

Environmental Health & Safety

A Central Platform for Providing the Education on Hazard and Risk Assessment for Experiential Learning

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Client: Marc Drouin - Director of U of T, EHS

Project Description



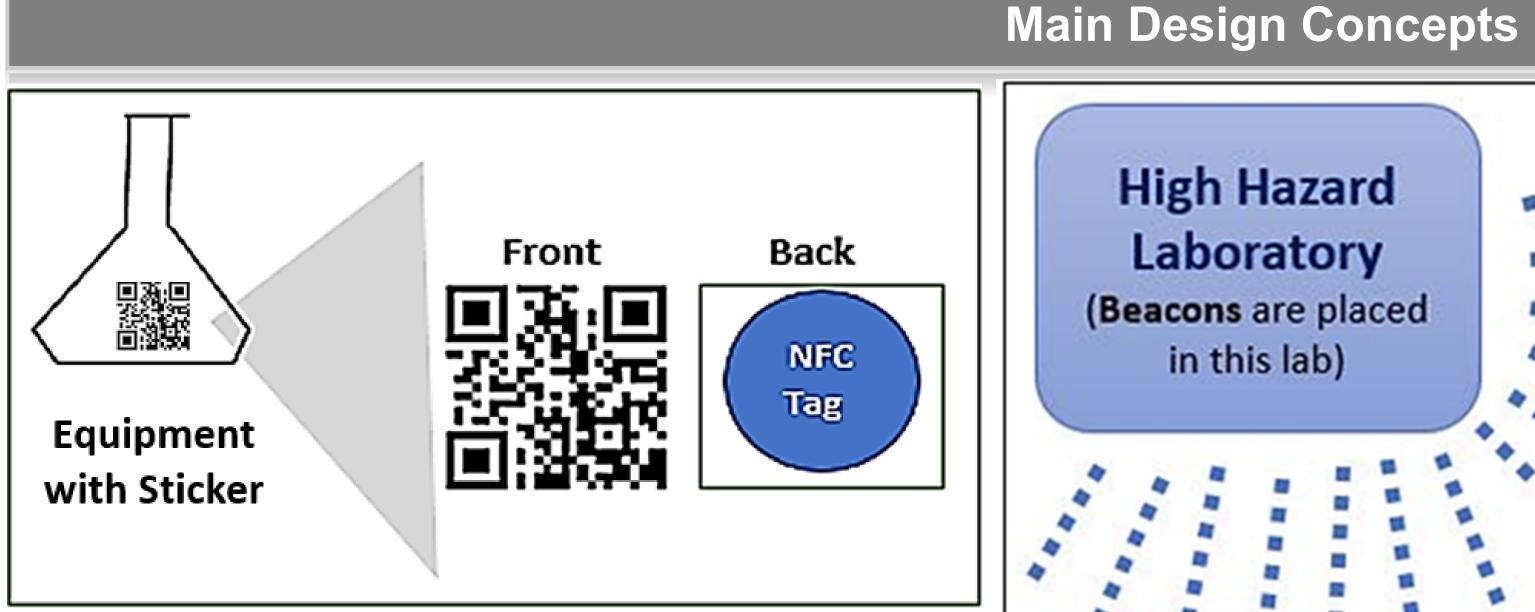
Figure 1. An Accident Waiting to Happen? [Online Image]. (January, 2003). Retrieved March 18, 2017 from https://tinyurl.com/mnx2yla. Copyright 2003 by Marilee Ogren.

 Serious laboratory accidents have made headlines—due to lack of proper safety training, procedures and awareness.

- **UofT's current lab safety culture protocol** is hanging up laboratory safety posters on campus but this was **not effective** in building lab safety culture due to **lack of user engagement.**
- Create a mobile app to improve lab safety culture among UofT community by establishing new habit of identifying emerging laboratory risks.

Project Requirements

- Notify user about the potential hazards of the equipment they use.
- Tailor user's laboratory safety information based on their occupation.
- · Retain user's personal information (name, age, faculty, student ID).
- Provide a list of hazardous material and substance present in the lab.
- Remind users to complete mandatory safety training.
- Provide a refresher quiz for experienced users.
- Allow the users to report accidents or unsafe practices observed in the lab.
- Notify users when high risk experiments are conducted.
- Provide previous lab accidents Information.



Pull Information: RFIDs attached to the laboratory equipment to provide relevant safety information to the users when they need it.

Mobile App

push notification

High Hazard
Laboratory
(Beacons are placed in this lab)

Within
15 meters

Mobile Phone

Notification:
You are now entering the Laser
- High Hazard Lab
Zone!

<u>Push Information</u>: Providing users with information about emerging risks that they may not know or need to be reminded of regarding a space (versus equipment).

Scope & Stakeholders

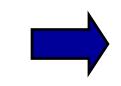
User Group

Undergraduate and Graduate Students

 Researchers, Supervisors, Teaching Assistants

Minimum
Viable Product

Stakeholders



 Able to provide the users relevant safety information when they need it with minimum steps



Key Decisions HOW WHAT Push + Pull 1. Interaction Information Style 1. Physical Phone Device 2. Internet Online Connectivity 2. EHS IT No EHS IT Group for App Group Maintenance 3. Hazard Manual + Detection Automatic 3. Technical Cross Stacks Option Platform 4. Means of Supervisor/ Instruction Trainer Communication 4. Cross Platform Ionic Generated 5. Data Feed to Framework course & the App student data

