



Creating a usable Surveillance Application using a Responsive Web Design approach

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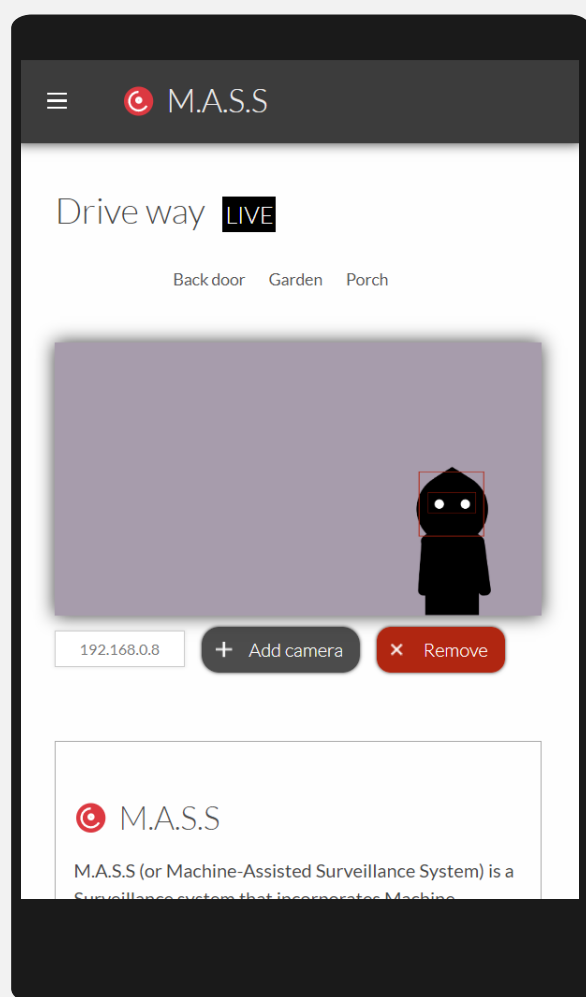
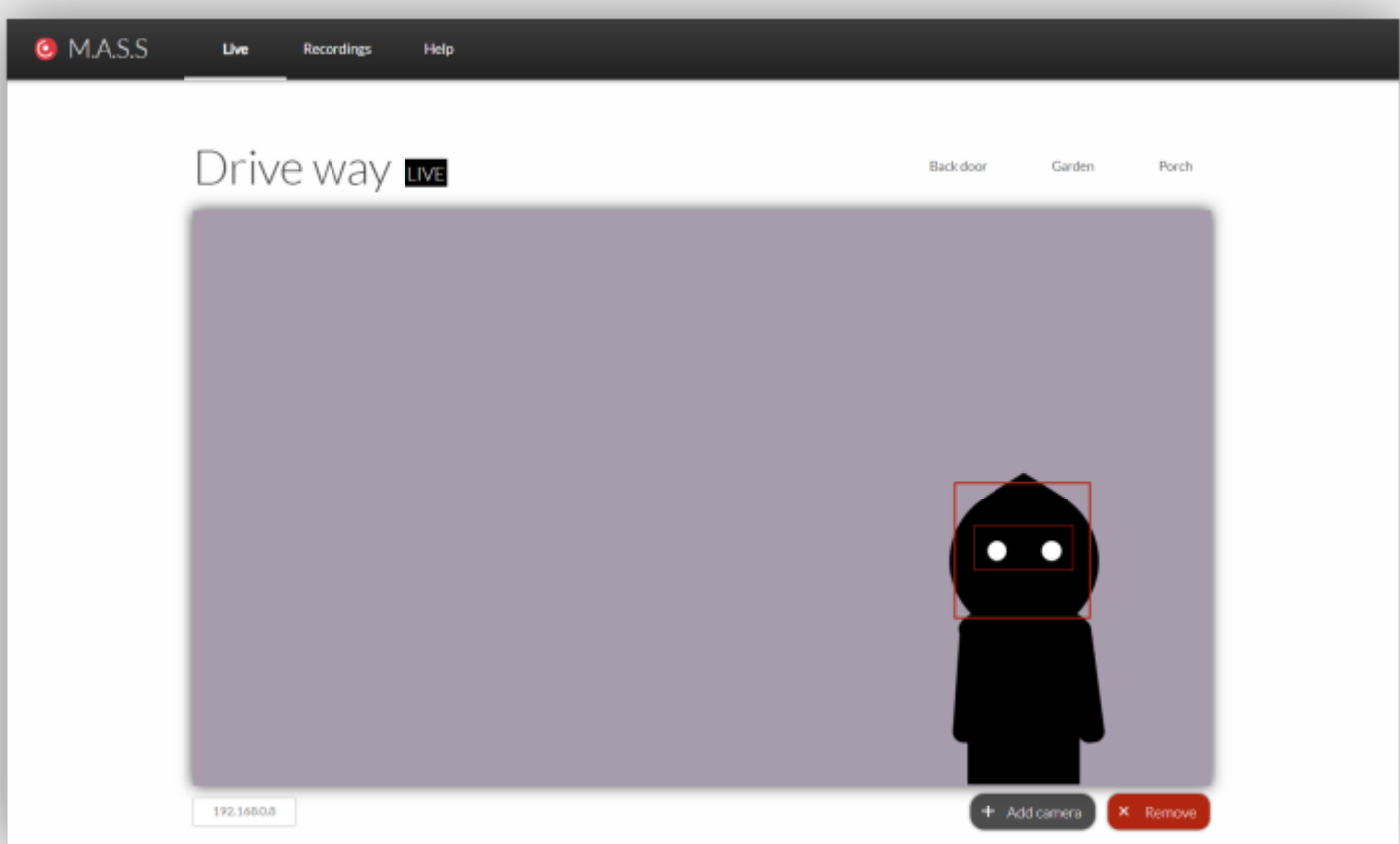
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INTRODUCTION

Creating cross-platform interfaces can be a troublesome experience as multiple screen form factors must be catered for - such as Mobile and Desktop computers. It is desirable that a given interface would be considered usable on each platform, however, this may not be an easy task when using different windowing frameworks to create separate interfaces for use with devices.

This project uses **Responsive Web Design** to create a **cross-platform surveillance application interface**. The usability of which was tested through usability studies, which included the use of an eye-tracking instrument.



CROSS-PLATFORM INTERFACE ISSUES

This project has been pursued as modern devices have enabled the expectation that users should be able to access their services wherever most convenient for them. As a result, a cross-platform application is desirable.

There are two glaring problems when creating cross-platform interfaces that is, how it is approached - if it is going to be a website or a native application. The second problem, is how are the complex functionalities of such applications going to be condensed into an interface that can be viewed across Desktop computers, and Mobile devices.

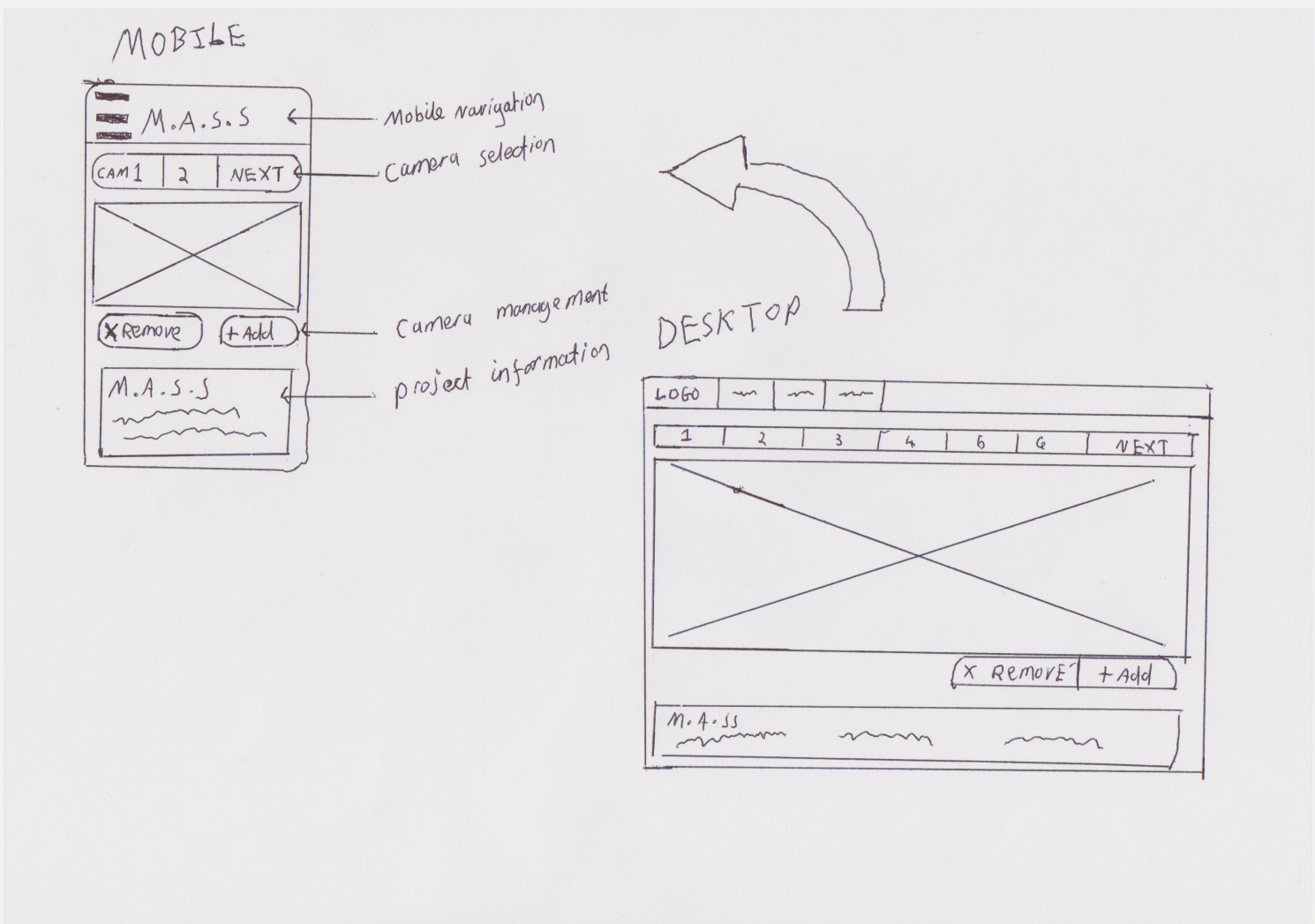


Image 1: Early application wireframes

RESPONSIVE WEB DESIGN

A potential solution to the aforementioned issues is to create a usability-tested responsive website.

The World Wide Web Consortium (W3C) started recommending Media Queries as of 2012. This functionality allows website developers to create websites that have scaling capabilities. As a result, a given website utilising media queries will ideally be usable across these devices.

THE PROCESS

The finished application was built in three stages, early prototyping (as seen in **Image 1**), initial development, and rapid iteration.

The iterations were carried out following results from usability studies. In particular, the Interface was tested for Desktop and Mobile platforms.

The usability tests consisted of capturing eye tracking and mouse movement data. Test subjects were required to carry out a set of instructions while this data was being gathered.

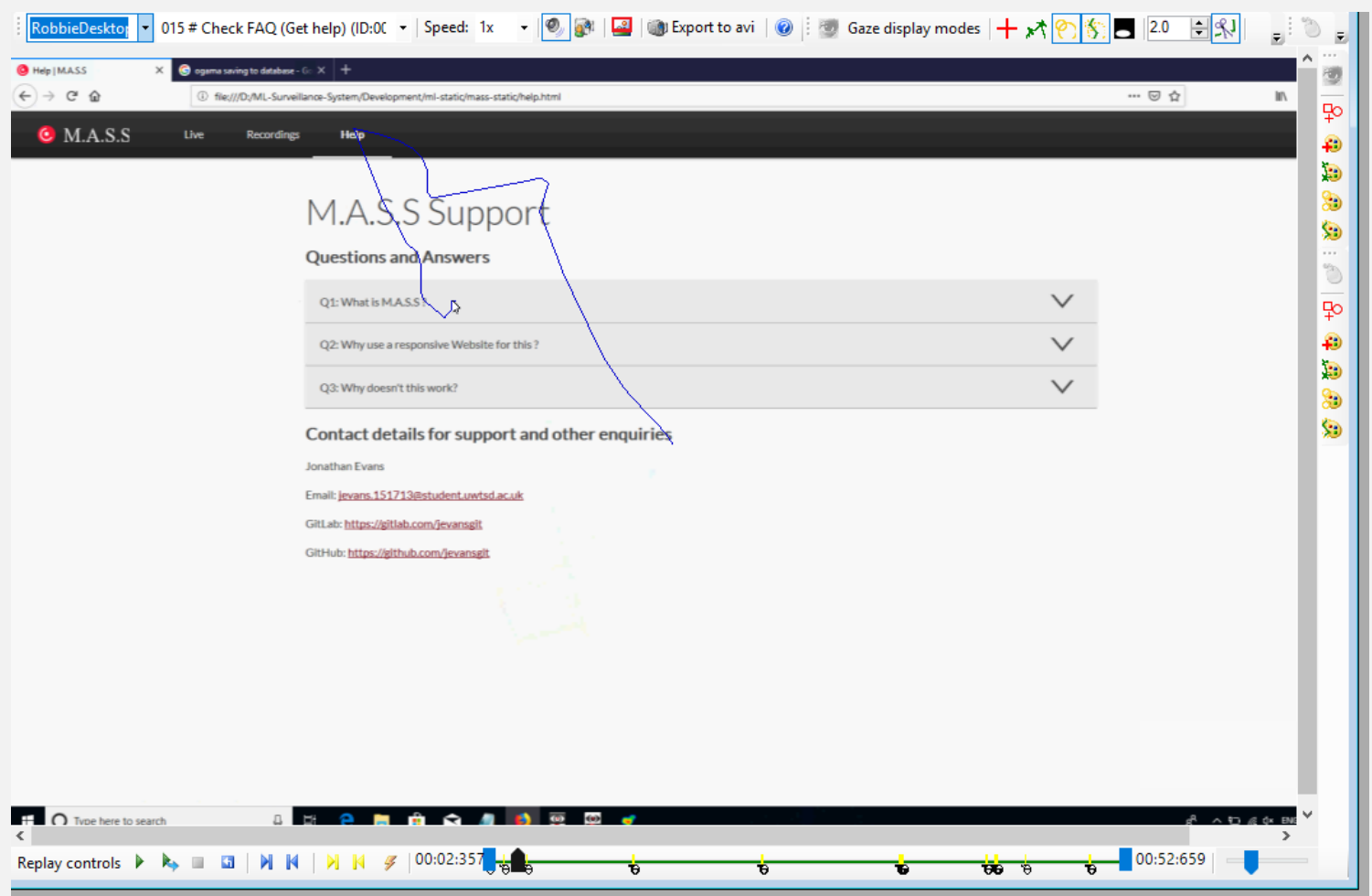


Image 2: Eye tracking and mouse movements using Ogama Software

THE RESULTS & IMPLICATIONS

The finished application is a usability-tested responsive surveillance system. As this application is aimed towards being a web service, it also benefits from allowing access from multiple devices on a network.

The implication of a surveillance system that can be accessed from almost any device with modern devices on a network, is that any individual in an organisation with the authority, will be able to check their surveillance system whenever desired - this includes using devices such as mobile phones, smart browsers, and tablets to access the system.