GAT260 ASSIGNMENT 05

Final Report

Abstract

This document represents a summary of what was done in both Assignments 2 and 4, integrating some of the visual/graphic design knowledge of Assignment 3.

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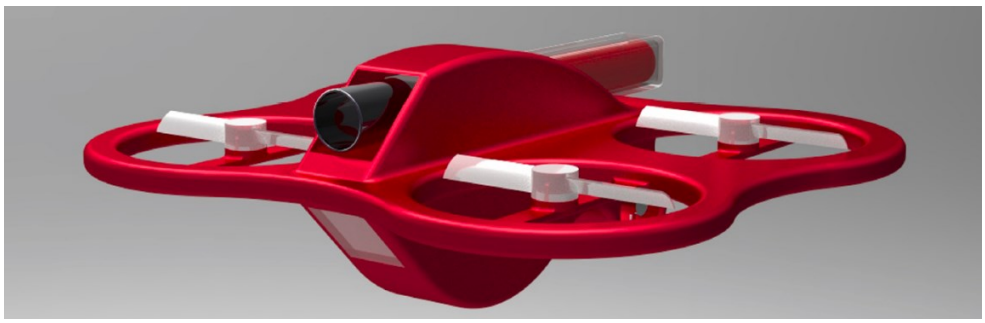
PRODUCT INTRODUCTION

Product Name: Xtinguisher

Xtinguisher is a concept that involves the usage of Drones to combat fires in high rise buildings and/or skyscrapers that may prove difficult/impossible for firefighters to reach.

The product involves the combination of several high-tech/military-grade components on top of the traditional drone design that is usually used in photography.



This product should be utilised by being deployed alongside firefighters while they are still approaching the level/floor of the building where the fire is located at. In scenarios where entry by firefighters may prove overly risky or physically impossible, these drones can be sent in first to help reduce the number of fire hazards that the firefighters may encounter before they arrive.

Any firefighter that is dispatched should be able to operate the drone as long as they are provided with the necessary training and equipment needed to control the product itself. By which, this form of equipment should be safe to use and is safe to be used around other firefighters when they are conducting rescue operations.

This report covers the relevant UI display screens and information that will appear on the tablet controller during operations.

This report will focus on the following features:

1. Using the tablet controller to pair and remotely control the drone
2. Piloting the drone to the destination/target
3. Launching the payload at the target
4. Logging off/disconnecting from the drone after use

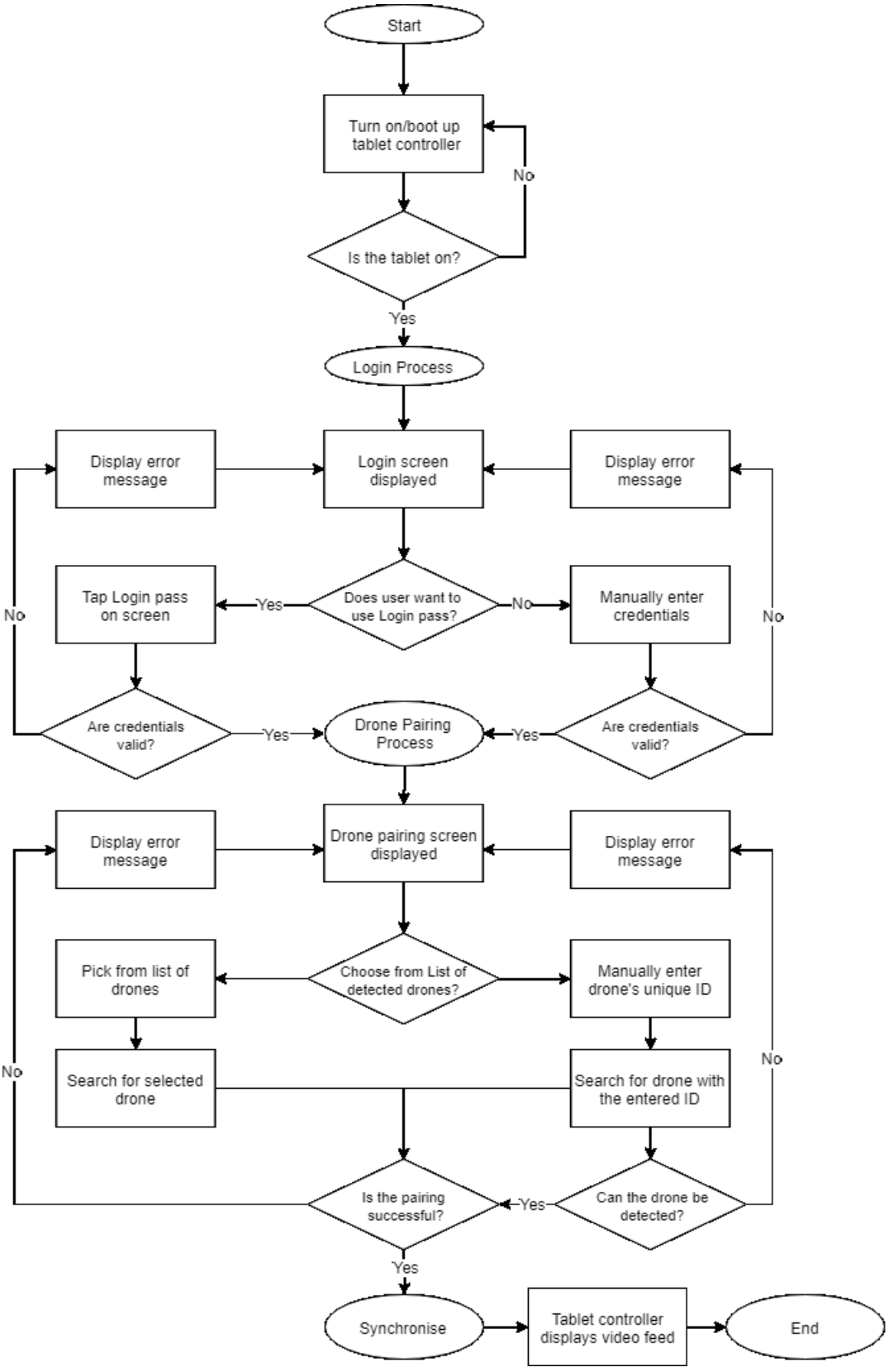
Flow Chart

Scenario 1 – Logging in/Pairing with drone & Logging off

Task Overview

Activating the controller tablet and pairing with a chosen drone.

Task Flowchart

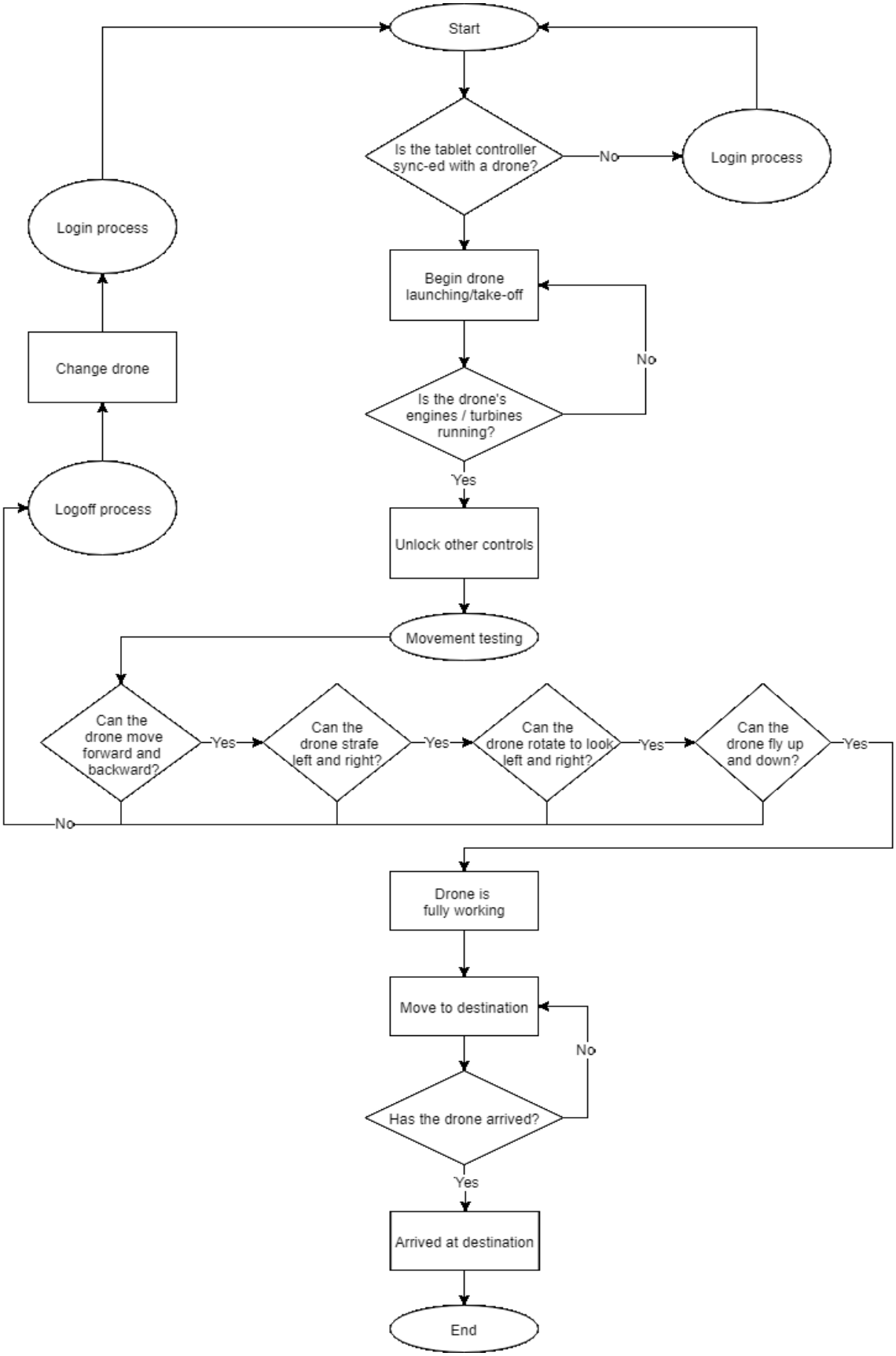


Scenario 2 – Flying the drone to the destination/target (fire) and back

Task Overview

Controlling the drone to reach from the ground/starting area to the destination/the fire.

Task Flowchart

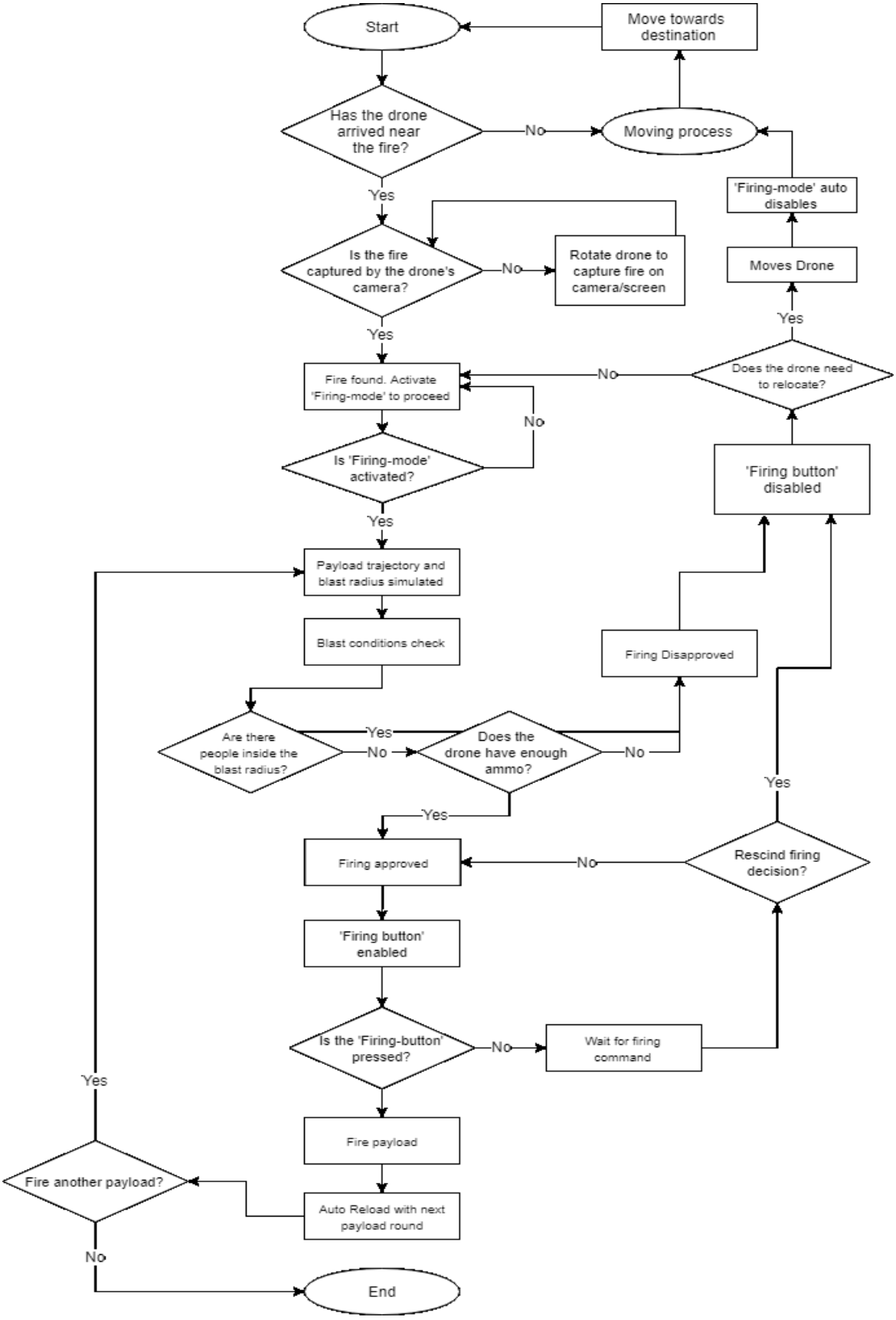


Scenario 3a – Launching the payload near the fire

Task Overview

Launching an extinguishing grenade at a fire.

Task Flowchart

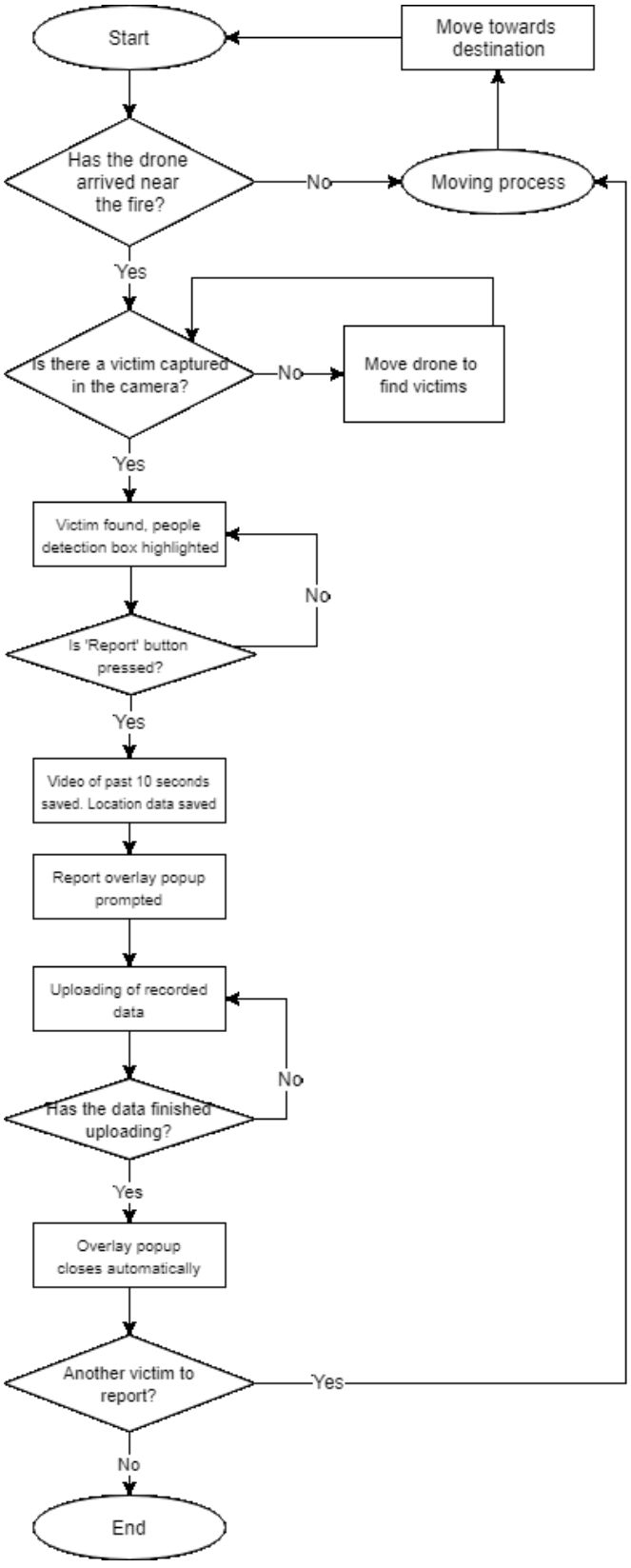


Scenario 3b – Searching for victims and calling for backup

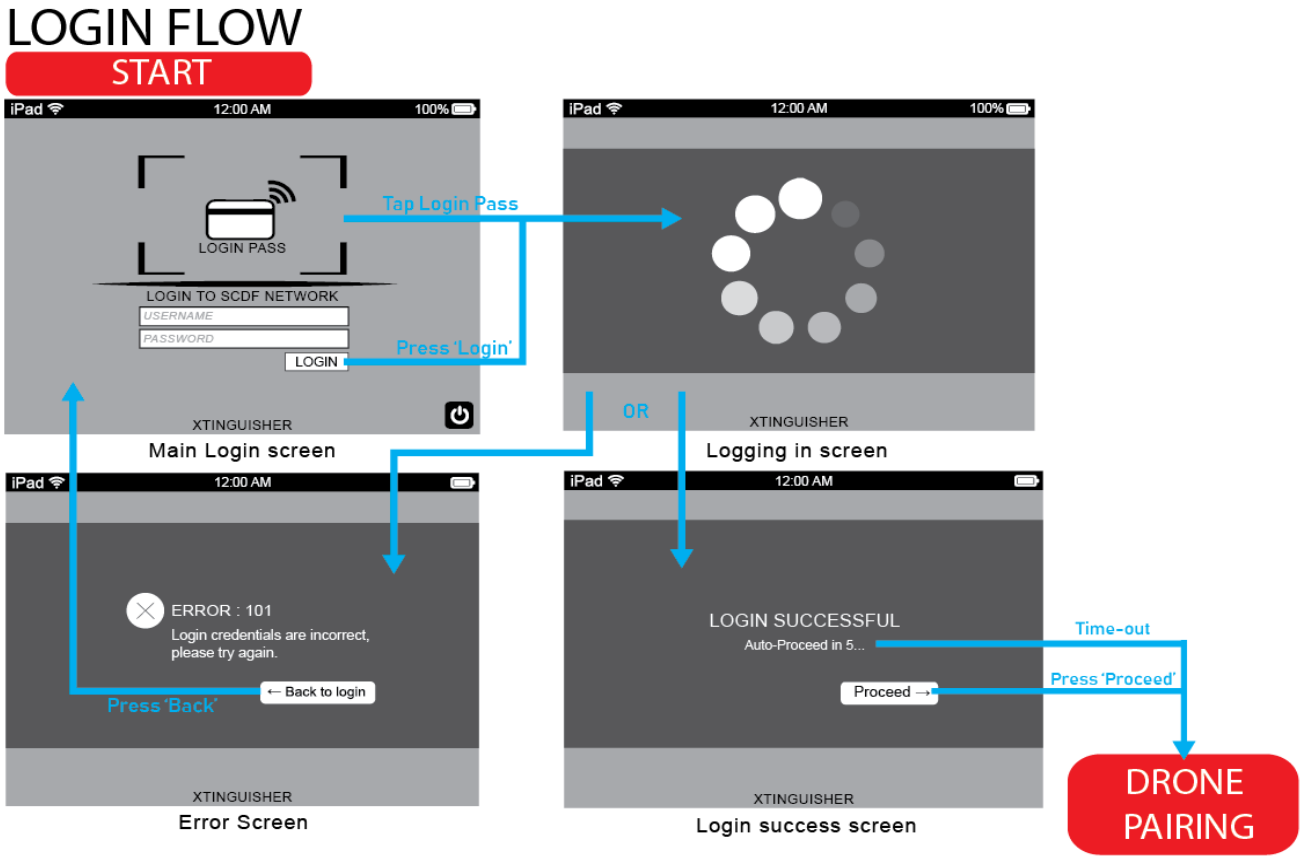
Task Overview

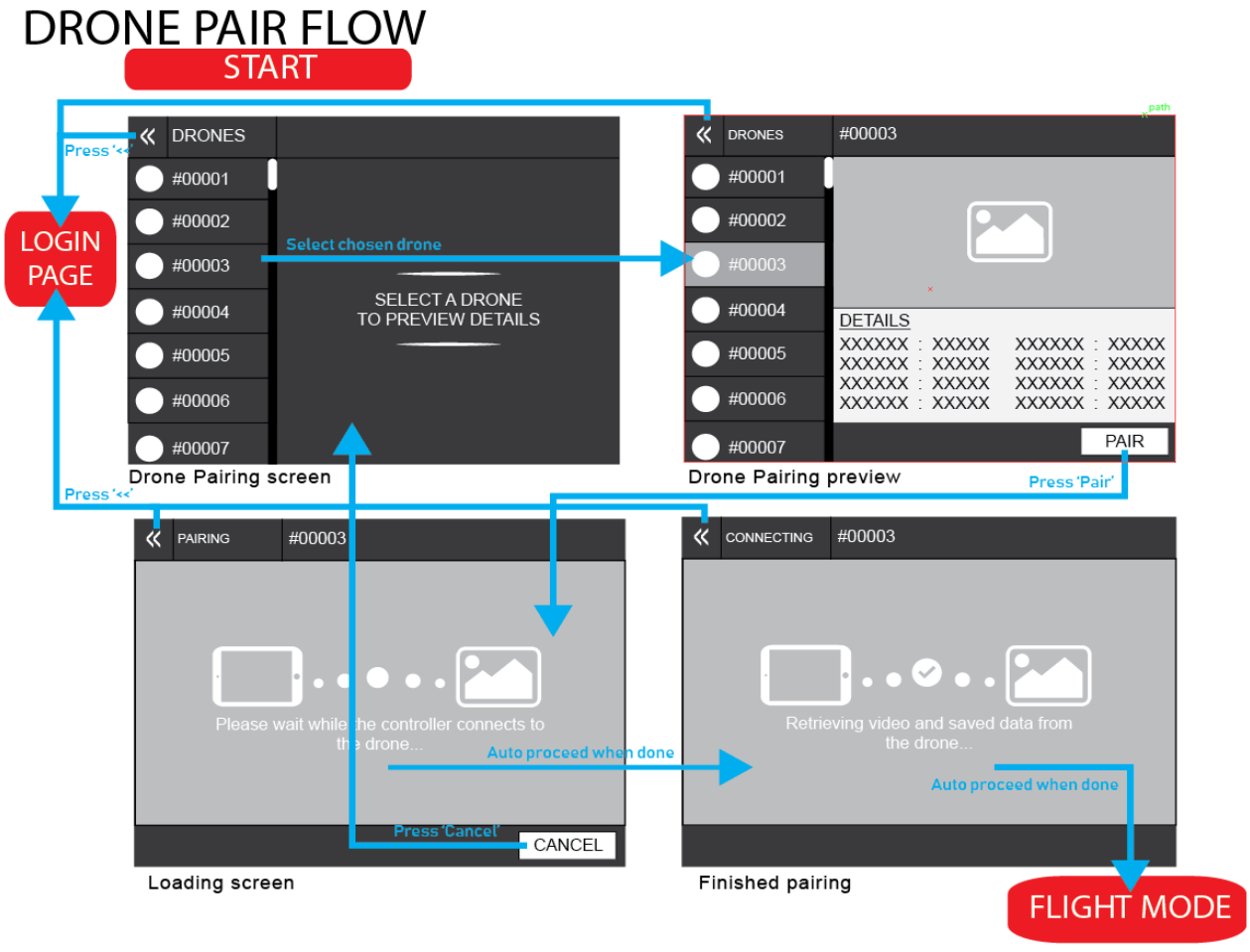
Using the drone's heat-sensing camera and the tablet controller's augmented reality to find victims among the fire and debris. Once found, send the video information to the cloud server/ operation supervisor.

Task Flowchart

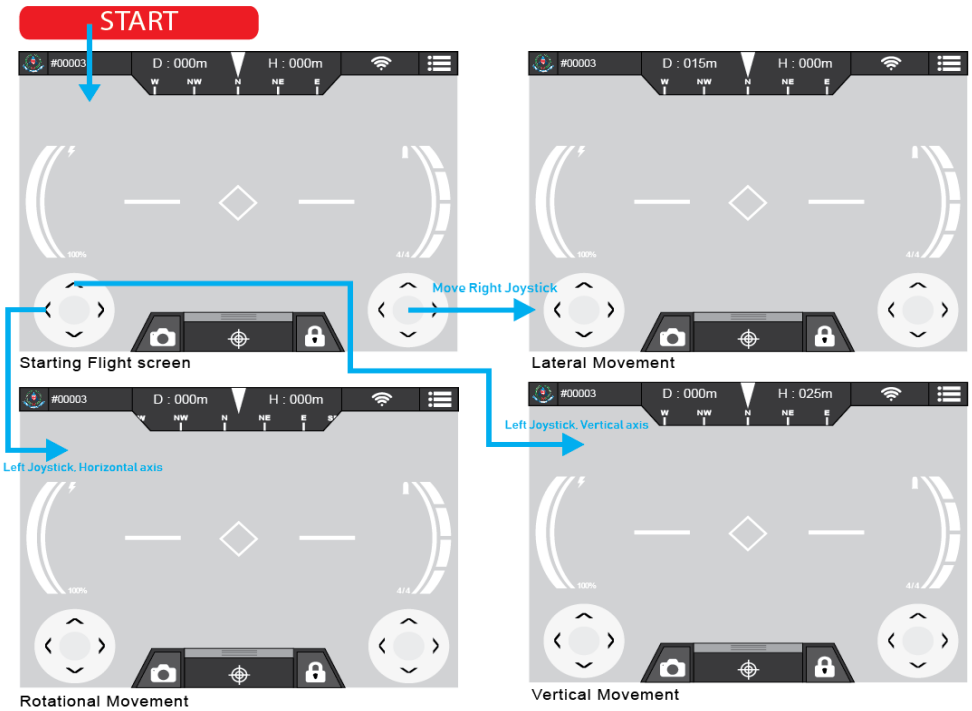


Wire Frames

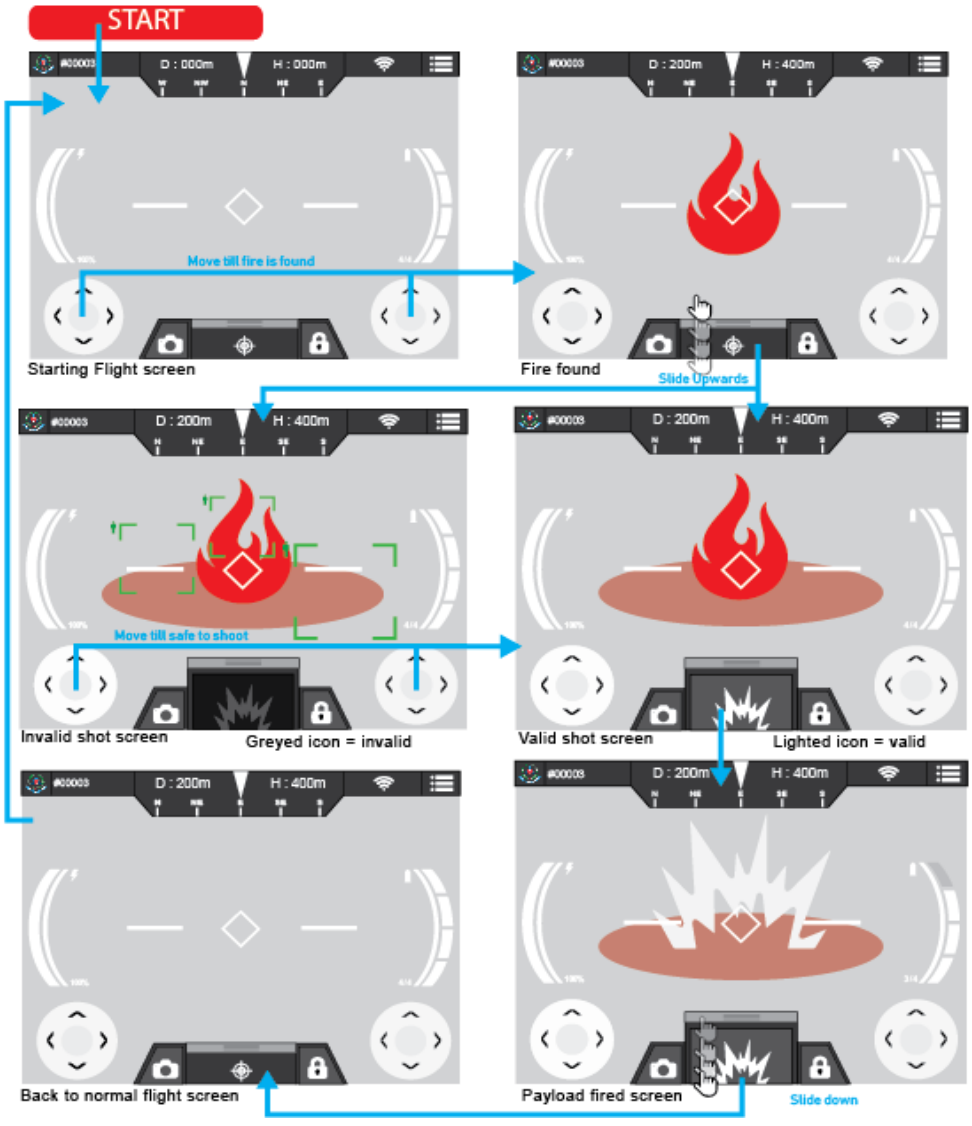

LOGIN FLOW
START
iPad 12:00 AM 100%
LOGIN PASS
LOGIN TO SCDF NETWORK
USERNAME
PASSWORD
LOGIN
Tap Login Pass
Press 'Login'
XTINGUISHER
Main Login screen
OR
Logging in screen
ERROR : 101
Login credentials are incorrect, please try again.
← Back to login
Press 'Back'
Error Screen
LOGIN SUCCESSFUL
Auto-Proceed in 5...
Proceed →
Time-out
Press 'Proceed'
Login success screen
DRONE PAIRING


DRONE PAIR FLOW
START
LOGIN PAGE
Press '<<'
DRONES
#00001
#00002
#00003
#00004
#00005
#00006
#00007
Select chosen drone
SELECT A DRONE TO PREVIEW DETAILS
Drone Pairing screen
#00003
DETAILS
XXXXXX : XXXXX XXXXXX : XXXXX
PAIR
Drone Pairing preview
Press 'Pair'
PAIRING
Please wait while the controller connects to the drone...
Auto proceed when done
Press 'Cancel'
CANCEL
Loading screen
CONNECTING
Retrieving video and saved data from the drone...
Auto proceed when done
Finished pairing
FLIGHT MODE

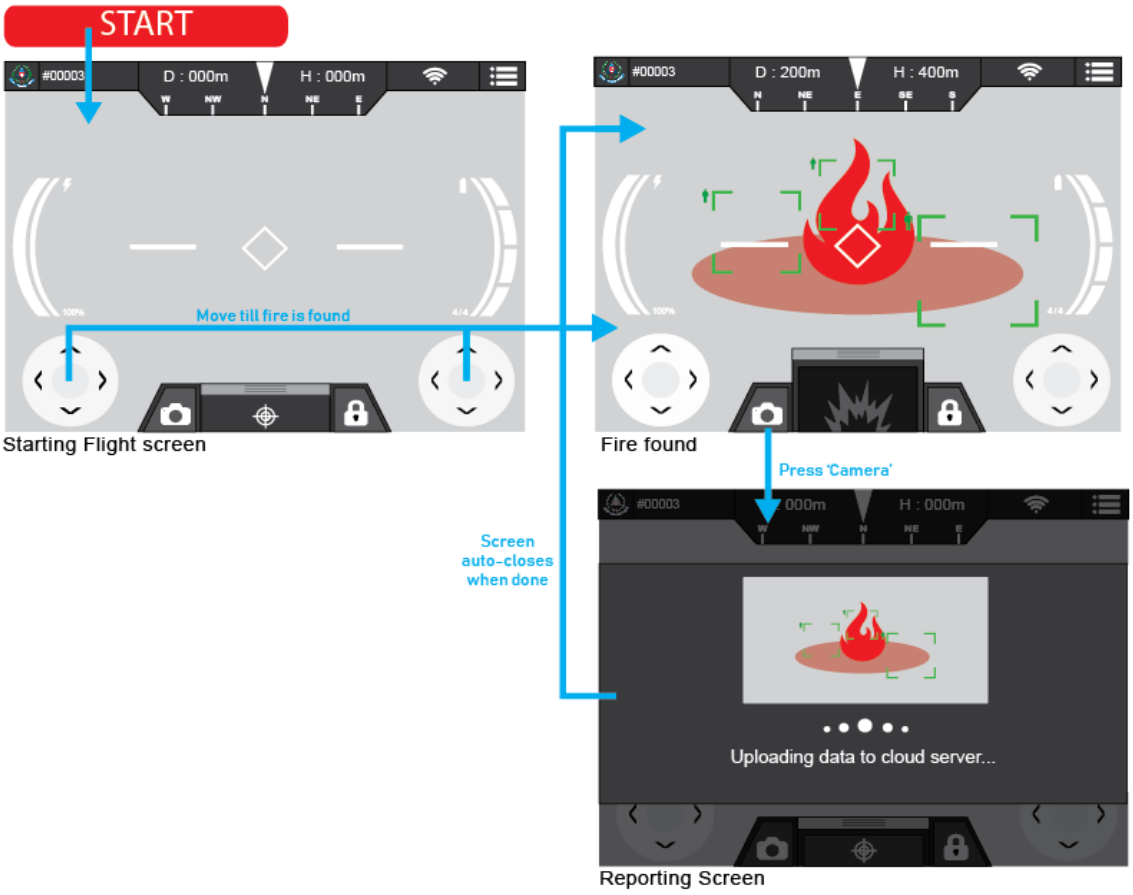
FLIGHT MODE FLOW



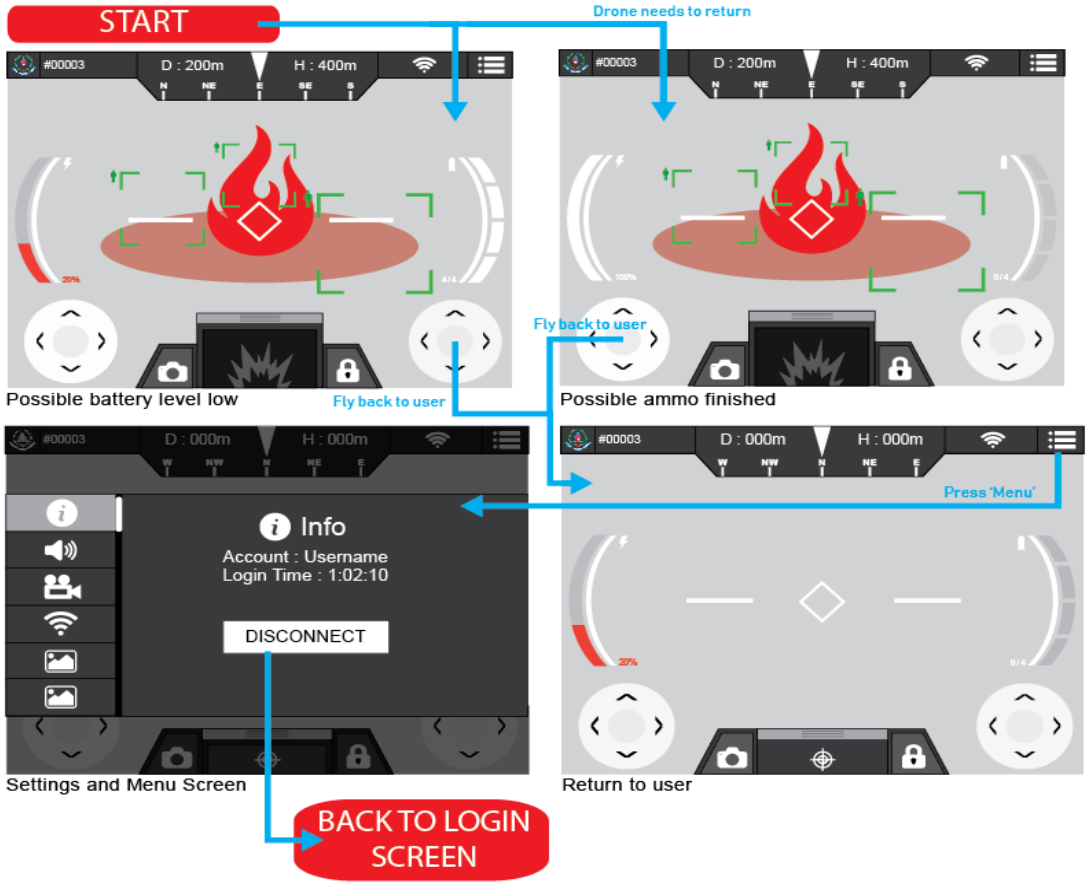
FIRING FLOW



REPORTING FLOW

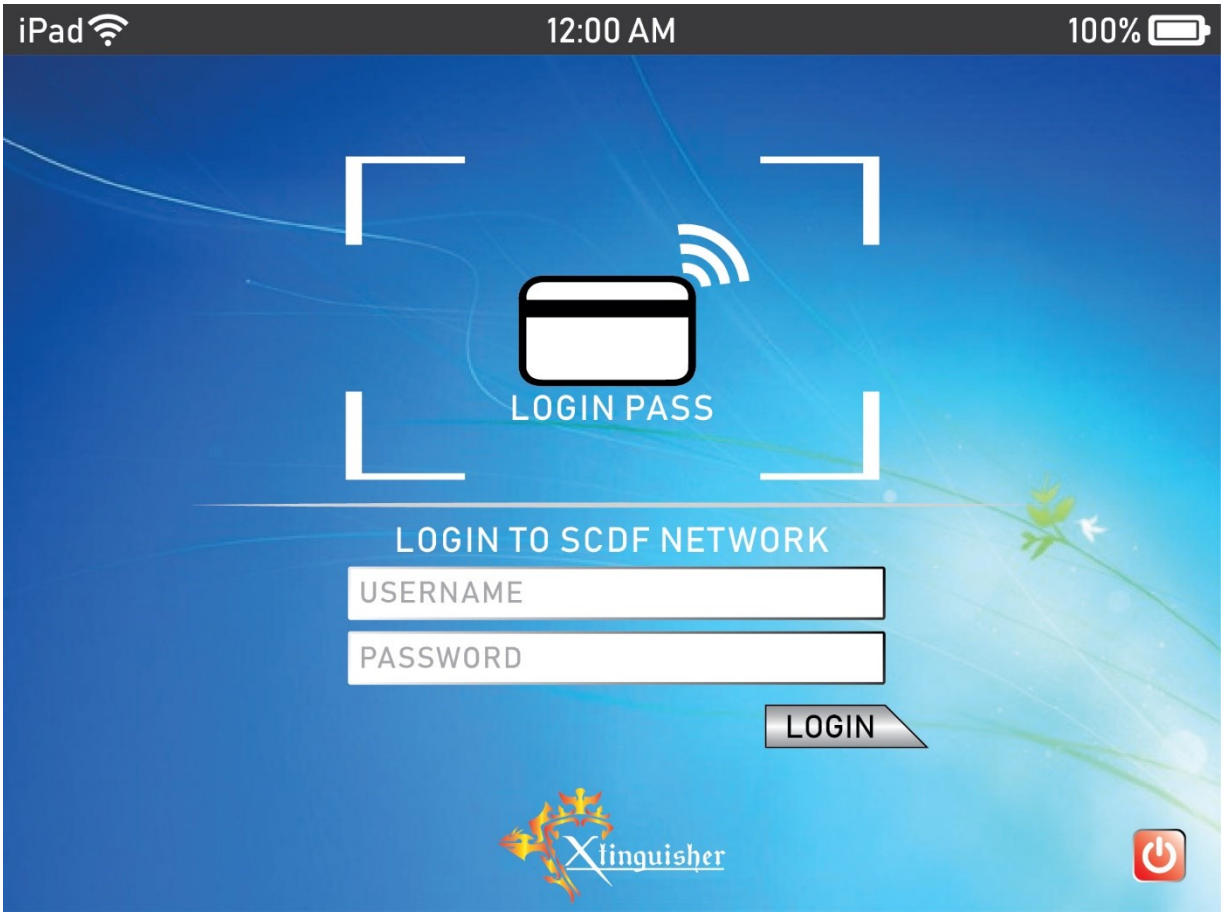


LOGOUT/POWER OFF FLOW



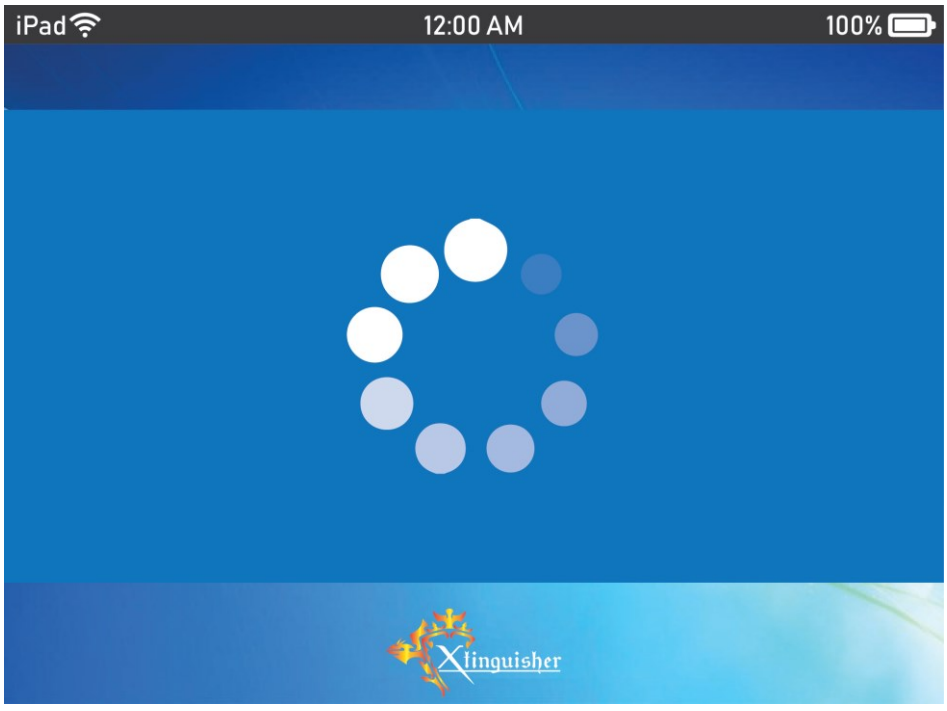
VISUAL MOCK-UPS

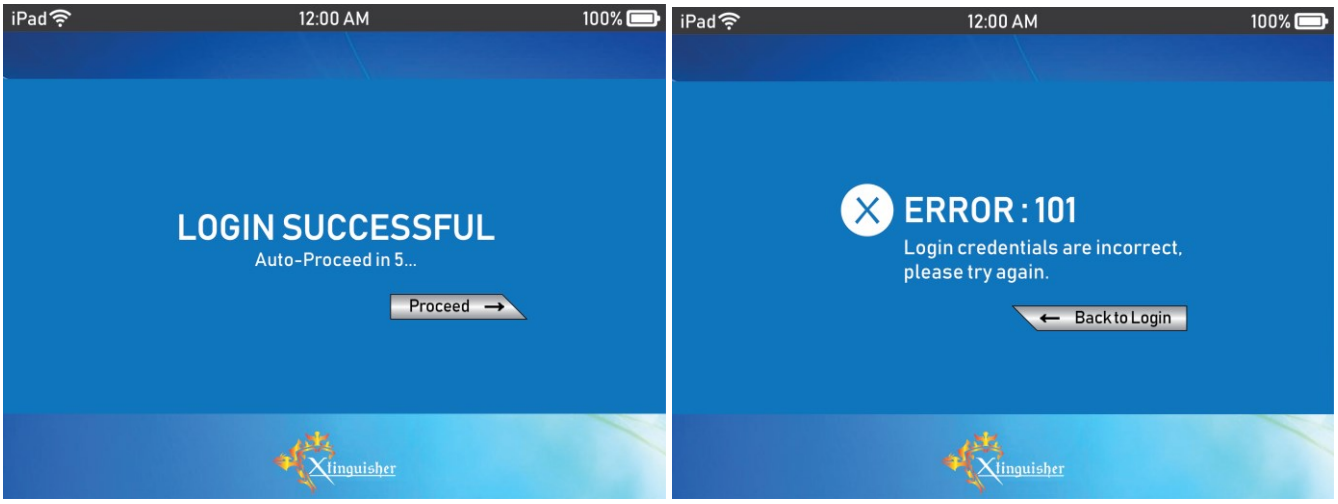
Login Screen



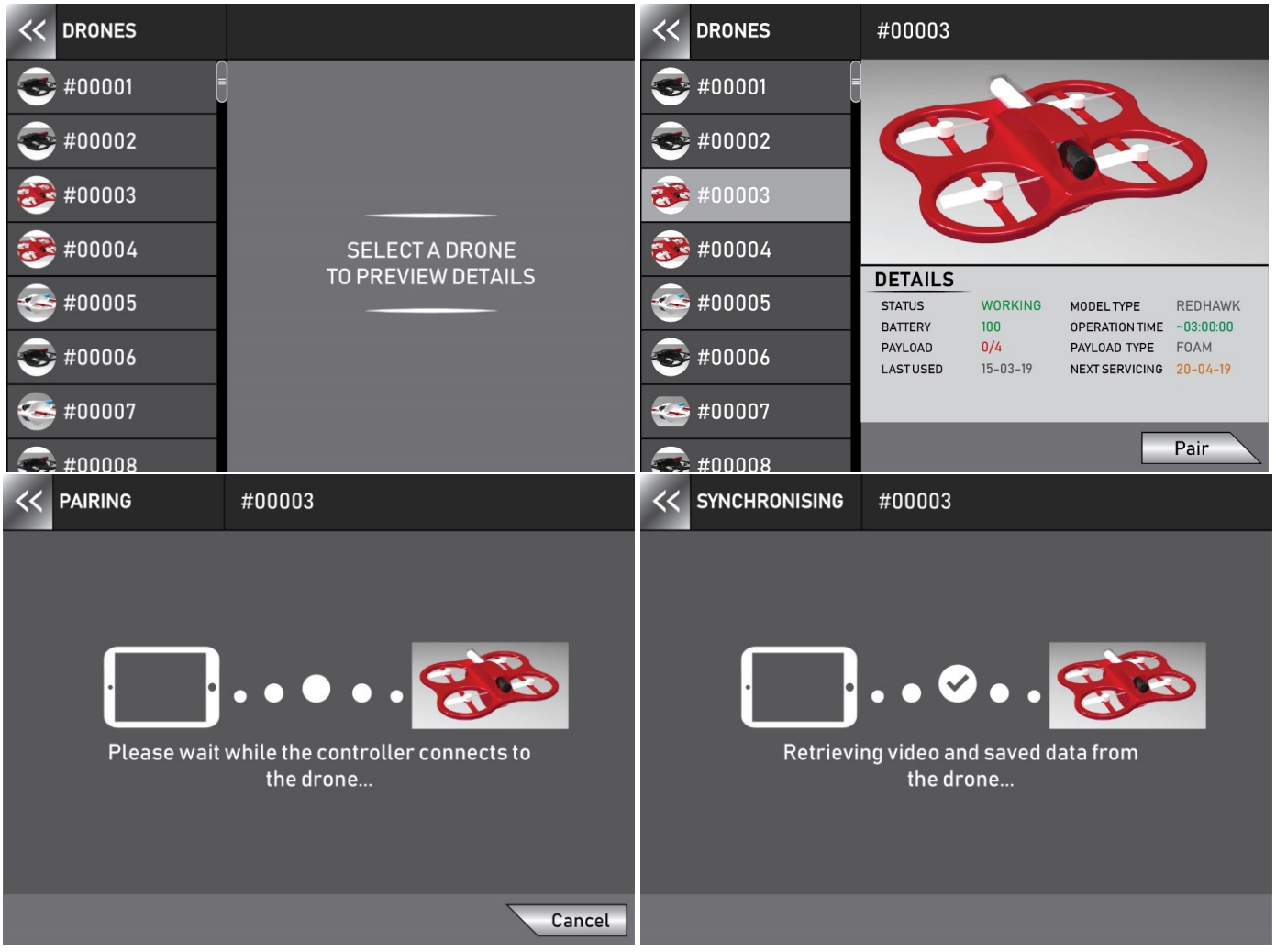
Simulated Windows default background

Assuming that military/civil defence forces will use their own Operating system, it should be safe to assume that they will be using an OS like windows on the tablet. Thus, I have made a mock-up of the login screen with the windows default background.



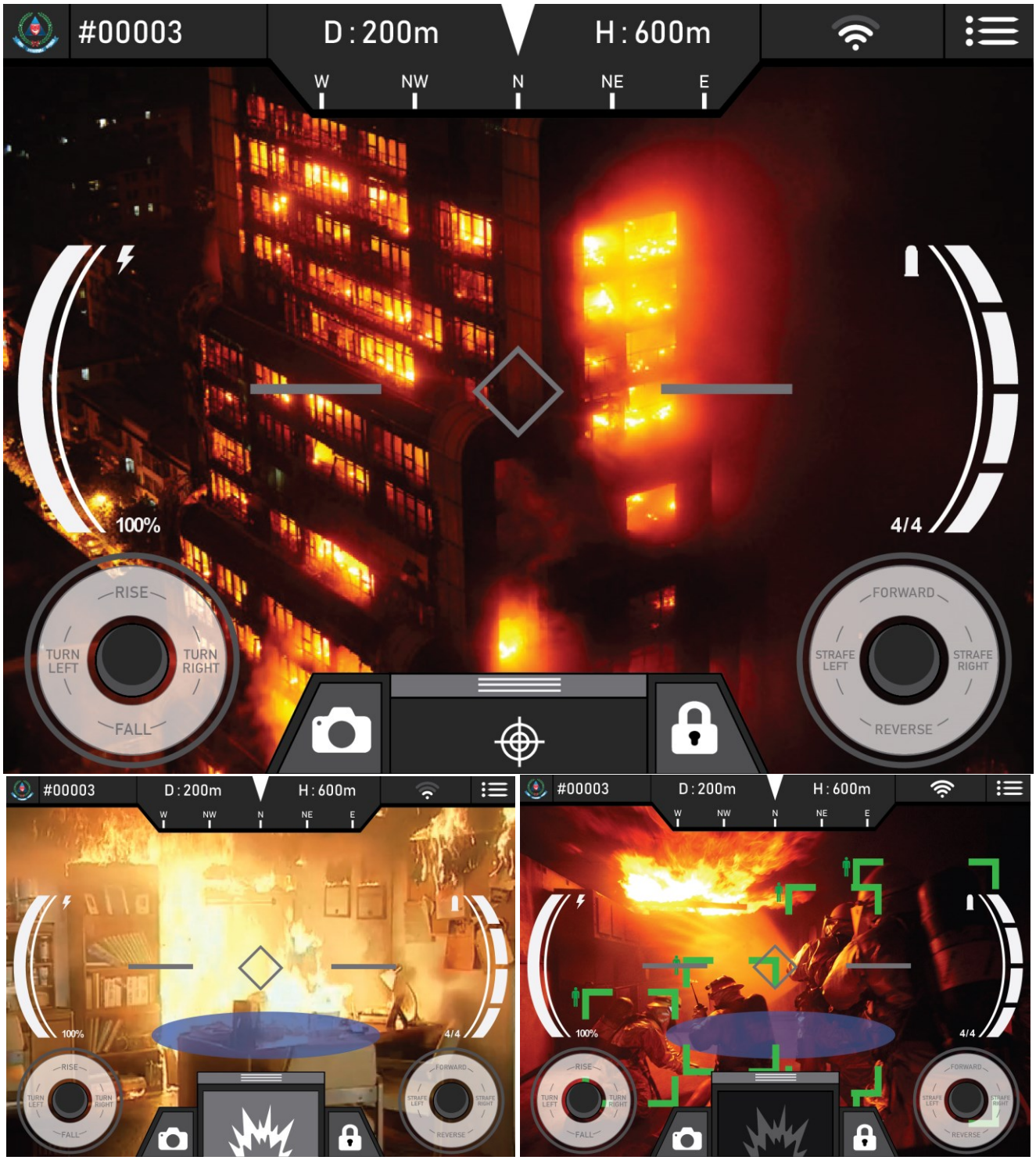


Drone Pairing Screen



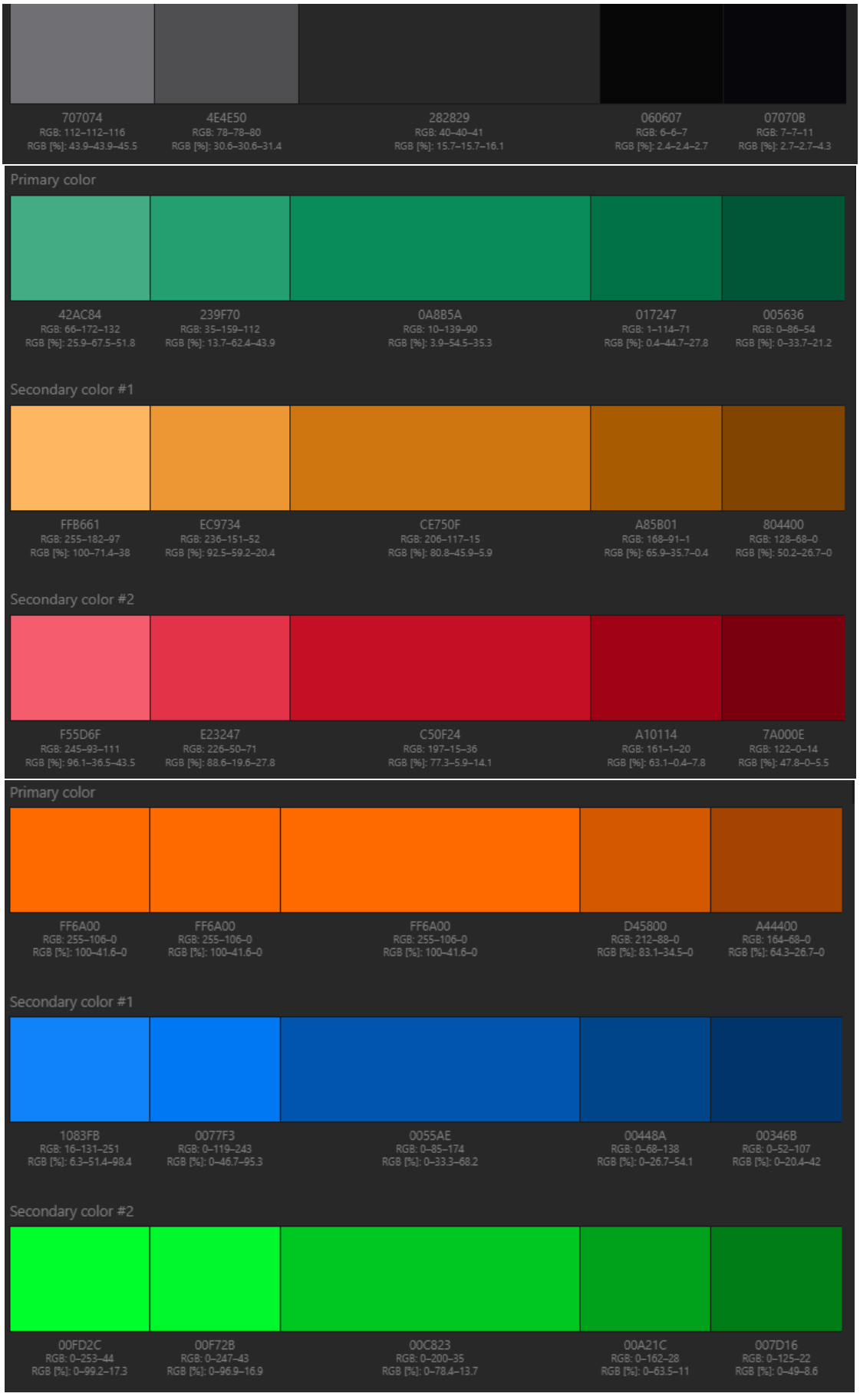
Since the app will be designed for military/civil defence usage, the UI will not require too much superficial decorations and should be kept as simple as possible so that the UI will be easily understandable.

Flight and Firing Mode

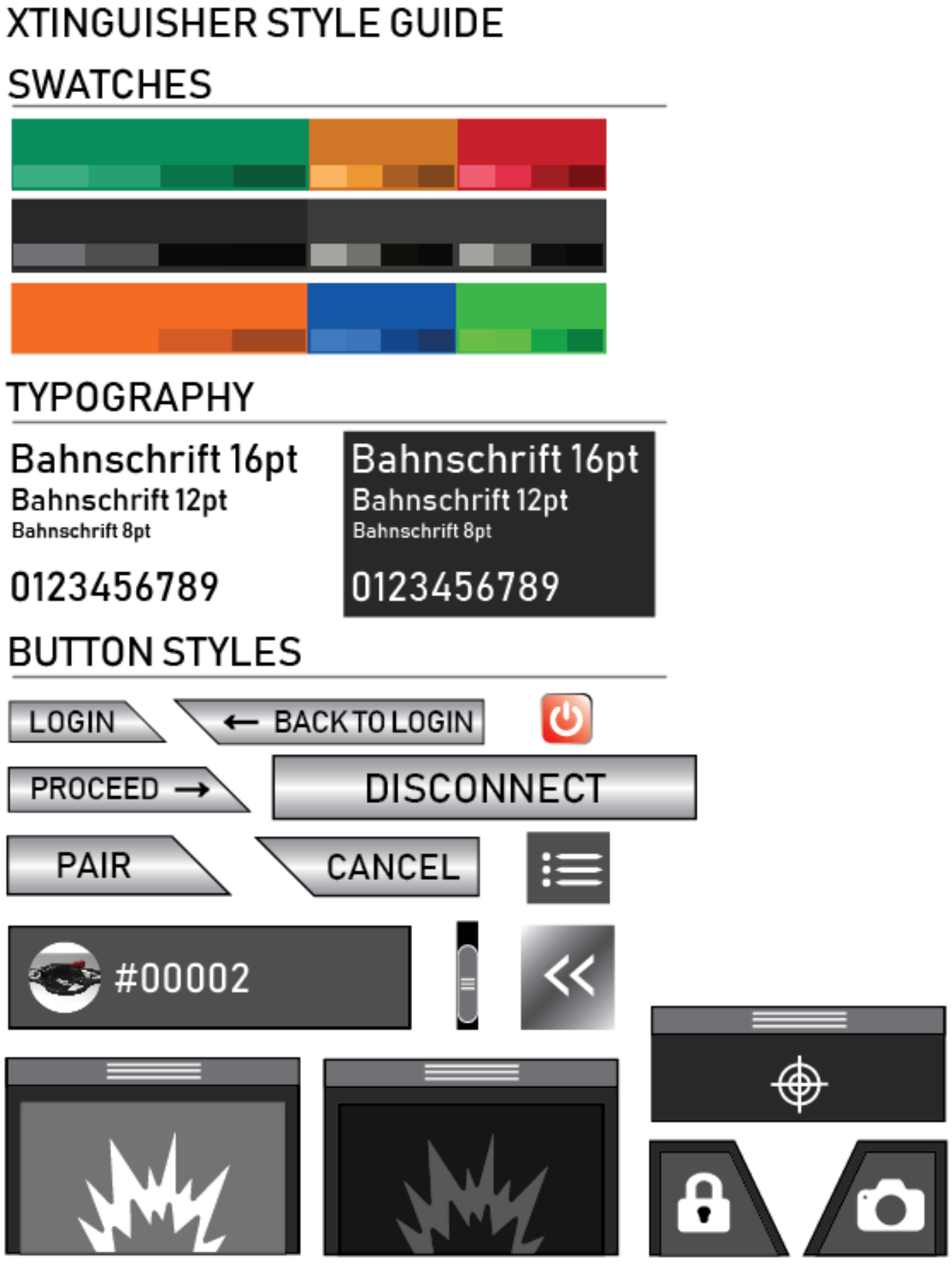


While the flight UI retains its monochromatic colours of white and greys, the AR elements are coloured with colours that are complimentary (or in this case, split complimentary) to the normal colours of a fire, which is usually variations of red to reddish orange and therefore blue and green has been chosen.

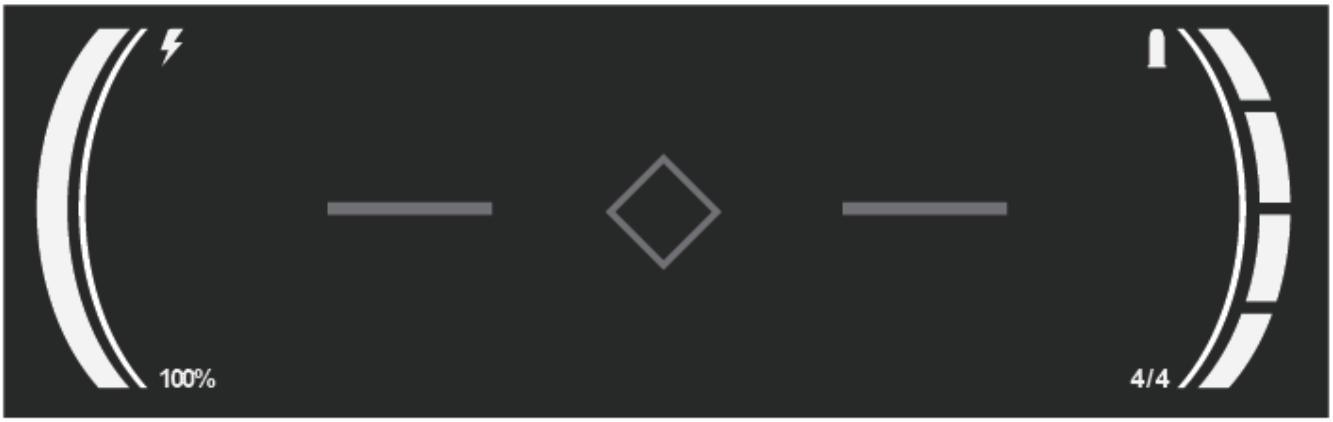
COLOUR PALETTES



STYLE GUIDE


XTINGUISHER STYLE GUIDE
SWATCHES
TYPOGRAPHY
Bahnschrift 16pt
Bahnschrift 12pt
Bahnschrift 8pt
0123456789
Bahnschrift 16pt
Bahnschrift 12pt
Bahnschrift 8pt
0123456789
BUTTON STYLES
LOGIN
BACK TO LOGIN
PROCEED
DISCONNECT
PAIR
CANCEL
#00002

FLIGHT UI



JOYSTICKS