Team A

Optimisation Report

## Optimisation Report

### Introduction

The majority of users are used to sites that are highly optimised for performance. When this level of optimisation is not met, users tend to leave the website without viewing the rest of it. For this reason it is very important for our website to have its performance optimised so that it provides a good user experience.

Optimisation report contains all the data about your experience, including its performance and how your variants performed against your objective. The report includes a summary at the top with key information about its performance and actionable data in a series of charts and tables.

One of the methods to ensure the quality of your code is to have the best code optimisation process and techniques. Your code may be optimized so that it utilises memory, executes more rapidly, and also performs fewer input and output operations.

The first step is to identify the impediments in your application’s performance in order to find the root cause of the problem. By identifying the problem, you can plan and select the best possible solution and option for your application. You can then implement the solution, and afterward you can measure the results. You can use a performance tool such as prefix or retrace.

### Optimising our Website:

### Database:

We can optimise our MySQL database by using phpMyAdmin with a few simple steps. It simply has a built in optimise options for our table. To perform the optimisation, simply open the database you would like to optimise, select all the tables and choose optimise table option and it will execute the optimisation.

### Mail:

In our project, the time it takes to send the email and the time it appears in the inbox for our users could not be more optimised without investing in premium options. There is nothing much to do when we send that email to the user. After hitting send on the alerts, it simply depends on the SMTP servers, and various other filters, to deliver it to the users as soon as they can.

We are using the free Gmail server for our SMTP server. Being a free service used by many amateurs and professionals, it is not the most efficient option available. To improve mail performance, it is recommended to switch to a premium industry option like <https://sendgrid.com/> or another provider, which further provides an API for further performance optimisation. These options are also able to manage high mail traffic.

### Site Traffic:

There are a number of options for managing high traffic to the website. We first have to establish what our expectations are regarding how high our traffic will be. If it becomes more popular, we will have to consider upgrading to a host that can accommodate our needs better, such as using a Virtual Private Server or dedicated hosting plan. A CDN (Content Delivery Network) is also a good option. It enables clients that are geographically distant from the host to request content from these CDNs, which are placed strategically at points where most traffic comes from, to reduce the strain of requests to the host machine.

### Code Optimisation:

Using performance tools like a profiler allow the developer to see what lines of source code are using disproportionate amount of resources. Once these are identified, they can be refactored and tested against performance milestones to make the site load faster.

Regular code reviews are also important since the profiler may not always find all problems. Rewriting the code and redesigning the system can have significant performance boosts if done properly.

A website can easily be slowed down by overuse of modules and features. Deciding what is essential to the site and what features to keep, then removing the unimportant can result in performance gains. This can be achieved by switching to using lightweight components where possible, avoiding redirects, optimising image loading, and having media load incrementally on demand.

<https://www.keycdn.com/blog/high-traffic>