Project Description:
NextGen RF Design is a provider of wireless communication products and design services. We are a small but growing business, and we utilize several disjointed business management tools for accounting, product and supply chain management, time tracking, and project management. Enterprise tools exist that incorporate many of these functions Each of these tools has a separate database, and it is desired to share this data to a common dashboard so that key performance indicators (KPIs) can be monitored. This goal will be accomplished through several student projects over time.

The focus of the project for this year will be to create an automated data synchronization between a self-hosted implementation of Anuko TimeTracker installed on an Ubuntu virtual machine and a cloud hosted Google Sheet managed by NextGen. The students must research possible solutions to pull/push from the timetracker MYSQL database daily and synchronize with google sheets through apps scripts or other methods. Several solutions may exist, and if so a tradeoff matrix should be developed to determine the optimal solution. The data will be synchronized in 1 direction, from Anuko to Google Sheets. The program should also maintain an error and system log on the TimeTracker server.

Once the tradeoff matrix is created the students will propose a development plan to the NextGen RF executive team for review and signoff. The students will then prototype and test the application or script software according to the development plan. A test matrix will be used to capture all possible scenarios of date entry, data deletion, etc. Once testing is completed with no errors, the program will be deployed in a production environment.

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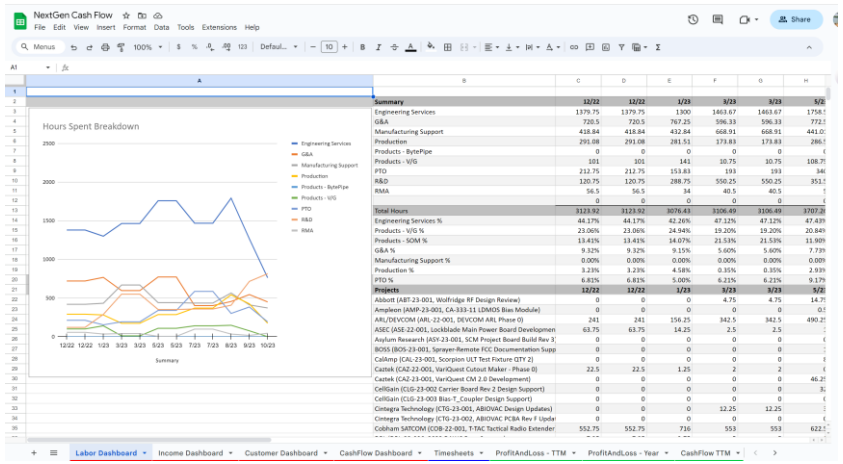

Deliverables	Type of work	Activities	Resources	Tech Skills	Priority
Install Anuko Timetracker on an Ubutnu host or virtual machine, and provide a test report of the database functionality	Software Engineering, Computer Engineering, OS	- Research, install, and configure working host environment -Import example database	https://www.anuko.com/time-tracker/install-guide/install-process.htm	Linux Administration, MYSQL, PHP, Apache	High
Research and document possible methods for data synchronization and develop a tradeoff matrix of 3-4 possible solutions.	Software Engineering, Computer Engineering, OS	- Research and Development - Documentation	TBD by student	Google Sheets API, MYSQL, Scripting, JSON.	High
Implementation – using the method selected, create and demonstrate modular solution for 1 way date synchronization from Anuko to Google Sheets and provide working, documented code.	Software Engineering, Computer Engineering, OS, Documentation	-Implement sync method and logging of system and error messages - Create Software Verification Test Plan - Execute testing	Example database NGRF Technical Staff	Programming (e.g., Python, JavaScript, Java, or PHP), Debugging and troubleshooting, Documentation	High
Deployment – deploy the solution to a live environment running on the NextGen Anuko server, demonstrating functionality through a documented test plan.	Software Engineering, Computer Engineering, OS	- Installation - Short term support and bug fixes	NGRF Technical Staff	Linux Administration, Debugging and troubleshooting	Medium
Create detailed installation documentation	Software Engineering, Computer Engineering	- Create operating /support manual to be used for future integrations and support	NGRF Technical Staff	Documentation	Medium