VIA University College

ICT Engineering

Project Description

Evidence management system

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| **Group 3** |
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**Background Description:**

Evidence Management has always been an important task for police stations. As more evidence is required to be stored, a need to keep track of it and manage it has appeared. The managment of any kind of evidence has proven to be a very important, but difficult task. Givent the variety of different evidence items(Evidence handling, 2008), properly storing them is vital to the success of the police forces.

While in most developed countries crime has gone down (Crime and Criminal Justice Statistics, 2016), that doesn’t mean the need of storing evidence has decreased, as it is often needed to keep in store evidence of crimes committed in the past (Laudan & Allen, 2013).

Evidence management is critical to the outcome of criminal prosecutions. The ability to obtain DNA evidence from many items has also resulted in a large increase in the amount of evidence being stored into evidence rooms. Losing meaningful evidence (Zuckerman, 2011) is also a problem that police forces often must deal with. The reason it even occurs is because of disorganized evidence storing can be. This very often leads to legal cases falling apart.

An efficient way to handle the galore of evidence is to keep it stored in a very organized fashion (Property Room Standards, 2008). But even so, without a way to keep track of all different objects, managing them properly can become hectic. Keeping track of evidence data on paper has become obsolete and rather inefficient given the large quantities of evidence.

Storing data of each individual evidence item inside of a system, can, however, makes keeping track of evidence more organized and thus reduce the number of mistakes when it comes to storage within the police departments. Important part of safe evidence management is keeping track of the chain of custody (Evidence, Chain of Custody, 2017) which means having a secure custodianship and handover of responsibility, from the time and place of collection to the time and place of presentation as elements of a proof

Nowadays, there is a large need for good evidence management systems for police stations. Keeping track of a databases with evidence, while providing meaningful information about each item over its entire individual lifetime. Digitizing physical evidence(Stebick, Divonna, & Jonelle Pool, 2006) can reduce the need of handling it until it is time to present it, which reduces the likelihood of it being tampered.

Using databases can also provide a lot of flexibility when working with evidence, because it allows multiple people to access and alter it. The data collected from all the stored evidence can be used for educational and research purposes, such as statistics for the type of evidence found on different crime scenes.

**Purpose**:

The purpose is to create a system that keeps track of evidence data from various criminal cases.

# Problem formulation

The project focus is to collect evidence date,store and organize it and make it available for users...

The server will be responsable for keeping track of all the processed evidence data.

The system will keep track of each evidence item information.

The users will be able to collect data from on request.

The problems to be answered are the following:

* How to make data available on request to mutiple users?
* How to organize the data and make it searchable?
* How to make the system scalable- e.g.multiple storage units?

# Delimitation

The system will not handle security eg. encryption.

The server will not have a graphical user interface.

The system will not check a validity of the data.

The system does not care about storage space.

# Choice of model and method

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| **What**  Partial problem | **Why**  Why study this problem? | **Which**  Which models/theories are expected to be used to solve the problem? |
| How to make data available on request to multiple users? | System feature | Examining similar systems  Multi-threading  Set up requirements for data.  Use Case Modelling. |
| How to organize the data and make uniform data selection | System feature.  Easy access to evidence data. | UML class modelling. Client/server architecture. Design patterns.  Database design. |
| How to make the system scalable | Adaptability  Efficiency over time | UML class modelling and class diagrams for a large scale system with the ability to be used in small scale. Design patterns. |

# Time schedule

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| --- | --- | --- | --- | --- | --- | --- |
| Inception  ends |  |  | Elaboration  ends |  | Construction  end | Transition  ends |
| 3 days | 3 days | 3 days | 3 days | 3 days | 3 days | 3 days |
| Sprint 1 | Sprint 2 | Sprint 3 | Sprint 4 | Sprint 5 | Sprint 6 | Sprint 7 |

**References and expected sources**:

1. Crime and Criminal Justice Statistics (May, 2016). Retrieved from http://ec.europa.eu/eurostat/statistics-explained/index.php/Crime\_and\_criminal\_justice\_statistics

2. Laudan, L., Allen, J. R, The Devastating Impact of Prior Crimes Evidence and Other Myths of the Criminal Justice Process, 101 J. Crim. L. & Criminology 493 (2013). http://scholarlycommons.law.northwestern.edu/jclc/vol101/iss2/4

3. "Evidence, Chain of Custody" World of Forensic Science. Retrieved March 26, 2017 from Encyclopedia.com: http://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/evidence-chain-custody

4. Gulick, G. (2008), “Storage Technology”, Evidence Technology Magazine(Volume 6, Number 1): http://www.evidencemagazine.com/index.php?option=com\_content&task=view&id=92

5. Duerr, T. E., Beser, N. D., Staisiunas, G.P.(2004), "Information Assurance Applied to Authentication of Digital Evidence". Forensic Science Communications. Federal Bureau of Investigation. Archived from the original on March 12, 2008: https://web.archive.org/web/20080312121928/http://www.fbi.gov/hq/lab/fsc/backissu/oct2004/research/2004\_10\_research01.htm

6. "Property Room Standards". International Association for Property and Evidence. Archived from the original on 2008-02-04. Retrieved 2008-03-31. https://web.archive.org/web/20080204172810/http://www.iape.org/Standards\_7-03/index.htm

7. "Property Standards #7". International Association for Property and Evidence. Archived from the original on 2008-04-23. Retrieved 2008-03-26. https://web.archive.org/web/20080423052936/http://www.iape.org/Standards/PS07/index.html

8. "Evidence handling". Minnesota Department of Corrections. Archived from the original on 2008-05-31. Retrieved 2008-03-31. https://web.archive.org/web/20080531155547/http://www.doc.state.mn.us/DocPolicy2/FormsWorking/NSI/107.055RC.htm

9. Zuckerman, M. A., Yes, I Destroyed the Evidence – Sue Me? Intentional Spoliation of Evidence in Illinois (April 5, 2011). John Marshall Journal of Computer & Information Law, 2010. Available at SSRN: <https://ssrn.com/abstract=1536805>

10. Stebick, Divonna, and Jonelle Pool. "Piloting a Digitized Evidence-Based Assessment System," American Association of Colleges for Teacher Education, 2006.

<http://cupola.gettysburg.edu/cgi/viewcontent.cgi?article=1013&context=edfac>

11.Craig Larman 2012 - APPLYING UML AND PATERNS Third Edition