Supply Shield Project Research Plan

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Date	Description	Status
02.03.2023	Initial Draft	Complete
13.03.2023	Revised Draft	Work in Progress

Supply Chain Illustration

How to comprehensively illustrate supply chain maps using a network of the constituent entities.

What
This research will take place primarily in the available work and innovation space domains.

Why
The structure devised will be used in moving the project forward by fully implementing it in the application or partially implementing it while developing a relevant implementation plan. The research will be conducted by combining existing expertise and inspiration-based approaches to provide an overview of what is needed for the development of the application.

How
- Available Product analysis
- Literature study
- Problem analysis

Duration
The entire semester.

Usability

How to provide a low barrier to entry to users new to supply chain mapping.

What
This research will take place primarily in the available work and innovation space domains.

Why
The application will be used by a wide variety of users from business entities around the world. Not all will have the same level of knowledge of supply chain terminology and they will certainly not be acquainted with any application-specific terminology that may emerge during development. As such, use of the application should be made easily understandable for someone with no expertise in supply chains.

How
- Available product analysis
- Usability testing
- Requirements prioritization

Duration
1 week after the prerequisite research and work has been done.

Storage

Which database architecture lends itself to mass scalability, distributed, traceable, and queryable entries, and defense against manipulation.

What

This research will take place primarily in the available work, innovation space, and application domains.

Why

Choice of database system has a great effect on implementation, security, and scalability of a system. A supply chain risk management system where any verified user is permitted to declare incidents would need to be traceable and defended against manipulation lest the application be rendered unusable. This research will be towards finding a database structure that fits the above mentioned non-functional requirements and the requirements of the larger system.

How

- Community research
- Prototyping
- Non-functional test
- Multi-criteria decision making

Duration

2-3 weeks.

Chain Mapping

In what way should entities within a supply chain be arranged in a way that minimizes excessive contact and potential for abuse.

What

This research will take place primarily in the available work and innovation space domains.

Why

Being able to declare supply chain disruptions for entire companies in a chain has considerable potential for being taken advantage of by bad actors. This research is to examine the design of the supply chain map and limit users' access to that which is strictly necessary and potentially devise other ways to enhance security

How

- Community research
- IT architecture sketching
- Prototyping
- Non-functional test

Duration

4 weeks.