AZRIELI College of Engineering Jerusalem

Software Engineering Department

COMMAND AND CONTROL SYSTEM FOR HAZARDOUS SUBSTANCES

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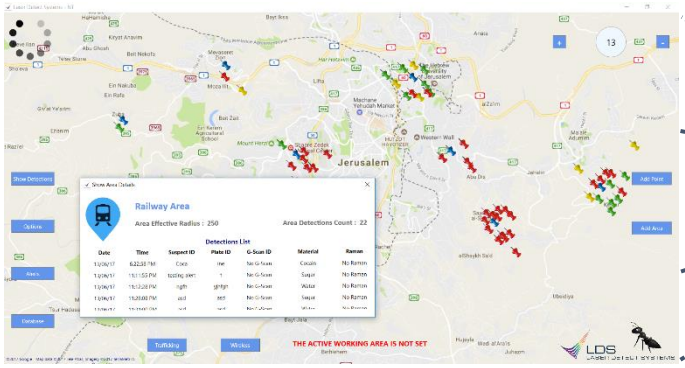
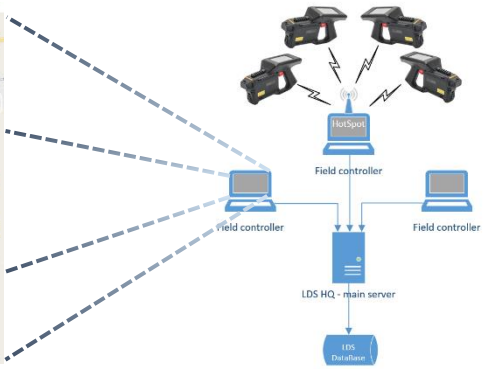
VISUALIZE, CONTROL, ANALYZE AND SHARE DATA IN REAL TIME

Our system provides a visual control dashboard which displaying data that being collected in Real Time. The data is being processed using dynamic algorithms which trigger alerts for various kinds of events i.e. materials combination

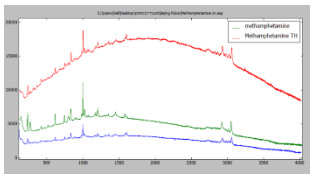




FROM SINGLE PRODUCT, TO INTEGRATED SYSTEM

1 INITIAL STATE

A laser gun which able to detect dangerous substances using a unique Raman signature. Manual data analysis and maintenance.



2 WIRELESS CONNECTIVITY COMMUNICATION

- ✓ Integrating WiFi ingredient into the gun in order to improve data transfer method.
- ✓ Developing a tiny server into the gun's App.
- ✓ Automatic wireless data sharing between the guns and the Command and Control system.

3 DATA SYNCHRONIZATION

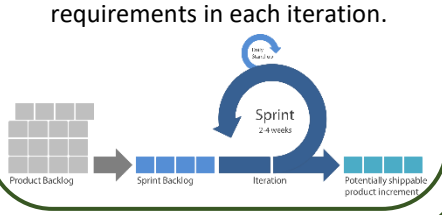
- ✓ Establishing a main Server (HQ).
- ✓ Establishing a centralized Data Center.
- ✓ Implementing a secured Real Time synchronization algorithm.

4 ADVANCED SECURITY

- ✓ Using HTTPS for encrypted data transfer (over SSL).
- ✓ Hashed passwords.
- ✓ Limited user session.

5 PROJECT MANAGEMENT

Using Agile – SCRUM methodology. Fixable iterative planning method while continuously integrating the customer's requirements in each iteration.



SOFTWARE ENGINEERING AS AN INTEGRAL PART OF THE PROJECT

Software design – our architecture followed by all **SOLID** principles, providing a modular, distributed, expandable and bug free system while preserving user friendly maintenance capabilities.

Abstract Factory | Singleton | Visitor | Proxy | Observer | Command | MVC