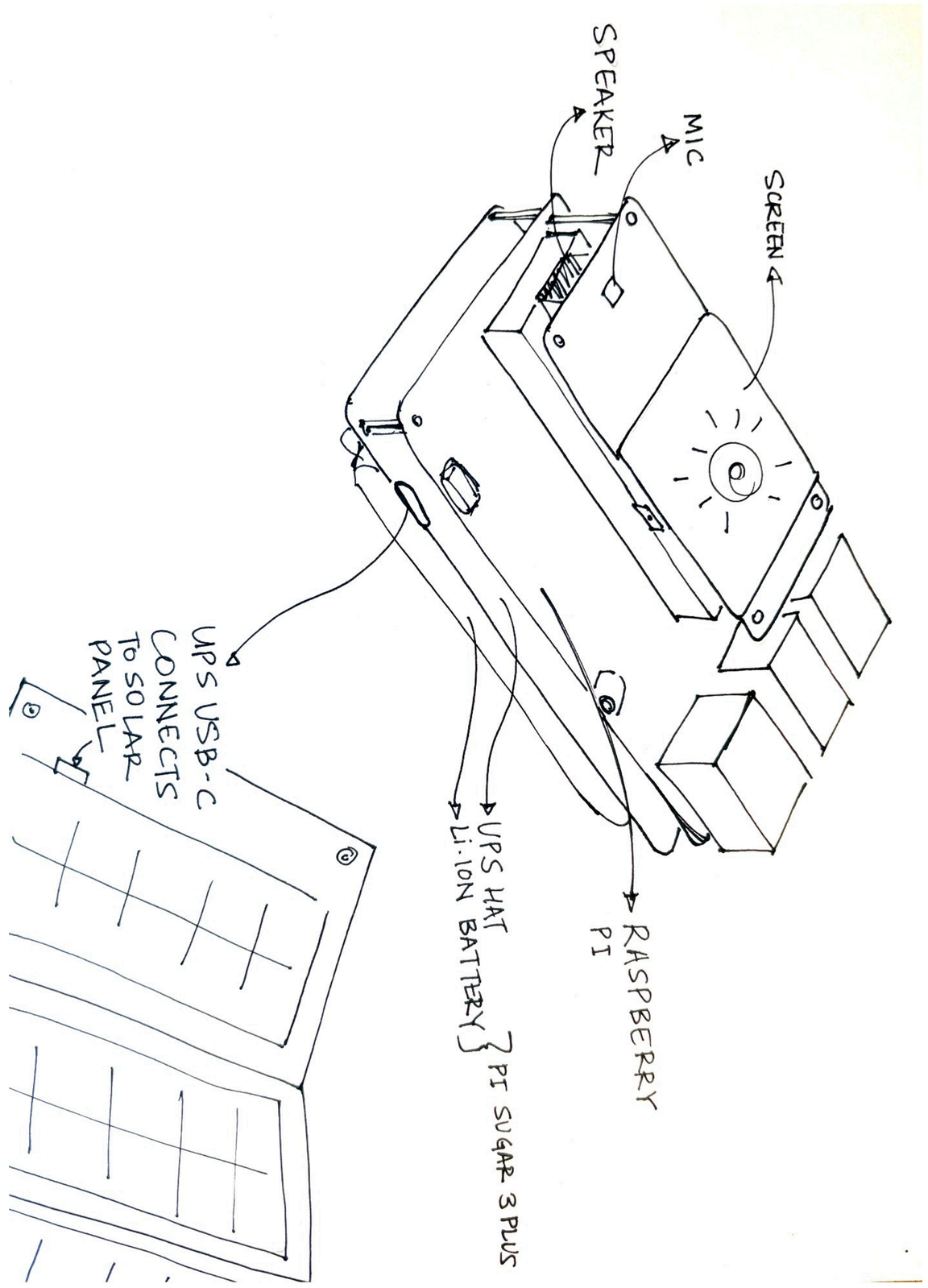
Sun Shines Bright Vol.3

by computational mama and lekkerying

Building Solarbot: a portable solar powered AI server

INTRO

The project was paused as I shifted to the Netherlands. Unlike Udaipur, where we have 300+ days of clear sky - Netherlands is dark and gloomy most of the year. I observed that culturally it is common to plan outdoor events around the emergence of sunny days. Outdoor activities like camping, fishing, cycling, hiking. As a consequence, portable solar panels are easily available in stores. Drawing inspiration from this camping oriented portability I've started developing a "solarbot". It is a version of the Sun Shines Bright that you can take out - to the garden, hikes, trip and by the canal!



What is the setup?

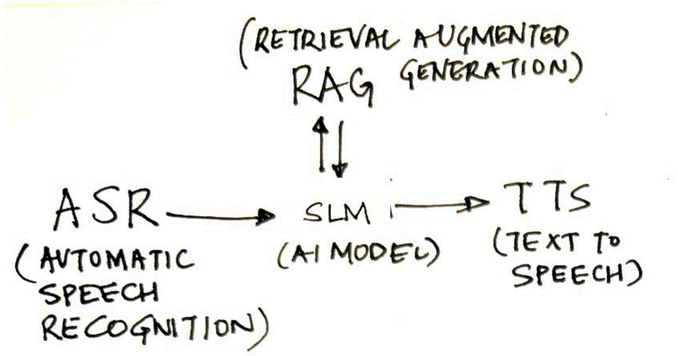
The solabot mirrors the Sun Shines Bright only swapping out components where portability is required.

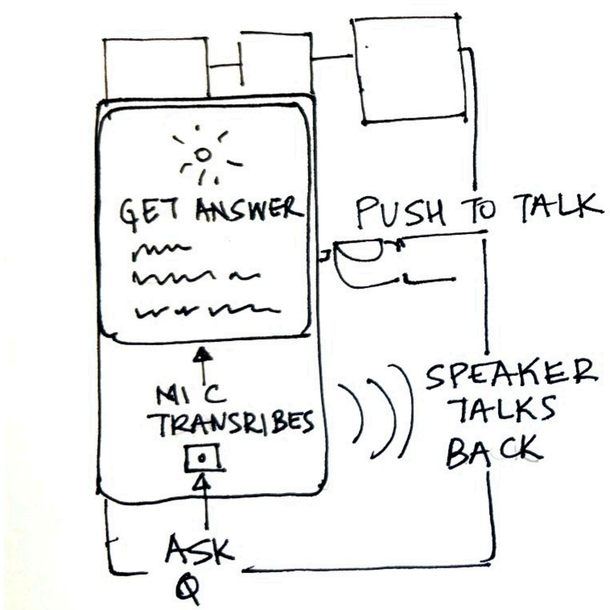
	OG Sun Shines Bright	Solarbot
Solar Panel	55W Fixed Solar Panel	60W Foldable Panel
Battery	Off the shelf 12V 8Ah Battery	PiSugar 3 Plus 5000mAh Raspberry Pi UPS
Solar Controller	Solar Charge Controller 20A	UPS supports (may need improvement)
Compute(r)	Raspberry Pi 5 16GB	Raspberry Pi 5 16GB*

*Relieved and excited that I was able to buy this on a second hand marketplace in NL!

How does the bot work?

I went back to the drawing board about the architecture of the AI orchestration. The fine-tuning experiments were not able to produce very good results. So I opted for a simple RAG (Retrieval Augmented Generation).

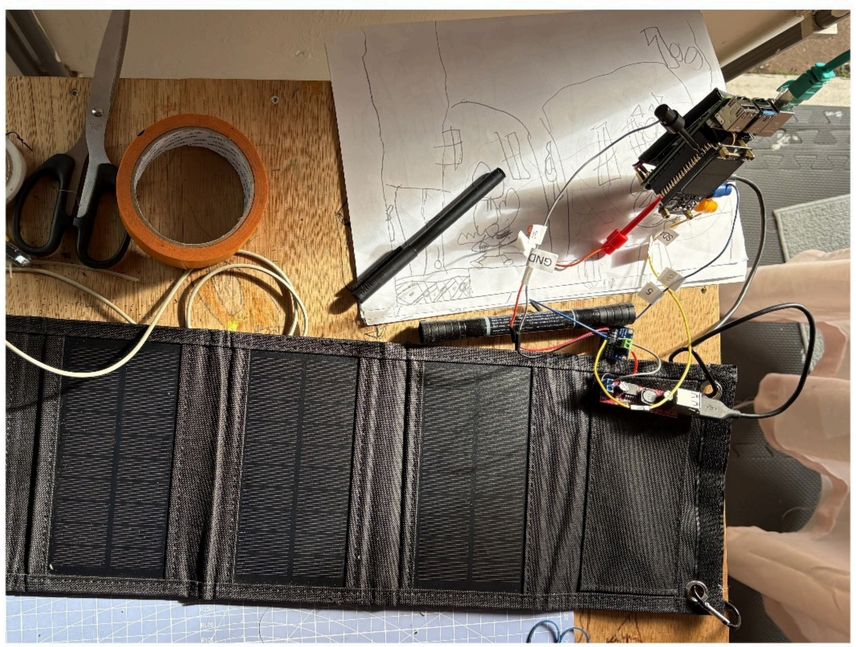




Learnings

The use of a portable AI server meant that we needn't be restricted to text based chat interfaces. We could explore voice, different screen sizes, and other combinations. At REALML 2026 Johannesburg, I was advised to have measurable energy data on the solarbot. This is now in testing along with Ying! :)





made by
computational mama and lekkerying
on 21/09/2026