIR)
75         print("DATA_DIR:      " + self.DATA_DIR)
76         print("WORKING_DIR:   " + self.WORKING_DIR)
77         print("UTILITY_DIR:   " + self.UTILITY_DIR)
78
79     def displayProjects(self):
80         onlyDirs = [f for f in listdir(self.ROOT_DIR) if not isfile(join(self.ROOT_DIR,
81 f)))]
82         onlyDirs.sort()
83         print("Project listing:")
84         for x in onlyDirs:
85             print("--> " + x)
86
87     def environmentScan(self):
88         self.setupWorkingDir()
89         self.setupDataDir()
90
91         self.showProjectWorkFiles()
92         self.showProjectDataFiles()
93
94         # Set directory to WORKING_DIR
95         os.chdir(self.WORKING_DIR)
96         print("I have set your current working directory to {0}".format(os.getcwd()))
97
98     def setupWorkingDir(self):
99         if not os.path.exists(self.WORKING_DIR):
100             # Create a new directory because it does not exist
101             os.makedirs(self.WORKING_DIR)
102             print("The working directory is not present. Directory created.")
103
104     def setupDataDir(self):
105         if not os.path.exists(self.DATA_DIR):
106             os.makedirs(self.DATA_DIR)
107             print("The project data directory is not present. Directory created.")
108
109         for x in self.data_subdirs:
110             if not(os.path.exists(join(self.DATA_DIR, x))):
111                 os.makedirs(join(self.DATA_DIR, x))
112                 print("Data subdirectory " + x + " has been created")
113
114         print('')
115
116     def greeting(self):
117         greeting = ''
118         x = int(self.startuptime.strftime("%H"))

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```
119     if (x > 7) and (x <= 8):
120         greeting = 'An early morning I see.'
121     elif (x > 8) and (x <= 12):
122         greeting = 'Extra caffeine may help.'
123     elif (x > 12) and (x <= 18):
124         greeting = 'Reminder, no more coffee.'
125     elif (x > 18) and (x <= 20):
126         greeting = 'I hope you had dinner.'
127     elif (x > 20) and (x <= 24):
128         greeting = 'I see you are having a productive evening.'
129     elif (x <= 7):
130         greeting = 'You should really be sleeping.'
131
132     self.whattimeisit()
133     print("Hello sir. " + greeting)
134     print('')
135
136     def showProjectDataFiles(self):
137         print("Here are all your project data files")
138         cw_fu.exploreDirectory(self.DATA_DIR)
139
140     def showProjectWorkFiles(self):
141         print("Here are all your project work files")
142         cw_fu.exploreDirectory(self.WORKING_DIR)
143
144     def showAllDataFiles(self):
145         print("Here are all your available data files")
146         cw_fu.exploreDirectory(self.ROOT_DATA_DIR)
147
148     def compressProjectDataFiles(self, removeOriginal=False):
149         cw_fu.exploreDirectory(self.DATA_DIR, compress=True,
removeOriginal=removeOriginal)
150
151     def compressAllDataFiles(self, removeOriginal=False):
152         cw_fu.exploreDirectory(self.ROOT_DATA_DIR, compress=True,
removeOriginal=removeOriginal)
153
154     def getPackageVersion(self, pkgName):
155         print(pkgName + " version: " + str(pkg_resources.get_distribution(pkgName)))
156
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