# Multi-Platform Report

## Introduction

This report will outline two approaches to front end design for multi-platform application development in relation to the Movie Database requested by ACME Entertainment and tendered to the BKL Development. This report aims to outline the benefits and risks associated with each type of design methodology and choose the most appropriate for the application. This will remain a static decision for the life-cycle of the project as the front-end architecture is incumbent on this methodology. This document will be provided at the prototype demonstration at the end of sprint one and will remain available to ACME Entertainment, CITE Managed Services and BKL Development throughout the application development process.

## Adaptive Design

Adaptive Web Design was developed in 2011 by web designer Aaron Gustafson. This approach aims to create multiple layout designs that are dynamically chosen by the browser of the device to fit the size of the screen it will be displayed on. This provides users with a pre-set view that optimises reading, viewing and navigation based upon the device they are viewing the content on

### Benefits

* Customises the website to the device, ensuring that all content is accessible regardless of browser or device
* Focuses on user experience
* Advertisements can be optimised based on data sent from smart devices

### Risks

* Requires multiple versions of the website to be created, increasing the amount of development time
* Page load times are slower than Responsive based web design
* Some devices may have difficulty determining the best page for the devices screen orientation and size
* Causes difficulty with Search Engine Optimisation (SEO)

## Responsive Design

Responsive Design methodology was originally coined and implemented by Ethan Marcotte. This approach aims to dynamically resize elements within the web page based upon the screen size of the device. This is achieved by implementing flexible grids and layouts with CSS functionality.

### Benefits

* Only a single website needs to be coded if responsive functionality is built into the code
* Loading times are much faster than Adaptive design websites as only one page needs to be downloaded
* Easier to manage with SEO as only a single web page needs to be considered
* Development time is often much smaller due to the reduction of coding time needed to implement Responsive design
* Responsive design is much more flexible and will work on devices regardless of screen size and orientation

### Risks

* Less control over design layout and elements as it is dynamically determined by the code
* Elements may shift and cause user difficulties
* Code is more complicated and requires higher skill levels to develop

## Summary

Short deadlines and resource constraints are a large determining factor in the decision between Responsive and Adaptive design methodology. Adaptive design will require considerably more time resources to code and test, especially considering there is a large array of open source information and plugins for Responsive design-based code.

### Responsive Design for Application Front-End

BKL Development have determined that Responsive design methodology is the most appropriate for a project of this scale and with the short deadline (5 weeks). The major concern with this methodology is the complication of the code necessary to dynamically resize the website elements and layout depending on the screen environment, to mitigate this, the Bootstrap CSS plugin has been chosen to manage much of that functionality.

### Bootstrap

Bootstrap is an open source website design library for website development that can be used throughout all levels of website design. It is highly customisable and provides a wide range of functionality for websites that may otherwise take considerable time to code. BKL Development will use bootstrap and customise it appropriately to achieve the scope and requirements of this project by the requested deadline.