AARHUS UNIVERSITET
INGENIØRHØJSKOLEN

Preliminary Design Description (PDD)

Terma case

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1 Revision history

Date	Ver. No	Author	Contact	Description
17-Feb-2014	1.0	-	-	Initial version
18-Feb-2014	2.0	Fatemeh	201210732@iha.dk	updated Subcontractor Information and added context diagram

2 Stakeholders

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3 Subcontractor Information

A subcontracter will be used to develop and manufacture the pod and any additional climate control protection as described in Requirement 29 and 41 in the document F-SRS-2014-V1. The subcontracter will be Group G.

4 Introduction

This document describes the preliminary design and architecture of the Self Protection Suite project.
The document includes a context diagram which provides a description of how the system interacts with external factors. Another diagram showcases which components comprise the system, and how they are connected. Finally a data architecture diagram identifies communication between the system components and the external factors.

5 System-overview

The goal of the system is to protect the aircraft from enemy incoming missiles by deploying flares and chaffs. It also provides threat information to the information computer, which interacts with the pilot. It is possible for a technician to load the system with chaffs and flares. During the preparation phase before the missions, the system informs the technicians about the current amount of chaffs and flares present on the aircraft.

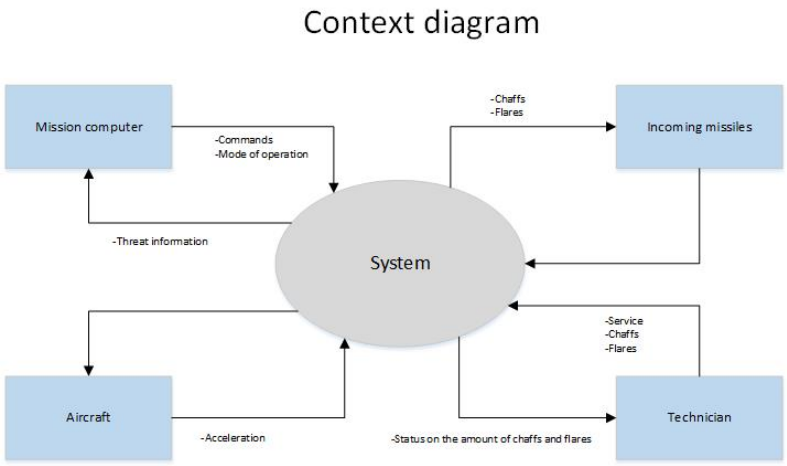

Figure 1: Context diagram

6 System architectural design

6.1 Concept of execution

Figure. 2 provides an overview of the signals and protocols used in the system. The aircraft communicates with the cockpit unit using MIL-STD-1553-B. The same standard is used between the cockpit unit and the missile warning system (MWS).

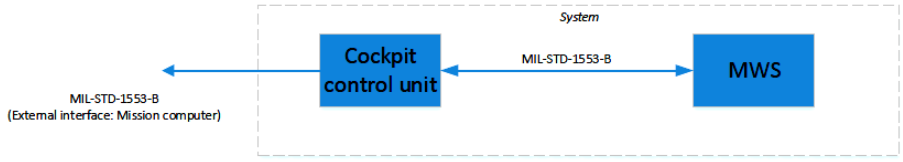

Figure 2: System signal overview

Figure. 3 provides an overview of the components comprising the system. The system has two major parts; the cockpit unit and the pod. The pod contains the MWS and components for handling and dispensing the payload.

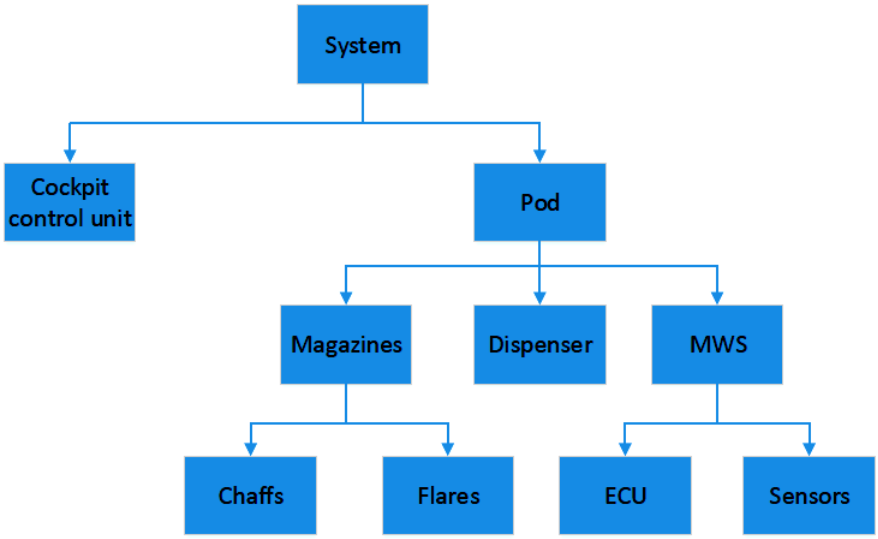

Figure 3: Hierarchical overview of system

6.2 Interface design

The interface design shows the preliminary signal flow in the system, both internally and externally. This is illustrated in Figure. 4.

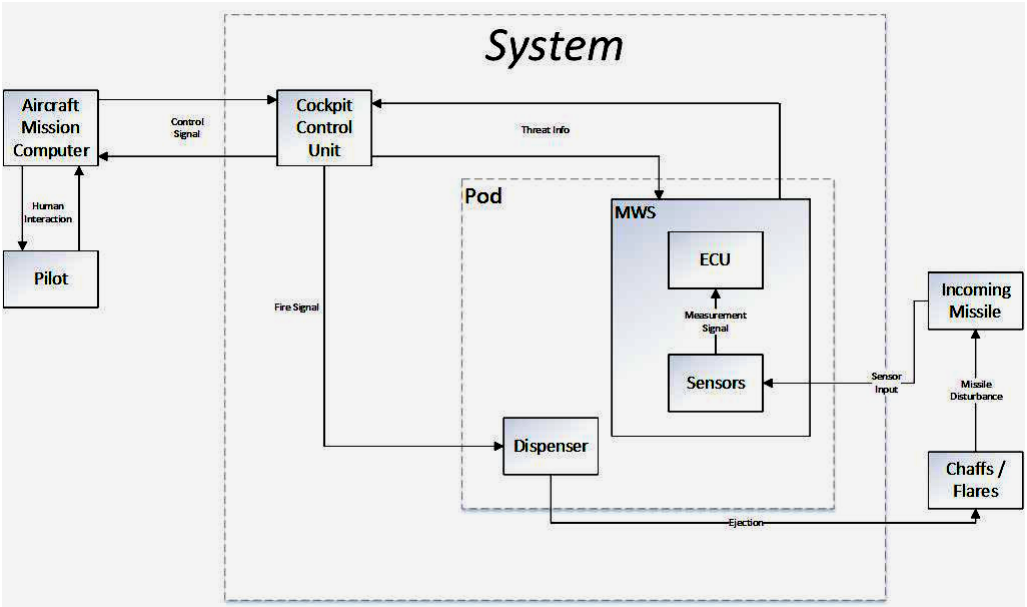

Figure 4: Signal Flow Diagram