

# Guidelines for Designing Touch Interfaces for Controlling Robotic Nozzles in Critical Emergency Situations.

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## 1 Introduction

Introduction part will contain a purpose of the paper and a motivation for why the paper was made.

**Purpose of the paper** Can a well designed touch interface for controlling robotic nozzles reach a level of zero faulty interactions in critical emergency situations by increasing the color contrast of the interface?

**Motivation for the paper** In critical emergency situations, like in the case of fire, a graphical touch user interface should not be the weak link on getting the job done when controlling robotic nozzles. One single press on the wrong button can be the difference between life or death.

## 2 Method

The main goal with this paper is to evaluate if increased color contrast in a touch screen interface for controlling robotic nozzles can result in zero faulty interactions with the touch interface in emergency situations.

### 2.1 Design of an A/B test

In order to test if increased color contrast in a touch interface can completely remove all faulty interactions an A/B test will be performed. Two identical applications, despite differences in color contrast, with just a few buttons will be measured against each other. We will measure time and errors. The test will have a time pressure to simulate an emergency situation. Instructions will be given on a secondary screen. *This section will contain a short but descriptive text about how the A/B test was prepared, built and performed. It will describe who participated.*

### 2.2 Evaluation of the A/B test

This section will in short describe the evaluation process of the A/B test. How the test results were collected and what parameters we've had focus on during the test.

### 3 Result

All results produced from the tests are here presented with clear numbers and conclusions.

#### 3.1 Evaluation

The evaluation itself and a text about the evaluation results.

### 4 Discussion

In this section we'll discuss the results from the tests. We'll discuss what the results mean and how they should, and could be interpreted.

#### 4.1 Conclusions and Guidelines

Here we'll present our conclusions based on the resulting outcome from the tests. We'll also present our four guidelines on how to design a touch interface compatible for emergency situations. These guidelines will be created based on the test results.

#### 4.2 Drawbacks and Limitations

Present drawbacks and limitations with both the used method and the produced results. Time is limited, therefore a bullet proof test can not be performed which means the results will somewhat be limited in credibility.

#### 4.3 Future Work

Due to the limited time we have on this paper there will be a lot of things that can be improved. We'll in this section give our suggestions on things that could be done in future or continued work.

### References

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An old classic. A lot of useful tips and guidelines on how design works in everyday things. Will be used when the guidelines will be formed.
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This paper investigates how colors and highlights affects read performance. They tried different color combinations, various luminosity in background and foreground and hue combinations. With highlighting they tried colors, reverse video and blinking. Based on the findings in their paper they propose some design guidelines.