

Calculator + Llama2

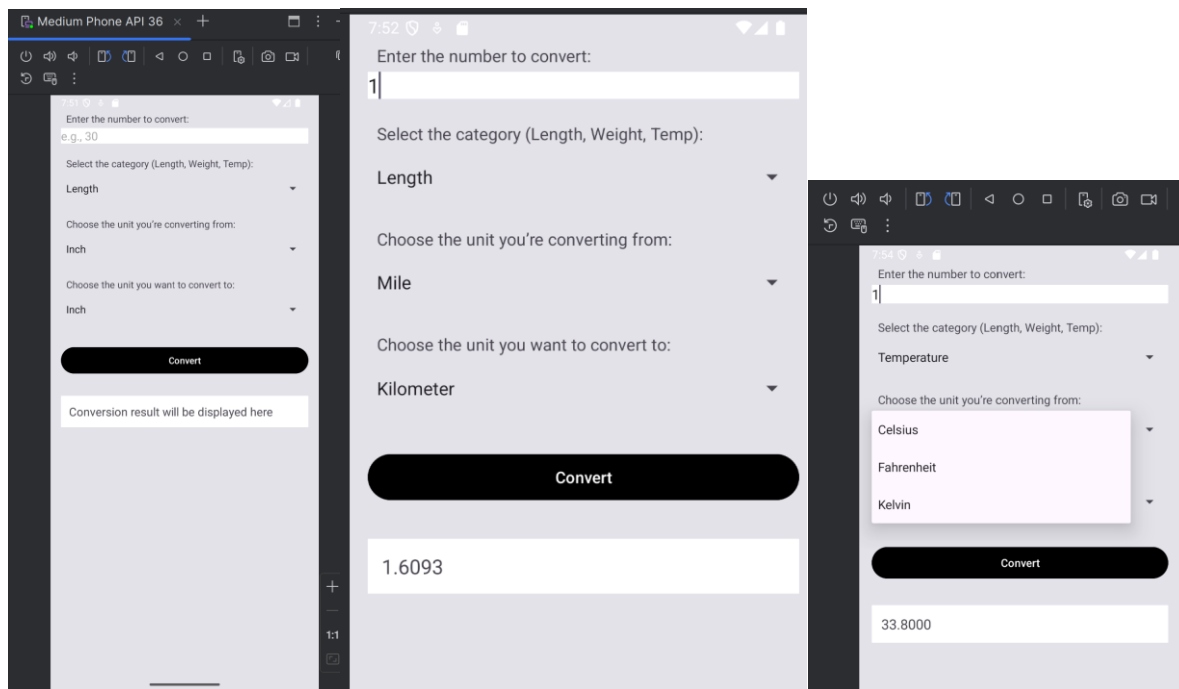
GitHub Link:

<https://github.com/31Husain31/SIT305-prac2.1p>

Demo Video Link:

https://youtu.be/9NuwNY_J7hc

Screenshots of calculator:



Research on Llama2

LLaMA 2 (Large Language Model Meta AI version 2) is an advanced open-source large language model developed by Meta (formerly Facebook). Released in July 2023, it builds upon the success of the first LLaMA model but offers significant improvements in performance, efficiency, and accessibility. Unlike some proprietary models, LLaMA 2 is available to researchers and developers under a community license, allowing greater flexibility for innovation and customization—especially in mobile development.

What sets LLaMA 2 apart is its lightweight architecture relative to models of similar capability. It is optimized to run on smaller systems, making it a viable candidate for edge devices like

smartphones, tablets, and embedded systems when paired with techniques such as quantization or on-device inference with processors like the Snapdragon Neural Processing Unit (NPU). While it still requires some computational resources, integrations with mobile applications are becoming more feasible thanks to cloud inference and hybrid models that balance local and remote processing.

In Android mobile app development, integrating LLaMA 2 can lead to smarter, more interactive, and more personalized apps. Here are five concrete ideas where LLaMA 2 could enhance mobile apps:

1. Smart Note-Taking Assistant

Students and professionals use apps like Notion, Evernote, and Google Keep. LLaMA 2 can be integrated to automatically summarize lengthy notes, convert bullet points into well-written paragraphs, or even suggest to-do lists based on meeting notes. This can increase productivity and reduce manual effort.

2. Multilingual Chat and Translation

LLaMA 2, trained on multilingual datasets, can serve as a real-time translator in messaging or travel apps. It can also assist users with writing professional emails or messages in different languages, improving communication without needing to rely on third-party tools.

3. AI-Powered Personal Security Advisor

In apps focused on digital wellness or cybersecurity, LLaMA 2 could help users by explaining privacy settings, detecting suspicious app permissions, or answering general questions about mobile safety in conversational form. This would be especially useful for non-tech-savvy users.

4. Mental Health and Wellness Chatbot

For wellness and mental health apps, LLaMA 2 can act as a supportive conversational companion. While not a replacement for professional therapy, it can offer journaling prompts, mood tracking feedback, or calming affirmations through natural conversations tailored to the user's emotional state.

5. Educational Tutor and Quiz Generator

Learning apps can integrate LLaMA 2 to help explain difficult concepts, answer questions interactively, or generate customized quizzes based on the student's level. It can help users prepare for exams or review topics in a more engaging way.

References:

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4. VentureBeat. (2023). *Meta's LLaMA 2 is free for commercial use*. <https://venturebeat.com/ai/metals-llama-2-open-source-ai-model/>
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