Step Counter & Graph

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What is it?

It is an accelerometer that graphs accel data and converts the data into steps. It will track the live data from the watch sensors. The components would be the TTGO watch, the EC2 server, and my computer. The watch will read the acceleration and send the information to the EC2 server. From there a graph will be displayed showing the x/y motion and the steps analyzed. we will have to make the graph somewhat simplified so that the live updating is fluid.

Tech stack:

Arduino, HTML, Visual studio code, EC2, TTGO Watch

Design and purpose

Trade off in design:

- With limited sensor the fitness watch will not be able to track some key things like heart rate and blood O2.
- UI focus will be on a web interface so the watch itself will have limited display capability.

Purpose:

- To track fitness and steps.
- health

How is it gonna work?

I expect to struggle with creating the program to analyze the acc data and extract steps.

Timeline:

November 6th - Have accelerometer reading to EC2 server accurately.

November 17th - Have analysis of data coded.

November 20th - Have live and historical tracking of step data.

November 24th - Have functionality for viewing different methods of analysis (time, peaks, e.t.c).

November 29th - Have full watch and website completed.