[My weather app (wlv.ac.uk)](https://mi-linux.wlv.ac.uk/~2108418/item3.html)

Graphical user interface, application, PowerPoint

Description automatically generated

Diagram

Description automatically generated

BENEFITS

Caching has the ability to reduce load times on Web servers and Databases since data is being fetched from the cache. This is so because database calls are slow and tedious. But with the use of a caching system the database is only called once and the weather data is stored in the cache allowing it to be used repeatedly without the need to fetch it from the database.

Caching would also allow the page to download faster and also allows the page to be viewed offline and even if there is to be a network issue as it minimizes the resources needed to load the page. This allows for a faster refresh rate even though the same date is presented.

Caching also helps reduce bandwidth consumption reducing the incurred network traffic saving the resources for other operations.

COSTS

The biggest concern is the cache presenting outdated data upon request which may no longer be relevant to the user request.

Caching has also increased the complexity as the cache may need to be altered when the result requested may no longer be the result cached, that is a cached resource is changed, we need to continuously alter it thereby raising concerns of inconsistency with the current weather data.

It may also require the use of third-party tools to maintain the cache which would further increase the complexity of the program. This is so because the issues from the previous app prototype have not been tended to namely the high cost of maintenance which in addition to the PHP and SQL database along with the API, now includes caching. Thus, should a problem arise in the code or architecture of the app it may be difficult to address the issue as it would be more demanding to find the issue as well.