MIDDLE EAST TECHNICAL UNIVERSITY
NORTHERN CYPRUS CAMPUS

Computer Engineering Program

CNG 495 CLOUD COMPUTING

FALL – 2023

Term Project Progress Report I

“CloudLink”

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Milestones Achieved

ID	Milestone	Week
M1	Research on the technologies to be used in the project	November 20- November 26 (week 8)
M2	Backend implementation for the URL shortening	November 27- December 3 (week 9)
M3	Frontend implementation for the URL submission and retrieval	December 4- December 10 (week 10)

Table 1: Milestone Table

Milestone 1:

- **Buğra İlhan:** He did research on the technologies he would use for the backend. He collected information about the Django framework that he will use with Python.
- **Başak Özarslan:** She researched the technologies for the front-end and how to integrate them with the backend. She gathered information on HTML, CSS, JavaScript, and learned about using the Bootstrap library.
- **İlayda Yağmur Karadağ:** She researched Heroku, a cloud-based platform, and investigated how this platform is used for hosting and deploying applications.

Milestone 2:

- **Buğra İlhan:** He handled the implementation of the backend application. He took charge of developing the code related to receiving the URL link from the user in the correct format and converting it into a short code.

Milestone 3:

- **Başak Özarslan:** She implemented the frontend application in a way that easily integrates with the backend. Using the Bootstrap library, she designed a user-friendly and highly accessible frontend interface.

CloudLink User Interface

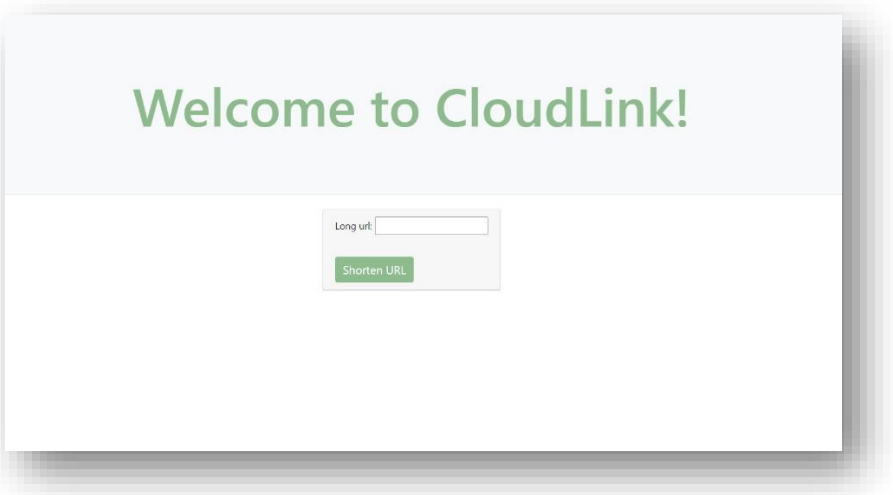

Figure 1: CloudLink page for entering link.

This page is what users will see when they first access the web application. It has a very simple design for easy user interaction. All users need to do is paste the URL they want to shorten into the box labeled 'Enter Link' and click the 'Shorten URL' button.

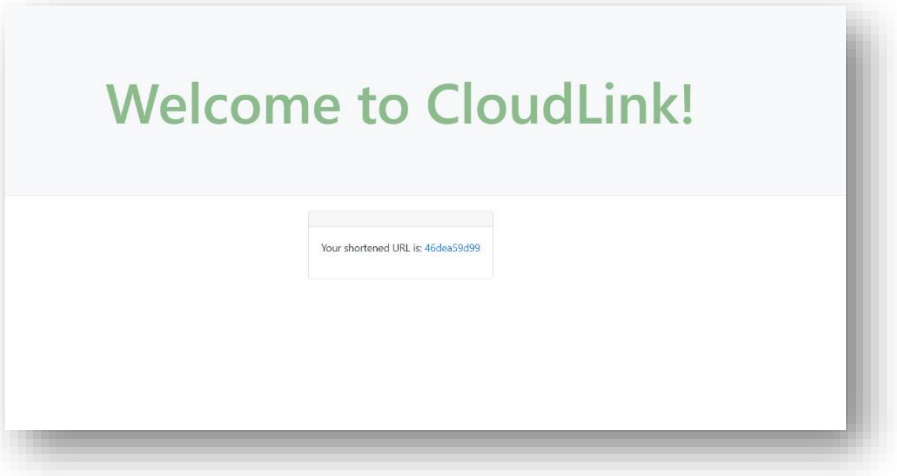

Figure 2: CloudLink page where users receive the output they desire.

This page allows users to see the shortened version of the URL link they've submitted to the system.

Cloud Technologies

Heroku is a user-friendly cloud-based platform that offers tools such as Redis and Postgres for data storage and management. To start with Heroku, you first need to create an account. Then, through Heroku's provided add-ons, you can incorporate services like Redis and Postgres into your application. Redis serves as a swift and adaptable data storage solution, particularly useful for high-performance demands, while Postgres is ideal for relational database management. Adding and configuring these services on Heroku is straightforward, thanks to its user-friendly interface and command-line capabilities. Consequently, you can swiftly deploy your applications on Heroku and address your data storage needs with robust tools like Redis and Postgres.

Our current work focuses on utilizing Heroku's capabilities to host our application when it reaches a later stage of development. We are actively working to ensure a seamless transition because we recognize the benefits that Heroku offers, including the simple onboarding process and the availability of critical tools for data storage and management like Redis and Postgres. We hope to gain from Heroku's intuitive interface, command-line functionality, and general deployment ease by integrating its services into our application. As we explore Heroku's potential to improve our application's performance and scalability in the cloud, stay tuned for exciting updates.

Milestones Remained

ID	Milestone	Week	Details
M4	Heroku Deployment and Add-ons Integration	December 18 - December 24 (week 12)	Integrate Redis and Postgres add-ons for data storage and management.
M5	Configuration and Optimization on Heroku	December 25 - December 31 (week 13)	Configure Redis and Postgres services on Heroku. Optimize settings for performance and scalability.
M6	Testing and Enhancements	December 4- December 10 (week 14)	Conduct testing on the Heroku environment. Improve user experience by refining the frontend if needed.

Table 2: Remained Milestone Table

Milestone 4:

- **İlayda Yağmur Karadağ**: Will support backend and frontend interaction on Heroku.
- **Buğra İlhan**: Will lead Heroku deployment, ensuring smooth setup, and integrating Redis and Postgres add-ons.
- **Başak Özarslan**: Will integrate front-end components seamlessly with Heroku.

Milestone 5:

- **Buğra İlhan:** Will optimize overall application configuration for improved performance.
- **Başak Özarslan:** Will fine-tune Redis and Postgres configurations for efficient data storage.
- **İlayda Yağmur Karadağ:** Will actively test the configured environment on Heroku.

Milestone 6:

- **Buğra İlhan**: Will oversee testing on Heroku, addressing any arising issues.
- **Başak Özarslan**: Will focus on user experience testing for frontend components on Heroku.
- **İlayda Yağmur Karadağ**: Will actively participate in fine-tuning for optimal performance on Heroku.

Github Link for further information: https://github.com/b9gr/cloudLink