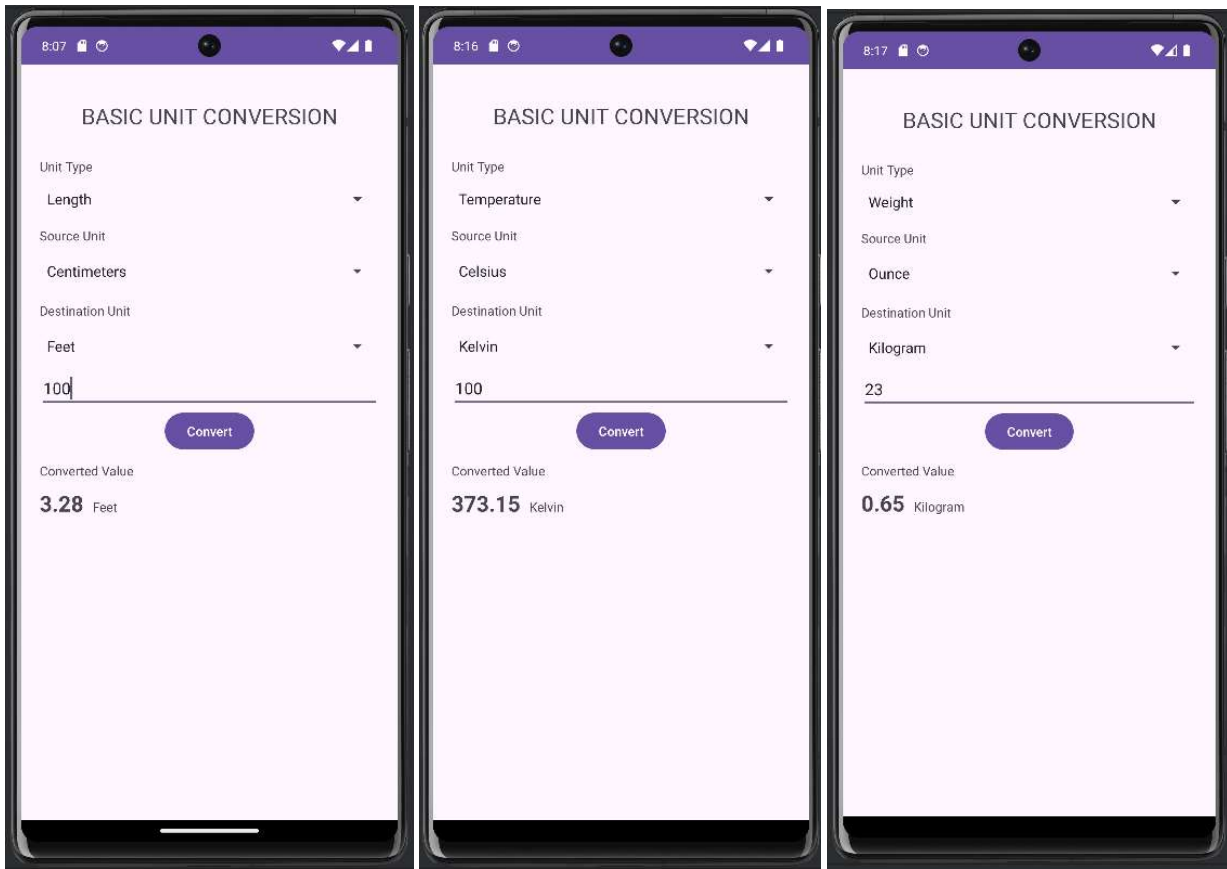**JP Karnilowicz, Stu# 220580872**

SIT305 Mobile Application Development

Subtask 1 : Design UI for the App & Subtask 2 : Implement the Conversions

Github Link:

https://github.com/jpkdeakin/SIT305_Task2.1/

Youtube Video Link:

https://youtu.be/9JzZ9g7Veeg

Subtask 3 : Research on Llama2

Llama 2 Large Language Model from Meta

Large Language Models (LLMs) are a type of artificial intelligence algorithm that uses massive data sets and deep learning to analyse, predict, and generate new content. LLMs have become ubiquitous in the artificial intelligence field in recent years due to recent breakthroughs in deep learning architecture, such as the development of "Transformers", neural networks that learn context and meaning by tracking relationships in sequential data like sentences. Large Language Models are classified as Generative Artificial Intelligence as they are specifically designed to generate new content.

Llama 2 is a family of Open-source LLMs released by Meta (in partnership with Microsoft) in 2023. As the successor to Llama. It offers more robust training, greater accessibility, and greater context length (Allowing more complexity, and providing more coherent natural language interaction). Many popular Large Language Models available, such as ChatGPT, require payments to be used (or at least unrestricted use), However Llama2 is available free of charge for both research and commercial use.

It has less parameters than other popular models such as ChatGPT, which makes it less complex and less computationally expensive to use, However the Llama project has focused on improving the performance capabilities of smaller models. Llama2 is available with 3 weights, 7B, 13B and 70B (referring the "billions" of parameters in the model.)

Llama 2 also consists of both foundational "Base" models and "Chat" models.

The base models are not pre-trained to answer prompts but instead to append coherent text to a sentence. They are models which are intended to be a foundation to building a purpose-specific model upon. The chat models however are trained and fine-tuned to dialog-driven use cases.

There are a variety of uses for large language models in applications, some examples which could implement the use of Llama 2 include:

Card Writing Generator; If you've ever had to write on a birthday card, a get well soon card, or a going away card, sometimes it's hard to come up with a well-written paragraph to express your thoughts and feelings to someone. A Llama 2 based app could help express your thoughts in a smart and concise way.

Trivia Generator; Want to host a trivia night? A Llama 2 based app could help you generate a number of questions related to specific topics – Keeping in mind that the Llama 2 knowledge cutoff is December of 2022.

Writing Coach App; Use Llama 2 to help you improve your writing, correcting grammar or providing alternate options to communicate ideas through writin. Potentially it could be also used to rewrite text in different styles – such as that of a 18th century poet, or a 1950s ad man.

Summarization App; Use Llama 2 to read a larger document, and summarise its contents for easier consumption. It could potentially summarise written reports, long emails, product brochures or meeting transcripts.

Customer Service Chat-Bots; A Llama 2 base application could be used in a customer service context to find correct information or processes in which to help users.

References

Bergmann, D. (2024, 03 19). *What is Llama 2?* . Retrieved from ibm.com: https://www.ibm.com/topics/llama-2

Meta. (2024, 03 19). *Meta and Microsoft Introduce the Next Generation of Llama* . Retrieved from fb.com: https://about.fb.com/news/2023/07/llama-2/

nVidia. (2024, 03 19). *Large Language Models Explained* . Retrieved from nvidia.com: https://www.nvidia.com/en-us/glossary/large-language-models/