

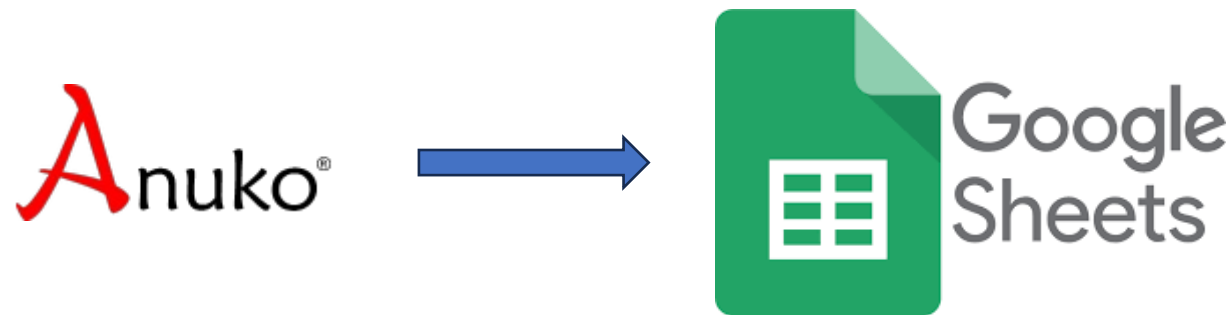
Project Description:

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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The screenshot shows a web application titled 'NextGen Cash Flow'. It features a sidebar with a 'Hours Spent Breakdown' chart and a main content area with a 'Summary' table. The table displays financial data across multiple columns, including dates and various metrics. The bottom of the screen shows a navigation bar with tabs for 'Labor Dashboard', 'Income Dashboard', 'Customer Dashboard', 'CashFlow Dashboard', 'Timesheets', 'ProfitAndLoss - TTM', 'ProfitAndLoss - Year', and 'CashFlow TTM'.

	12/22	12/23	12/24	12/25	12/26	12/27
Engineering Services	1379.75	1379.75	1380	1463.67	1463.67	1756.1
G&A	720.5	720.5	767.25	396.33	396.33	772.1
Manufacturing Support	418.84	418.84	432.84	668.91	668.91	441.0
Production	291.08	291.08	291.51	378.83	378.83	286.1
Products - BytePipe	0	0	0	0	0	0
Products - V/S	0	0	0	0	0	0
PTD	212.75	212.75	153.83	193	193	344
R&D	120.75	120.75	288.75	550.25	550.25	351.1
RMA	56.5	56.5	38	65.5	65.5	1
Total Hours	3123.92	3123.92	3076.83	5086.48	5086.48	5107.38
Engineering Services %	44.17%	44.17%	42.26%	47.12%	47.12%	47.43%
Products - V/S %	23.00%	23.00%	24.94%	19.20%	19.20%	20.84%
Products - G&M %	13.43%	13.43%	14.07%	21.53%	21.53%	12.90%
G&A %	9.32%	9.32%	9.33%	5.60%	5.60%	7.73%
Manufacturing Support %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Production %	9.27%	9.27%	4.58%	0.35%	0.35%	2.93%
PTD %	6.81%	6.81%	5.00%	6.21%	6.21%	9.17%
R&D %	3.86%	3.86%	9.41%	10.82%	10.82%	6.87%
RMA %	1.81%	1.81%	1.24%	1.29%	1.29%	0.02%
Summary	3123.92	3123.92	3076.83	5086.48	5086.48	5107.38
Abbot (AST-23-001, Woffridge RF Design Review)	0	0	4.75	4.75	4.75	14.71
Ampleon (JAMP-23-001, CA-313-11 L2RMOS Bias Modulator)	0	0	0	0	0	0.1
ARL/DEVCOM (ARL-12-001, DEVCOM ARL Phase 0)	241	241	156.25	342.5	342.5	490.21
ASEC (ASE-22-001, Lookalike Main Power Board Development)	63.75	63.75	14.25	2.5	2.5	1
Asylum Research (ATV-23-001, SCM Project Board Build Rev 1)	0	0	0	0	0	0
BOSI (BOSI-23-001, Sanyer Remote IEC Documentation Setup)	0	0	0	0	0	0
Calamp (CAL-23-001, Scorpion ULT Test Fixture QTY 2)	0	0	0	0	0	0
Cattek (CAT-23-001, Haribond Cattek M4 - Phase 0)	23.5	23.5	1.25	2	2	1
Cattek (CAT-23-001, Haribond CM 2.0 Development)	0	0	0	0	0	46.21
CellSign (CSG-23-002, Carrier Board Rev 2 Design Support)	0	0	0	0	0	36
CellSign (CSG-23-003, Rev 1, Carrier Design Support)	0	0	0	0	0	1
Contegre Technology (CTG-23-001, ABIDUC Design Updates)	0	0	0	12.25	12.25	1
Contegre Technology (CTG-23-002, ABIDUC PCB Rev 1 Update)	0	0	0	0	0	1
Codman SAFECOM (CDS-22-001, TMC Thermal Radio Extender)	552.75	552.75	730	553	553	622.1

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