**ASE-1 Project: OSINT (Mid Review-1)**

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Section-A

1. Work done till Mid Review-1:

* Testing the functionalities:
* getting latest bitcoins
* getting bitcoins by address
* getting bitcoins by date
* email search
* domain(company) search
* ip search
* device search
* Tested all the above functionalities by reading api documentation and understanding different types of exceptions and responses (status codes and error messages) obtained as a result of wide variety of inputs( Different Test Cases ) given to the APIs.

2. Technologies used:

* Python libraries- json , requests
* pytest- a testing framework: mainly used to test APIs
* APIs: shodan , fullcontact , clearbit , emailhunter

3. Working/Technical Details:

* The tests are run before the actual project code so as to make sure no test case is broken. Connections made with APIs are tested directly by giving different inputs: such as different functionality specific arguments and different api keys, and its ensured that no test is broken. For few functionalities, requests library is used to fetch information and test the response. It is taken care that all the possible scenarios are covered and same is ensured in the main API logic code as well.
* Tests are comprehensive such that an individual can clone the project code and use his own API keys as well to run the functionalities offered by the project. Any invalid API key is also detected.
* The architecture of the whole project goes as: Search(frontend) 🡪 Validation(backend)🡪Generate request, Send requests and collect data(API logic)🡪Format data(backend)🡪Display data to user(frontend).

4. Experiences and Challenges faced:

* Understanding the different types of responses obtained as a result of fetching information from APIs
* Thinking about and trying out wide variety of inputs/test cases.

5.Future Plan:

* To work on a few modules of backend.
* To write tests for the new modules being developed.

6.References and Useful Sites:

* <https://www.mattlayman.com/blog/2019/python-testing-101-with-pytest/> (For basics of pytest framework)
* <https://www.mattlayman.com/blog/2019/python-testing-201-with-pytest/> (For advanced pytest functionalities)
* <https://btc.com/api-doc#General> (For testing functionalities: get latest bitcoins, bitcoins by date and address functionality)
* [https://shodan.readthedocs.io/en/latest/tutorial.html#](https://shodan.readthedocs.io/en/latest/tutorial.html) (For testing functionalities: ip and device search using shodan api)
* <https://dashboard.fullcontact.com/api-ref?#home> (For testing functionalitiy – email search , using fullcontact api)
* <https://clearbit.com/docs#api-reference> (For testing functionality – get details about a domain/company, using clearbit api)
* <https://hunter.io/api-documentation/v2#errors> (For testing functionality: get emails associated with a domain/company , using email hunter api)