There were many non-functional requirements, from documentation to compliance with legal requirements, so I’ll be doing a broad overview of how they were addressed during implementation and the updates that were needed.

The learning pathway was originally meant to be a separate feature accessed through the dashboard. However, to keep the user experience intuitive the learning pathway was removed and both the courses and the calendar can be accessed directly from the dashboard. For similar reasons, rather than having progress tracking as a separate feature, it was combined with the calendar so users could easily track their studies.

The requirement for integration with the IBM Skills Share website was also updated, as there is no publicly accessible API, and so a link to the courses is instead provided.

The majority of the requirements remained the same. The website was implemented cost efficiently - MongoDB offers a free database and Github Pages freely hosts websites. Documentation was created throughout as part of the assignment. Cross-platform functionality was tested, so the website can be used on different browsers and with different screen sizes.

In terms of the back-end, there are functional requirements to address data management and analysis.

Functional requirement 2.1 was fulfilled by implementing a comprehensive database using MongoDB. Express.js and Node.js were also used to implement the back-end. The database stores and manages user and course data. The majority of the course information is taken from the IBM Skills Share website. The user information is from user registration, the chatbot interaction and updates to the calendar and progress checklist.

The database helps fulfill some general non-functional requirements. MongoDB has built-in security features - such as authentication and encryption, which were used to protect user data. MongoDB Atlas uses multiple cloud providers, which helps with the scalability of the project. The use of multiple providers also ensures the database is consistently available - MongoDB has a service level agreement for a 99.995% uptime. Furthermore, MongoDB offers automated back-ups and has multi-cloud clusters to allow recovery from cross-cloud failure.