1. How would you store your log entries?

We either store data in database or in file system. Storing data in database will be easy to setup and lookup. I would use either MongoDB or any NoSQL database to store log entries. Log will have some common fields and we can also add any number of customizable fields for log entry.

1. How would you allow users to submit log entries?

User will submit log entry using Form – standard input stream. We can add some required filed and to add customize field, we can allow user to add as per requirement.

1. How would you allow them to query log entries?

User can query log entries using database queries. For UI, we can provide search button with input text to search using keyword. If we have data associated with each log entry, then we can add calendar to filter log.

1. How would you allow them to see their log entries?

We can show log to user as per their role. They can search for log using keyword and date or any other unique value. We can use pagination to show more log. User can download the search result as pdf. We can also use some chart or other form to show log date/month/year wise.

1. What would be your web server?

I would like to use Express as backend server to allow users to submit log on remote server.

1. How would you store your expenses?

I would use relational database like MYSQL or mariaDB to store expenses. If update happens frequently on data, then we can save changes first to Memcache or MSQ and then save it to database.

1. What web server would you choose, and why?

I would like to use Nginx rather than Apache well it works fine with MySQL as per LAMP stack. But Nginx use less memory and can run more requests per second compare to Apache.

1. How would you handle the emails?

Main() function in php allows to send email directly from script. We can also add additional headers or parameter.

1. How would you handle the PDF generation?

Php has FPDF to generate pdf and html2pdf to convert html to pdf format. We can also use LaTex and wkhtmltopdf.

1. How are you going to handle all the templating for the web application?

We can use php template engine like Twig, smarty, etc… for the web application.

1. Which Twitter API do you use?

Twitter REST API to get recent tweets.

1. How would you build this so its expandable to beyond your local precinct?

I will keep the server generalize to make it easily available. We can user cloud storage to make it expandable.

1. What would you do to make sure that this system is constantly stable?

I can use technologies or services with support available. I can print logs like status log to make sure system in stable. Accelerate and secure application with reverse proxy server, cache static and dynamic content, optimize SSL/TLS, implement HTTP/2, Compress data.

1. What would be your web server technology?

Express server as REST API will easily interact with it. Express server has GET, POST, PUT, DELETE requests. We can use Redis to store recent tweets and ElasticSearch to make full text search.

1. What databases would you use for triggers? For the historical log of tweets?

For triggers, we can use oracle PL/SQL. For the historical log of tweets, we will use MongoDB to store data in JSON format.

1. How would you handle the real time, streaming incident report?

I would use websocket client that will subscribe to events corresponding to new tweet to handle real time streaming of report.

1. How would you handle storing all the media that you have to store as well?

We can use onedrive, Google Drive, dropbox to store media files. We can use ImageMagick to perform conversion like compressed, resize, etc.. on image.

1. What web server technology would you use?

Express server

1. How would you handle the geospatial nature of your data?

We can use google location API to tag our data.

1. How would you store images, both for long term, cheap storage and for short term, fast retrieval?

Long Term: I would like to use cloud storage platform to store images for long term. I can use Amazon AWS S3, OneDrive, Google Drive or Dropbox to store data.

Short Term: I would like to store images in cache like redis for short term storage.

1. What would you write your API in?

I would use HTTP to update images with raw data. We can also provide REST API support.

1. What would be your database?

I would like relational database to store information and store images in cloud and save only image link in database.