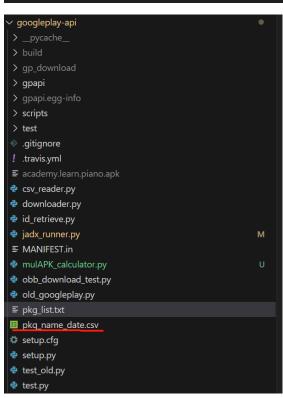
- download (downloader.py):
 - o python3 downloader.py
 - 用来下载指定的 app
 - 加入了 csv 读取功能,把 pkg_name_date.csv 放在文件夹里就可以读取了,然后程序里面可以选定读哪几行,也就是下载哪几个 apk
 - 东西下载到 gp_download 文件夹里去的



- 增加了记录下载情况的 dictionary,同时在 execution 的最后,会把这个 dictionary 作为 download_status.json 文件 output 出来
 - 一个 package name 跟随着一个 String, Successful 代表成功下载, Failed 代表下载失败, Not Attempted 代表还没有被尝试下载

```
"com.ujuzinet.mazaohub": "Successful",
"com.hiscox.floodplusan": "Failed",
"com.bipper.app.bsafe": "Successful",
"com.abipner.app.bsafe": "Successful",
"com.ambinode.app": "Successful",
"com.chapsApps.DucksNFrogs": "Successful",
"com.chapsApps.DucksNFrogs": "Successful",
"com.oblippar.an.android": "Successful",
"com.oblippar.an.android": "Successful",
"com.opbox.photomath": "Successful",
"com.oryptotrade": "Successful",
"com.oryptotrade": "Successful",
"com.oryptotrade": "Successful",
"com.oryptotrade": "Successful",
"automatic.subtiles.closed.captions.generator.videos.transcribe.and.edit": "Successful",
"automatic.subtiles.closed.captions.generator.videos.transcribe.and.edit": "Successful",
"com.ara.strikering": "Successful",
"hk.edu.cuhk.sls.atp": "Failed",
"com.focalpointk12": "Not Attempted",
"com.focalpointk12": "Not Attempted",
"com.focalpointk12": "Not Attempted",
"com.ologevityai.longevityprediction": "Not Attempted",
"com.longevityai.longevityprediction": "Not Attempted",
"com.longevityai.longevityprediction": "Not Attempted",
"com.focalpointk12": "Not Attempted",
"com.geder.busquerysystemnearyb": "Not Attempted",
"com.geder.busquerysystemnearyb": "Not Attempted",
"com.geder.busquerysystemnearyb": "Not Attempted",
"com.gef.aclock.cainastion.live.wallpaper.app": "Not Attempted",
"com.sudau.translator": "Not Attempted",
"com.gef.aclock.cainastion.live.wallpaper.app": "Not Attempted",
"com.gef.aclock.cainastion.live.wallpaper.app": "Not Attempted",
"com.gef.aclock.cainastion.live.wallpaper.app": "Not Attempted",
"com.sudau.translator": "Not Attempted",
"com.sudau.translator.acl
```

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- decompile (jadx_runner.py)
 - o python3 jadx_runner.py
 - 完成了只 decompile main APKs 的功能
 - apk 解压后到 gp_download 中对应的 app 文件夹中
- 算 multiple APK 的 percentage (mulAPK_calculator.py)
 - python3 mulAPK_calculator.py
- 分析下载下来的多个 APK 里面有无特殊 APK (special_apks_finder.py)
 - 。 filter 出不是 main APK, 并且名字不是以 config 开头的 APK
 - python3 special_apks_finder.py