

DEPARTMENT OF COMPUTER SCIENCE

COS 301 - SOFTWARE ENGINEERING

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# Software Requirements Specification

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## **1. Introduction**

- The vision.
- The background.

## **2. Vision**

## **3. Background**

## 4. Architecture Requirements

### 4.1 Architectural Scope

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

### 4.2 Quality Requirements

The following is a list of quality requirements that have been established by the product owner that the system must possess.

#### 4.2.1 Stability

In order to avoid costly damage to the drones, the system must be stable in that it must not be susceptible to failure. Should the system controlling the drone fail, the system should be able to guarantee the safe landing of a drone.

#### 4.2.2 Performance

All non-reporting operations such as user registration, user login, mission submission, mission display, operator mission setup should not take longer than 0.5 seconds.

The reporting operation where a report is given to the user after the drone has performed a mission should not take longer than 5 seconds after the report data has been made available to the system.

Network overhead has not been included in these figures because that is beyond the control of the system.

#### 4.2.3 Privacy

Drone missions should only be permitted in areas that are allowed by South African legislation pertaining to the flying of Unmanned Aerial Vehicles.

The missions performed by the drones must also be permitted by South African legislation.

#### 4.2.4 Security

It is important that this system adheres to the highest security standards because it will be storing personal user information such as physical addresses, as well as allowing for the control of drones which are expensive and can be dangerous if in the wrong hands. Therefore the system has ensure that:

- Personal user data such as password is encrypted to remain hidden from unauthorised users and operators.
- Only authenticated users are able to access the system
- Users only perform what they are authorised to do (e.g. users can only see their own mission information, users cannot perform operator operations).
- Data sent between web portal client and server should be encrypted.
- Connectivity to drones should only be limited to authorised and authenticated users and system components

#### 4.2.5 Scalability

The system should scale up in order to be able to support a growing number of users, drone missions (which may be simultaneous), and drones. It should also scale as the data (user data, drone data and reporting data) held by the system increases.

#### 4.2.6 Integration

The system must be able to interface with different drones.

### 4.3 Integration and Access Channel Requirements

### 4.4 Architectural Constraints

## 5. Architectural patterns

## 6. Architectural Tactics

## 7. Access and Integration channels

## 8. Technologies