ASSIGNMENT 4 - Requirement Prioritization

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INTRODUCTION

1.1 This document is written to evaluate and satisfy the requirements of the constructed device and its internal, embedded systems or applications. Several methods of practice had been conducted based on available sources of data and information denoted in previous documents, particularly via the Weiger Method and analytical hierarchy process (AHP)

KOWALSKI, ANALYSIS

2.1.1 Wieger's Method

The purpose of the following scale is to determine the assignments / tasks that were categorized, then done according to value and importance to the overall completion of the project. A set of three conditions were provided to aid with the ranking of priorities in the system's components.

2.1.2 Impact, Urgency, and Priority Matrix

IMPACT				
	PRIORITY	LOW	MEDIUM	HIGH
URGENCY	HIGH	Embedded system Cybersecurity (un-networked)	Unit testing AI model training based on datasets Device chassis manufacturing via 3D printing	Data collection Application development Sourcing additional hardware
	MEDIUM		Project reports and documentation Augmented-reality projection	Budgeting plans Bug / error fixes in code Additions / updates to code (refactoring)
	LOW			Consultations from senior military personnel User-interview

3.1.1 Analytical Hierarchy Process (Parameters)

The purpose of the following calculations is to determine the customer value of the project based on profit and cost expended and stakeholders (target-market), albeit restricted to negotiable requirements. This relies on key customer representatives (users, stakeholders) and developers via three arithmetic factors:

- priority = value % / (cost % x cost-weight) + (risk % x risk-weight) | 1-to-9 Scaling

- The Budget Plan Table, which can be accessed **here**.

- The Requirements, which can be accessed **here**.

3.1.2 Analytical Hierarchy Process (Assessment)

Relative Weight	Weight Benefit (2)	Weight Detriment (1)		Weight Cost (1)		Weight Risk (0.5)	
REQ	Relative Benefit	Relative Detriment	Value %	Relative Cost	Cost %	Relative Risk	Risk %
R1	5	3	17.5	3	11.9	1	18.1
R2	6	8	27.0	5	45.4	4	30.2
R3	9	9	36.4	2	17.6	3	27.2
R4	5	4	18.9	3	25.1	2	24.5
TOTAL	25	24	100 %	13	100 %	10	100 %

3.1.3 Analytical Hierarchy Process (Prioritization)

REQ	TOTAL (WEIGHT)	PRIORITY	RANK
R1	13	0.835	2
R2	20	0.446	4
R3	27	1.166	1
R4	14	0.506	3
TOTAL	74		