

# Goldenwolf Internship

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# About Goldenwolf

- ❑ Located in Huntingtown, Md
- ❑ Approximately 150 employees
- ❑ Specializes in facility management services
- ❑ Provides program management and analytics for BUILDER and DMLSS



# T.R.A.C.E.

Tracking Real Asset Collection Engine

- ❑ Accurately and efficiently inventory RPIE(Real Property Identified Equipment) items.
- ❑ Provide a log of tagged items to upload into DMLSS (Defense Medical Logistic Standard Support).
- ❑ Automatically print tags for each piece of equipment for easy identification and look up.

## Challenges

- ❑ Rapidly changing requirements
- ❑ Unreliable connectivity
- ❑ Communication across time zones

## Classroom Experiences

- ❑ Documentation practices
- ❑ Algorithm efficiency
- ❑ File manipulation

## Lessons Learned

- ❑ Importance of accurate requirements
- ❑ Effective communication with users
- ❑ Long term effects of coding decisions

# T.R.A.C.E.

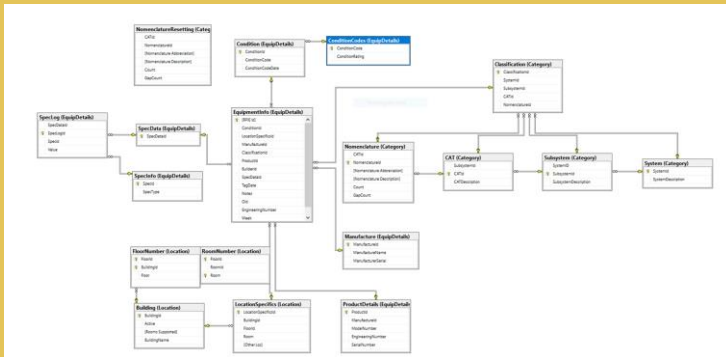
Tracking Real Asset Collection Engine

Site	Start Date	End Date	Square Feet	Tags
Naples, Italy	12/4/17	1/21/18	170,000	3,300
Guam	1/21/18	2/21/18	292,000	5,500
Nairobi, Kenya	2/21/18	3/7/18	85,000	2,400
Okinawa, Japan	4/14/18	7/14/18	750,000	12,000
Yokosuka, Japan	8/4/18	9/29/18	380,000	7,000
San Diego	10/14/18	11/17/18	120,000	1,800
Bethesda	11/26/18	12/10/18	135,000	1,000
Rota, Spain				
Total	12/4/17	12/10/18	1,932,000	33,000

# T.R.A.C.E.

Tracking Real Asset Collection Engine

## Database Diagram



## Main Window

The TRAC.E Main Window is a data entry interface for tracking equipment. It features a dark blue background with white text and form fields. The window title is "TRAC.E Main Window".

Fields and values shown:

- \*Building:** 79 - MEDICAL
- \*Floor Number:** FLR-1
- \*Room Number:** 79-100 /
- Other Loc:**
- Engineering #:**
- Rooms Supported:**
- \*System:** D20 PLUMBIN
- \*Subsystem:** D2010 PLUMB
- \*Assembly CAT:** D201090 OTH
- \*Nomenclature:** EMERGENCY S
- \*Nomenclature Abbreviation:** ESS
- Manufacturer:** N/A
- Add Manufacturer:**
- \*Model Number:** N/A
- \*Serial Number:** N/A
- Install Date (MM/DD/YYYY):** 03/21/2009
- Build As (Alpha Numeric):**
- \*Tagger:** Jack
- Parent/Child:**

Buttons and controls:

- Finish Job**
- Add Spec**
- Pick Building**
- Print Room**
- Add/Delete Room**
- Add Floor**
- Submit For QA**
- Data**
- Print Settings**
- Submit**

Additional features include a "Notes" field and a "GOLDENWOLF" logo.

## Sample Tag



# T.R.A.C.E. Q.A.

Tracking Real Asset Collection Engine Quality Assurance

- ❑ Assess the accuracy of inventory collection efforts.
- ❑ Provide feedback for tagging teams in order to fix errors.
- ❑ Export results to management in presentable format.

## Challenges

- ❑ End user technical ability
- ❑ Unreliable connectivity
- ❑ Large and inconsistent data sets

## Classroom Experiences

- ❑ Client interaction techniques
- ❑ Database design
- ❑ User interface design

## Lessons Learned

- ❑ NoSQL database development
- ❑ IOS development using Swift
- ❑ Asynchronous loading of data

# T.R.A.C.E. Q.A.

Tracking Real Asset Collection Engine Quality Assurance

## Evaluation Screen

5:23 PM Sun Dec 9

Back Evaluation

Toggle the Switch to the Left if the RPIE Record Passes the Criteria

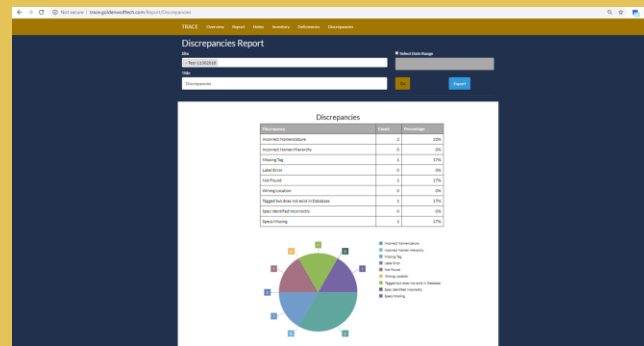
- Incorrect Nomenclature
- Incorrect Nomen Hierarchy
- Missing Tag
- Label Error
- Not Found (Doesn't Exist in Room)
- Wrong Location
- Tagged but does not exist in Database
- Spec Identified Incorrectly
- Specs Missing

Notes

Scan Take Photo Submit

Reference Catalog

## Online Reporting



## Room List

5:22 PM Sun Dec 9

TRACE Data View

Room RPIE

1100-27	✓
1101-27	✓
1102-27	✓
1103-27	✓
1104-27	✓
1105-27	✓
1106A-27	✓
1107-27	✓
1108-27	✓
1109-27	✓
1111-27	✓
1113-27	✓
1114-27	✓
1123-27	✓
1124-27	✓
1125-27	✓
1127-27	✓
1128-27	✓
1129-27	✓
1130-27	✓

# C.A.R.V.E.

Condition Assessment Requirement Validation Engine

- ❑ Provide an interface for inventory, inspection, and work planning
- ❑ Allow smart creation of sections based on certain criteria
- ❑ Directly upload data into BUILDER

## Challenges

- ❑ Having to wait on information and resources
- ❑ Learning a new language
- ❑ Understanding modules to be implemented

## Classroom Experiences

- ❑ Working in a team environment
- ❑ Documentation practices
- ❑ User interface design

## Lessons Learned

- ❑ Xcode environment and Swift programming
- ❑ Xcode and Git interaction
- ❑ Asynchronous loading of data



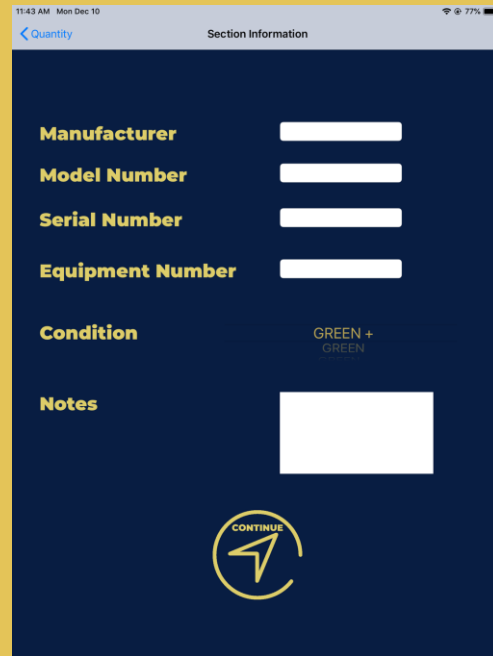
# C.A.R.V.E.

Condition Assessment Requirement Validation Engine

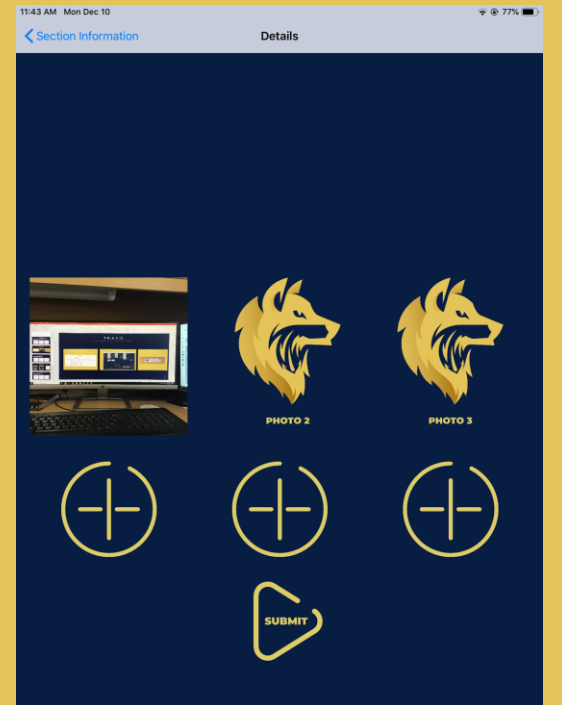
## Hierarchy Screen



## Section Information



## Photos



# A.H.P.

Analytical Hierarchy Process

- ❑ Determine weights for objectives.
- ❑ Aggregate responses from multiple users.
- ❑ Rate the consistency of responses and allow for adjustment.

## Challenges

- ❑ Asynchronous loading of data
- ❑ Handling multiple users responses
- ❑ Complicated underlying math

## Classroom Experiences

- ❑ Web development principles
- ❑ Matrix operations
- ❑ User interface design

## Lessons Learned

- ❑ Web development basics
- ❑ Handling of all possible user input
- ❑ Asynchronous loading of data

# A.H.P.

Analytical Hierarchy Process

## Model Creation

The screenshot shows the 'Create a Model' interface. At the top, there is a navigation bar with the DHA logo and links for Home, Models, and Logout. Below the navigation bar, the form asks for the model name (with 'Demo' entered) and the number of objectives (with '5' entered). A 'Next' button is visible. The main section contains five objective entries, each with a text input for the objective name and a text area for the description. A 'Submit' button is at the bottom left. A copyright notice '© 2018 - GoldenWolf' is at the bottom right.

## Comparisons

The screenshot shows the 'Pairwise Comparisons' interface. It features a navigation bar with the DHA logo and links for Home, Models, Objectives, Weights, Distribute, and Logout. The main heading is 'Pairwise Comparisons'. Below this, there is a 'Responses' section. A central comparison question asks 'On this scale, which is more important?' with a horizontal scale from 'Extremely' to 'Extremely' and a 'Submit' button. To the left, a legend defines 'Asset Category' I, II, and III. To the right, a legend defines 'FCI Band' and explains that points are awarded based on the band.

## Weighting

The screenshot shows the 'Objective Weights' interface. It has a navigation bar with the DHA logo and links for Home, Models, Objectives, Weights, Distribute, and Logout. The main heading is 'Objective Weights'. Below this is a table showing the weights for six objectives (a-f).

Objective	Weight
a	10.91%
b	18.56%
c	25.99%
d	6.00%
e	16.15%
f	22.38%

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