# Proposal: Python Integration SDK
# (Swasth Digital Health Foundation)

## Personal Information:

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| Name | Aditya Sen |
| Contact Information | E-Mail: adityasen1606@gmail.com<br>Mobile No.: 7878583763<br>Github: https://github.com/AdityaSen-1606<br>Linkedin: https://www.linkedin.com/in/aditya-sen-1606as2002/ |
| Current Occupation | Student pursuing B.Tech from IIT Roorkee with the graduation year 2024 |
| Skills | Python with libraries pandas, numpy, matplotlib, tensor flow..etc., C++, SQL, Machine Learning, Power BI, Tableau, flask |

## Title:

"File Validator: Streamlining Data Integrity for cQube with User-Friendly Interface and Customizable Validation Rules".

Project Details:

| Milestone | Description | Timeline |
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| Project Initiation | Understanding HCX APIs, existing SDKs and familiar with JSON Web Encryption | 1 Week |
| SDK Design | Design Python SDK including necessary classes, modules, and functions. Also, implement functionality to initialize participant configurations. | 2 Week |
| Parsing request & Validation | Implement logic to parse incoming requests, validate their authenticity, and ensures compliance with HCX API requirements | 2 Week |
| Testing & Bug fixing | Test Python SDK by simulating different scenarios and verifying its compatibility with HCX APIs | 2 Week |
| Documentation & Project completion | Preparing comprehensive documentation. Also, finalize the project and address any remaining issues. | 1 Week |

## Availability:

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| Number of hours available to dedicate to this project per week | 20 hours |
| Engagements during this period | Yes, I currently have project work, but it will not impede my ability to focus on this project, As I have a holiday to dedicate an entire day. |

## About Me:

As an aspiring contributor to the open-source community, I am thrilled to embark on my first project. This endeavor perfectly aligns with my skill set, and I am confident I can deliver it within the designated timeframe. I possess a profound passion for problem-solving and a strong inclination toward integrating Machine Learning in diverse domains such as finance, quantitative research, IoT, healthcare, etc.

## What motivates you to apply for this project?

I am highly motivated to apply for the python sdk's project because my strong skill set aligns perfectly with the project requirements. Additionally, I have a strong desire to engage in open-source contributions, and this project provides an excellent opportunity to do so. I can make valuable contributions within the timeline, ensuring successful project completion.

## C4GT projects Contribution:

https://github.com/Code4GovTech/C4GT/pull/8: I have submitted a pull request introducing documentation and a dedicated folder for the project titled "File Validator for cQube." This addition aims to facilitate a more efficient and streamlined workflow for all individuals involved in the project. The documentation provides comprehensive instructions and guidelines to ensure a smooth start for those engaging with the project. Additionally, the new folder structure enhances the organization and accessibility of project files, thereby promoting collaborative efforts and productivity.

https://github.com/AdityaSen-1606/C4GT/blob/main/POC.ipynb: I have tried to create a proof of concept (POC) for this project to validate the data within the dataset by examining the integrity and consistency of data column.

https://github.com/Swasth-Digital-Health-Foundation/integration-sdks/issues/55#issuecomment-1585525482: I have commented the code which can be worked without giving error and this can resolve issue in reading the pem file in the process Incoming request.

## Previous experience:

I worked with iNeuron.ai for the project “Money Laundering Prevention”, this project involves data analysis, data cleaning, and applying ML algorithms to predict whether customers are involved in money laundering.

I have been a part of a data science lab at World Quant University (WQU), where I have solved 8 project which requires API design, Data Science, Data Visualization, Machine Learning, Mongo DB, Python, SQL, Statistics

I have done various projects related to IoT such as pick & place robot, antenna tracker, autonomous underwater vehicle etc, where I have worked on Arduino interface to code it for specific functions, computer vision for image processing, and some electrical components.

For more details: https://github.com/AdityaSen-1606