

Dutch Cyber Forensics

Secure Software Development

March 17, 2021

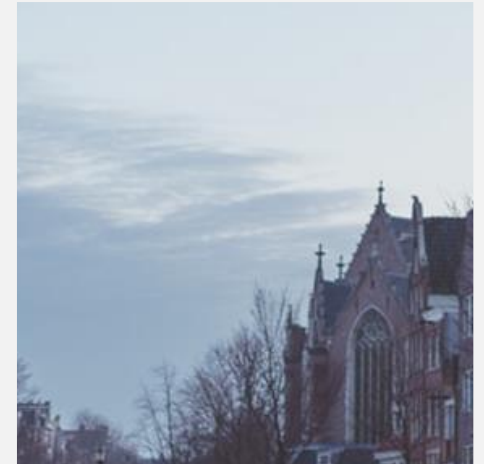
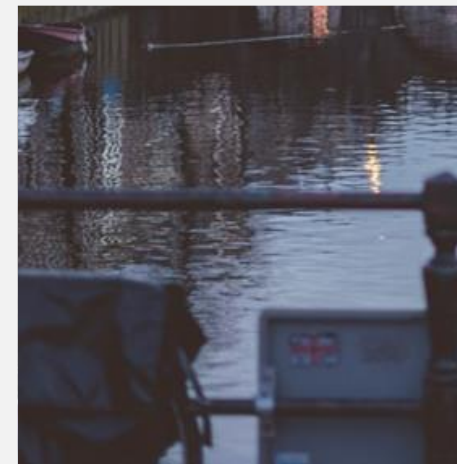
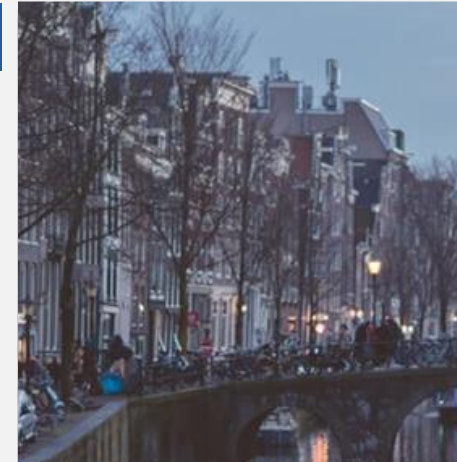
Kalina, Keir, Marzio, Sebastian

Background

Domain: Dutch Police Internet Forensics

- The National Cyber Security Centre (NCSC) is responsible for overseeing digital security in the Netherlands
- One of its main tasks is to make the Netherlands more resistant to internet crime
- NCSC continuously monitors all suspect sources on the internet
- When it identifies a threat, the NCSC alerts public authorities and organisations

Source: Government of the Netherlands (N.D.)



Proposed System

In short:

Develop a “suspect sources” system for the Dutch NCSC. The system should allow employees to log in, search for suspect sources, amend existing ones and add new sources to the database.

- Implement tiered user roles with different access controls and permissions
- Include an email notification to alert public authorities and organisations whenever new sources are identified or existing ones are amended
- Capability to download a full report of all sources on the system when required (.csv format)



Domain-Specific Requirements



Operating Systems

- The specialist police unit is using 2200 Ubuntu Linux workstations
- Has been using Linux desktops since its inception in 2003

Technologies

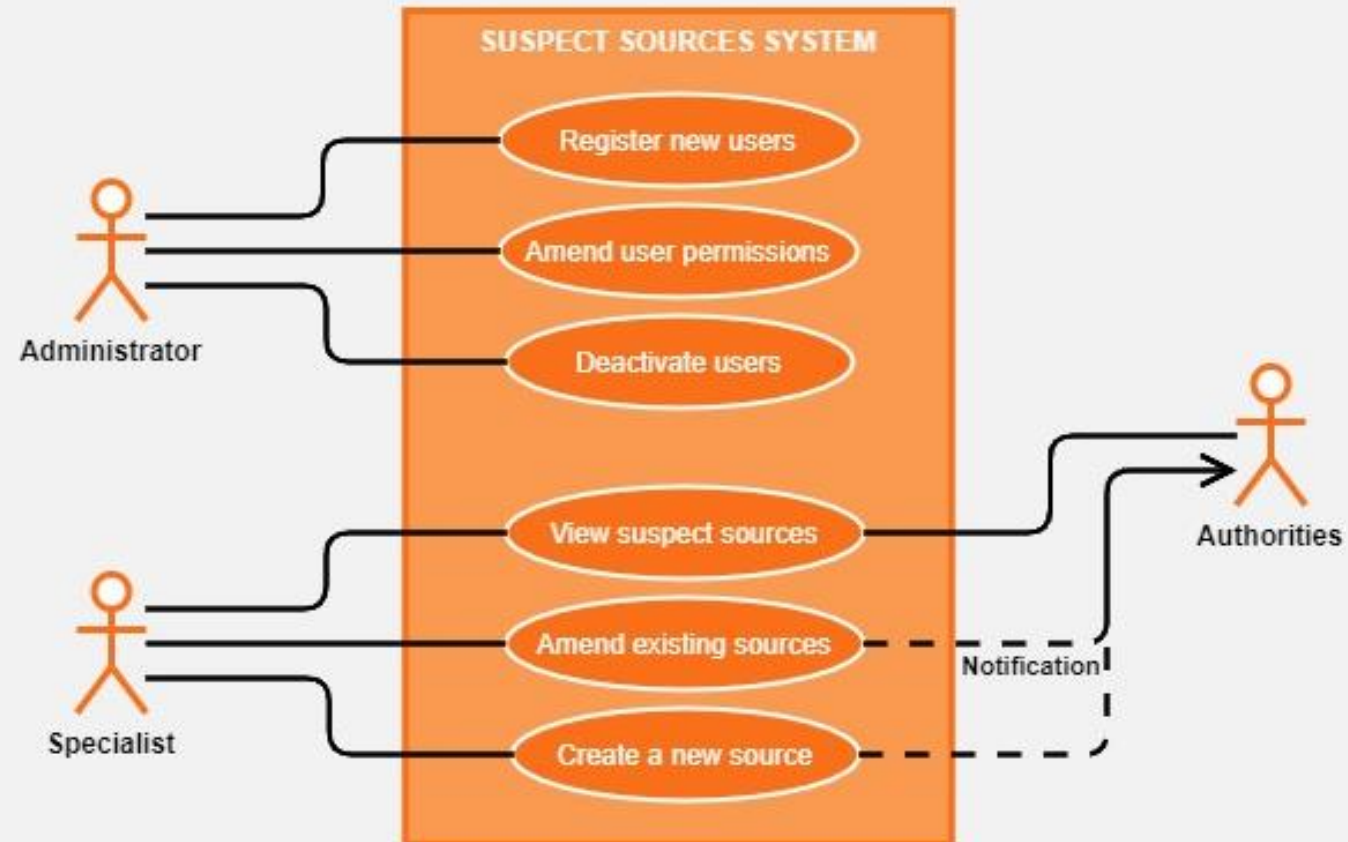
- Only uses free and open-source solutions based on open standards and developed publicly
- Source code must be available on the Internet so it can be audited
- Examples: OpenCV, Elasticsearch, MongoDB

Others

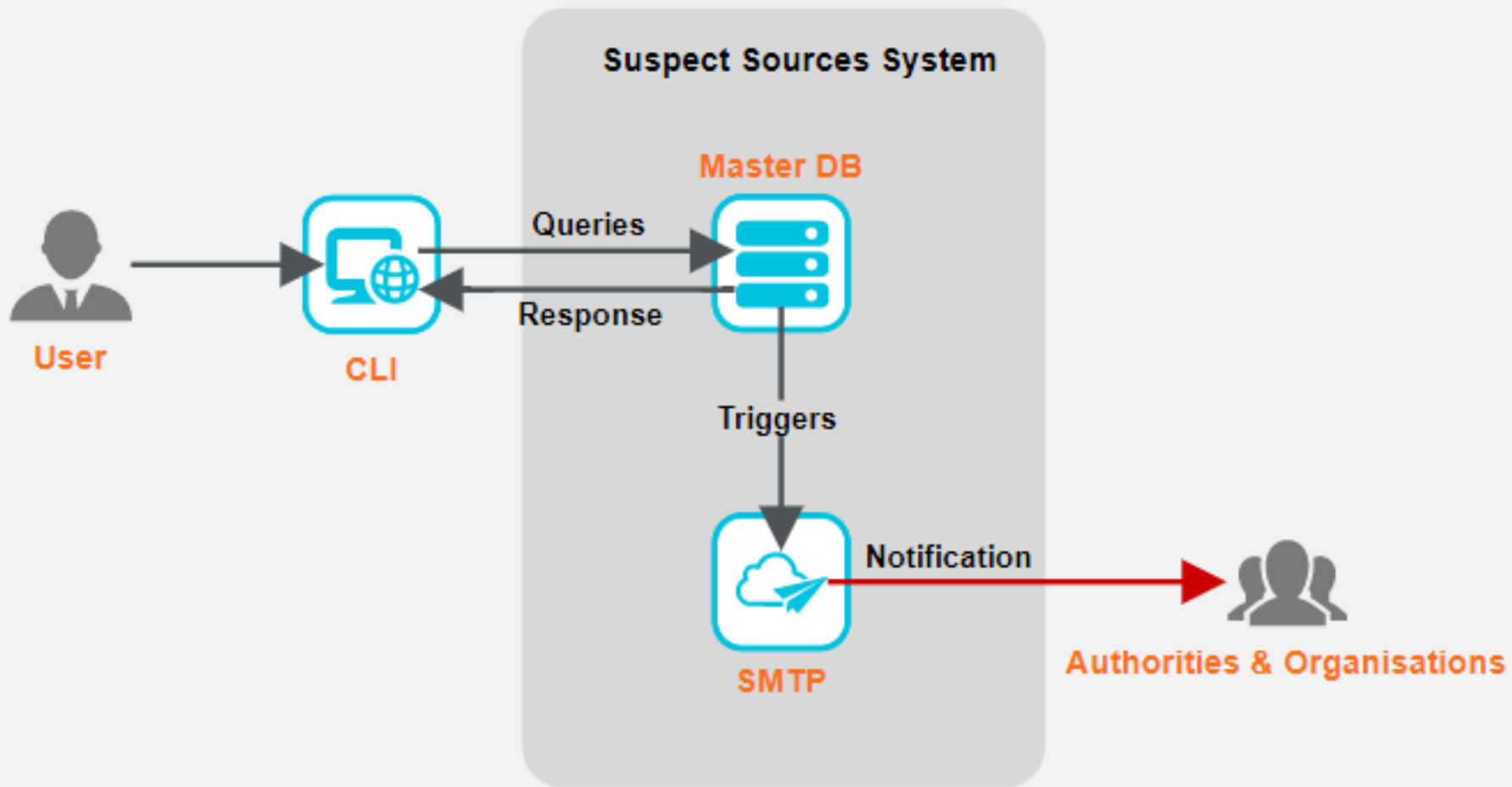
- Ensure privacy and security regulations are met, such as the General Data Protection Regulation (GDPR)
- Mechanisms have to be deployed to minimise the attack surface of the solution

Source: Hillenius (2013)

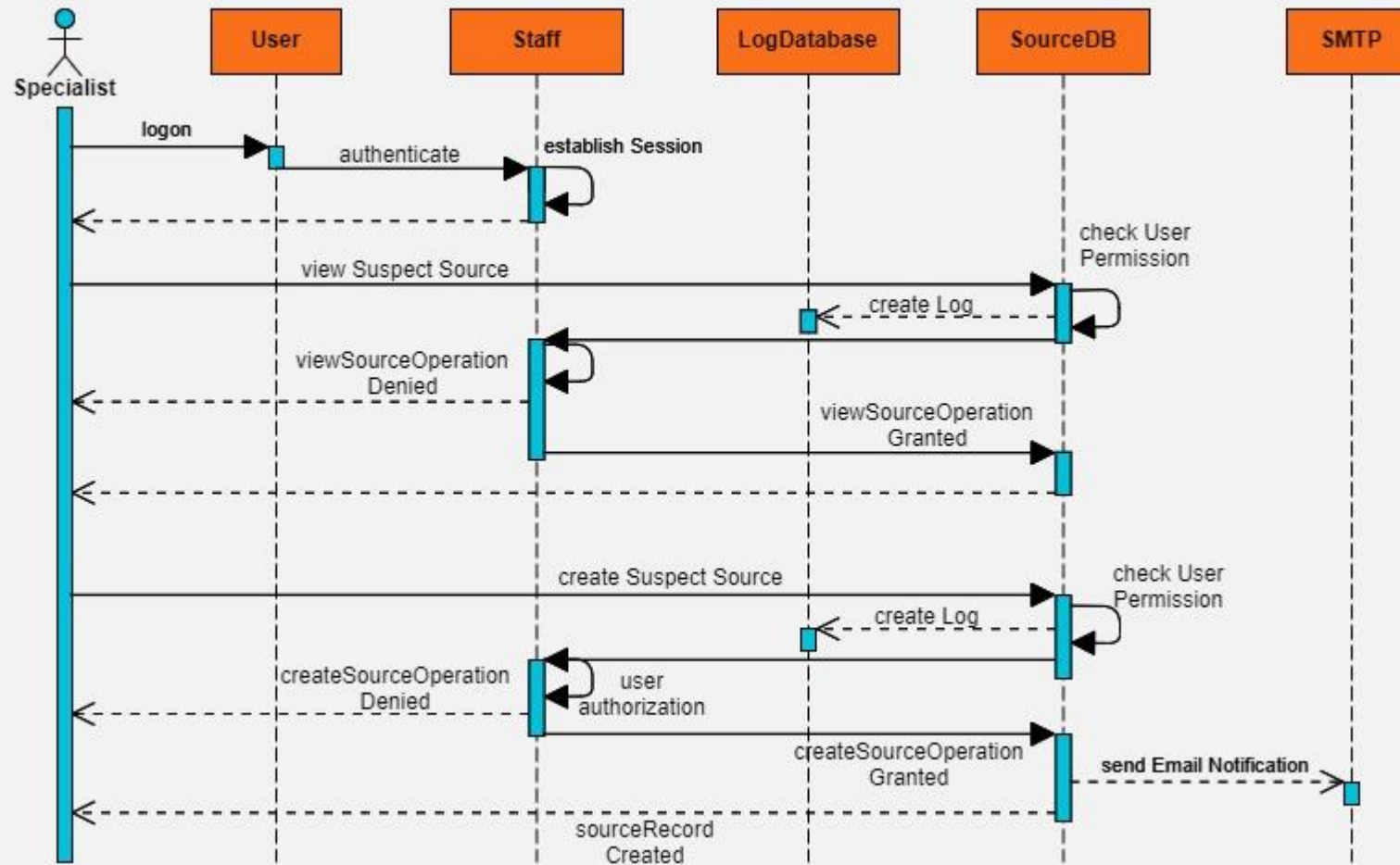
Use Cases



Preliminary Architecture



Sequence Diagram





Reference List

Government of the Netherlands (N.D.) Fighting Cybercrime in the Netherlands. Government of the Netherlands. Available from: <https://www.government.nl/topics/cybercrime/fighting-cybercrime-in-the-netherlands> [Accessed 15 March 2021].

Hillenius, G. (2013) 'Open Source Only' at Dutch Police Internet Forensics. European Union. Available from: <https://joinup.ec.europa.eu/collection/open-source-observatory-osor/news/open-source-only-dutch-p> [Accessed 15 March 2021].