ENSE3 **Fiche projet ASI / MARS**

Projet : Interactive tool helping NGOs or small organizations managing their projects, voluntaries, paid persons

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Besoin d'un support technique référent non

Hour volume? ASI ou MARS

MOTS-CLÉS : Application in Python,

Description :
This project is designed to help small strudtures like non-governmental organizations (NGOs), independent non-profits organisations or even start-ups in having a better view about their costs. It involves developing an interactive analysis tool tailored for associations to manage and evaluate the number of adherents, salary costs for people who are emplyed by the association, project involvement and allocation per person, and simulate various scenarios. The tool is designed to consolidate monthly data (e.g. salary, project type) from multiple Excel files, enabling detailed cost breakdowns per peson, project, and department. It will also support dynamic forecasting and reporting. Through its intuitive interface, users can explore historical trends, monitor performance metrics, and make informed decisions based on real-time data.

Work to Be Done:
The applications is intended to evolve based on students advancement.
Key tasks include building a centralized database by merging and filtering Excel files (handle historical data and filter by person, project, department, salary), calculating labor costs with proportional hour allocations, and incorporating indirect expenses for a comprehensive view (like aditional costs on the projects, broken or replaced equipment, etc.). The tool could feature interactive what-if simulations to model project cost changes, hour reallocations per projects, bonuses, and team restructuring. Using simulations we would assess budget increase/decrease and risks. Forecasting capabilities will allow rolling budget updates and future cost estimations, efficiency and productivity.
All this shloud be presented for non-specialists and persons with limited expertise in programming or finance. We will use visual dashboards to present data through charts, graphichs or heatmaps. We could also include alerts and notifications to flag potential problems: budget overruns in the project and anomalies in salary or project allocations.

Tools to Be Used:
The solution will be built using Python and Pandas for data aggregation and computations, with NumPy and SciPy supporting statistical analysis and simulations. Visualization can be handled through Matplotlib, and Plotly to create interactive charts and dashboards. Excel will be used for data input, while both Excel and PDF formats will support report exports for management and board-level presentations

Principaux moyens humains et matériels : Python

Disponibilités du maître d'ouvrage : A valider en fonction des contraintes d'enseignement en présentiel avec B Robu