HSSD-01 Concept of Operations

Case II Beumer

Group H
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Title	**HSSD-01 Concept of Operations**
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Revision history

Revision	Major changes	Reporter	Date
1.1	Adds mission and updates business needs.	Søren Herskind Nielsen	06/03/2019
1.0	Read through and minor textual changes	Simon Alexander Alsing	03/03/2019
0.5	Initial setup and first draft	Simon Alexander Alsing	03/03/2019

Table 1: Revision list for the Concept of Operations document.

Contents

1 Introduction

this document describes the underlying assumptions, interests and modes operations, for the security extension to the baggage system for the unspecified airport.

2 Capability Needs

In this chapter the current system and the need of the new system will be analysed from a business perspective. This means that the requirements will be from a perspective where a CEO or executive manager will be able to understand and reason about them, without needing extended knowledge in the engineering disciplines need for the solution.

2.1 Current Situation

A baggage handling system already exists at the airport. It is capable of receiving baggage from the check-in area and automatically distribute it to the correct gate. It is also capable of security screening the baggage at level 1 before it reaches the correct gate and thereby fulfils business need no *CON-02* that can be seen in section 2.2.

2.2 Business Needs

Here follows a description of the business needs of the airport.

ID	**Description**
CON-01	Baggage which does not pass level 1 security screening must be directed to a level 2 screening before being allowed on the plane.
CON-02	Baggage which pass the level 1 screenings must be directed to the plane.
CON-03	Baggage which pass level 2 screening, must be reintroduced to the baggage system and directed to the correct plane.
CON-04	Baggage that does not pass level 2 screening must be directed to level 3 manual inspection.
CON-05	Baggage that does not pass level 3 manual inspection must be destroyed.

Table 2: Business Needs.

3 Operations and Support Description

3.1 Mission

3.2 Users and other Stakeholders

this section lists the entities interested in the baggage system security extension.

- Our subcontractor
- Security personnel
- Baggage Mechanics
- Airport Management
- Beumer
- Beumer support department

Our subcontractors primary interest Is a understandable and stable system specification which allows for minimal rework of the required components. Security personnel's primary interest is a user-friendly and stable system, Which functions in line with the process for security. Baggage mechanics primary interest is in a system that functions as an integrated part of the overall baggage system. The mechanics Secondary objective is a reliable system with redundancies. Airport Management are interested in to things the system overall budget and the project timeline. Beumer main priority is that security extension should be within the allotted time, so it can be installed along with the rest of the system. Beumer support department are interested in the system using as many standard components as possible and thorough documentation of support procedures.

3.3 Policies, Assumptions and Constraints

Policies

- Regardless of mechanical errors, operational faults etc. - no baggage must be able to go through the system without being security approved.
- Baggage deemed to be dangerous must be handled by trained personnel.
- Subcontractors must:
  - comply to European regulations for industrial electrical components.
  - supply factory acceptance test.

  - onsite installation.
  - transport and insurance to the client site.
  - supply 1 Main Control Cabinet(MCC).
  - supply 4 Field Control Cabinet(FCC).

Assumptions

It is assumed that:

- the existing system to be extended with an additional step of bomb detection is functioning at arrival in the testing period and forwards.
- the existing power facilities can handle the additional added components as well as two third party bomb scanners 'SecureScreen RX 5001'.
- the SecureScreen RX 5001 provides an API for the interfacing software to be delivered by us.
- the personnel that manually handle bags have the appropriate training of handling explosive devices.
- since it is not specified, that the height at the search office is above the 3 m set as the height of the destruction area.
- SecureSceen RX 5001 can fit within the space allocated for it.

Constraints

- The search office must be contained within 6 m×2.5 m with a free height of 3 m or above.
- The destruction area must be contained within 5 m×2 m with a free height of 3 m.

3.4 Operation Description

Employment Modes

The system overall have three operation modes:

- Fully functional, where the system functions as intended and subcomponents of the system are not failing.
- Failure mode, where one or more components are failing, in this mode some aspects of the system must function regardless of the error.
  - No baggage must be able to go through the area.

  - No full totes must be able to pass through the manual handling area.

- Full stop, which is employed i.f.f. the system in Failure mode cannot uphold it's requirement to functioning. This mode stop the whole system until at least failure mode can be uphold again.

Operating Environment

The system is an extension to an already existing platform deployed by Beumer. It is deployed inside a building, within an airport. The facility is only accessible to staff with training in handling potential dangerous baggage.

Interoperability

The system must be interoperable with the previously by Beumer delivered system as well as the SecureScreen RX 5001 which will scan the baggage for explosives. The system must provide interoperability on both the physical and digital level of both these systems, while also writing the software to interface with the SecureScreen RX 5001.

3.5 Product Support Description

With the system a manual with guidance to how to interpret error messages and failures in the system will be provided. The manual will include instructions for handling every possible error message for the extension provided in this project. If the costumer either cannot handle the error themselves or a need for ordering new components arises a hotline with 24/7 access will be available. The support is free of charge within the two year warranty period and costs 120€ an hour (which is the regular price for an engineer at site rounded up to the nearest 10's), plus accommodations per staff member required to solve the issue.

It is required for the system to be able to deliver diagnostics informations to Beumer hotline, in order for the appropriate amount of personnel and service to be provided.

3.6 Potential Impacts

Three main categories of potential impact for a nonfunctional system, They are legal, contractual and safety. A legally non-compliant system could lead to fines or government intervention in the running of the airport. Failure to uphold the quality of service to the airlines could lead to contractual impact where a financial payment might be required to the airlines.

4 CONOPS Development Team

The following members describe the concept of operations for

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