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Goal: Make the search for technology as advanced as the technology itself.
Current Situation

The Infrared Wall Chart

Product Information Sheets

Raytheon Representative
Information Charts

Detector RoA and Dark Current
Figures of Merit
Focal Plane Size
Integrated Spectral Radiant Photon Emittance
Readout Noise and Charge Capacity
Response of Various Detector Materials
Selected Physical Constants
Selected Formulas for Blackbody Radiation
Spectral Photon Emittance

RESPONSE OF VARIOUS DETECTOR MATERIALS

Wavelength (μm)

Response (Photon)
Filterable Database

Two possible ways to search for products that match the customer’s requirements.

Search by wavelength

Advanced Search

- Size (μm)
- Mass (g)
- Power (mW)
- Wavelength (μm)
- Resolution Width (Pixels)
- Resolution Height (Pixels)
- Pixel Pitch (μm)
- Full Frame Rate (Hz)
- Heat Management
- Capture Method
- Sensor Type
- Detector Material
Product Previews

All products matching specified criteria are listed for customer.

Selecting a product shows all of its associated datasheets.

Selecting a datasheet displays its specification sheet.
Application Demo
Backend

Raytheon Product Database

Infralog App Server

Infralog Web Management Portal
Server > Raytheon File Distribution Protocol

What & Why:
- The RFDP Server serves two main purposes:
  - Allow users to search through Raytheon Products remotely
  - Transmit product information to Infralog users upon request

How:
- PyMySQL v0.6
  - The Official MySQL connector is not compatible with Python 3.4.3
- TCP Multi-threaded Socket Handling
  - Allows for multiple users at once
Database

- Facilitates communication between the Infralog App Server and the Infralog Web Backend
- Store all products and their relevant information
- Powered by MySQL
Backend Interface

- Allows business-end user to view the database and update entries.
- Built in PDF extractor to help supply suggestions for product

Tabled fields for ease of input

Product info will be listed here...

Enter Product ID in the box for Product Info:  

Submit

Product file info will be listed here...

Enter Product ID in the box for Product File Info:  

Submit
PDF Extraction

1. **PDF → TXT**
   - Import PDF file using a tool like Adobe PDF Reader.
   - Convert PDF to text format.

2. **Extract Values**
   - Use Python libraries such as PyPDF2 for extracting text from PDF files.

3. **Categorize**
   - Organize extracted values into categories.
   - Example categories:
     - Product Name: PS-XYZ
     - Power: X (Watts)
     - Pixel Pitch: Y1, Y2, Y3, Y4 (Length)
     - Resolution: A x B (Integers)

4. **Add Entry**
   - Enter categorized data into a table or database.
   - Use a form interface for inputting data:
     - Product Name
     - Power
     - Pixel Pitch
     - Resolution

This process automates the extraction and categorization of data from PDF files, making it easier to manage and analyze.
Backend Demo
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