Master thesis opportunity

Suggested Title
Interaction strategies for cold chain services and active containers.

Background
Envirotainer is a global company that designs, manufactures and leases active containers for air transport of temperature sensitive pharmaceuticals. We have customers all over the world and a network of stations that deliver containers to our customers at the right time and place - ready for use in the state the customers expect.

Much of what we do is dictated by logistical and flight regulatory requirements. Given that background, it is of utmost importance for us to keep track of our assets; make sure they are serviced correctly and keep their airworthiness. At any given time, we must be able to prove that our containers are up to the standard required.

This happens in an environment where the containers are handled by personnel who do not always understand the complexity of the services we deliver. In a typical lease, a container will be handled by truck drivers from a forwarding agent, ground handlers at the airport, aircraft personnel, pharma end customers, customs officials and many others. They all have their different information and interaction needs.

Problem description
We have several types of containers, each requiring a specific way of servicing and repair. Also, connected to each individual container there is documentation that proves that it is considered to be airworthy – basically that it has been maintained properly and that a responsible person has signed off on its release. This documentation is often presented in paper form and is easily misplaced or destroyed.

Furthermore, the container is a part of a complex service offering. Depending on the type of service a particular container is leased for, the end customer may or may not have permission to change the mission parameters of the container and their interaction with the container should be very well defined.

Much of the maintenance work performed on the containers is carried out by maintenance partners, contracted by Envirotainer to keep our fleet in shape. They have different MMS (Maintenance Management System) and it is often cumbersome to manage integration of our document flow into their systems, where a particular format or document definition is expected.

In summary, we need a well-integrated approach to managing operational data and manuals related to our containers. It needs to take into account not only static documentation but also dynamic, flight safety related documents. These should be accessible via regularly available devices such as phones or tablets, where we are also able to interact with the container itself via an active interface like displays or Bluetooth/NFC but also passive solutions like QR coded references.

Methodology
We are assuming that finding a solution to this challenge would involve the following steps:

- **Investigation**
  - Mapping of existing documentation and personas involved in handling the containers
  - Defining use cases involving these personas and the practical handling of the containers
  - Finding a best practice from related industries

- **Information management**
  - Design of an information delivery system that incorporates the needs of all stakeholders and is accessible by our maintenance partners

- **Device integration**
  - Devise a strategy for interaction with the container and related systems
  - Create a concept or demonstrator for how tablets and phones can be used to access documentation and control the container

**Student background**

We expect that a suitable background would be studies in interaction design. Other usable areas of knowledge could be industrial design and document management.

**Time plan**

Start January 2018.

**Contact information**

Dan Mattsson, Head of Technical Product Management

dan.mattsson@envirotainer.com

0709-934522

**About Envirotainer**

Envirotainer is the world leader in air-transportation solutions for temperature-sensitive pharmaceuticals.

We share our specialist knowledge with supply chain and airline partners to offer end-to-end pharma protection. We also raise their awareness of what pharma products mean to the patients who depend on them. We believe this understanding means they take more care. We call it the active cold chain.

Our global network covers over 100 countries and our headquarters, manufacturing and testing facilities are in Stockholm, Sweden. Envirotainer is a registered trademark of the company Envirotainer AB.

For more information, please visit [www.envirotainer.com](http://www.envirotainer.com)