

# Sensor-based-real-time-tracking on wearables

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# Project Proposal

## Enhancing Senior Safety and Independence

- ❑ 1 out of every 4 older adults falls every year in the US and are the leading cause of fatal and nonfatal injuries in the US
- ❑ Dr. Toosizadeh and his team are working with assessing & improving proprioception in older adults to prevent falls
  - ❑ Planned provisional patent: “Sensor-based Real-time Tracking-game (SRT)”
- ❑ Dr. Nima Toosizadeh team needs software that retrieves & displays sensor data in real-time. This data will help Dr.Nima with his proprioceptive performance research in gerontology on elderly.



# Project Scope

- ❑ Retrieve X and Y coordinates from wearable gyroscope and accelerometer sensor in real time
- ❑ Display a graph to test participants on their range on motion. The test will display two cursors
  - ❑ One that follows the predefined path
  - ❑ One that follows the participant's motion
- ❑ **Important:** Project focus centers around sending gyroscope data from smart watch and being able to display it on a graph. This is to accommodate for the shortened time constraint.



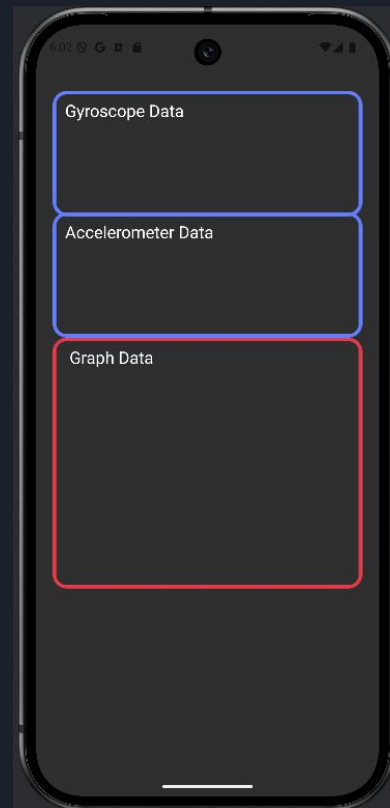
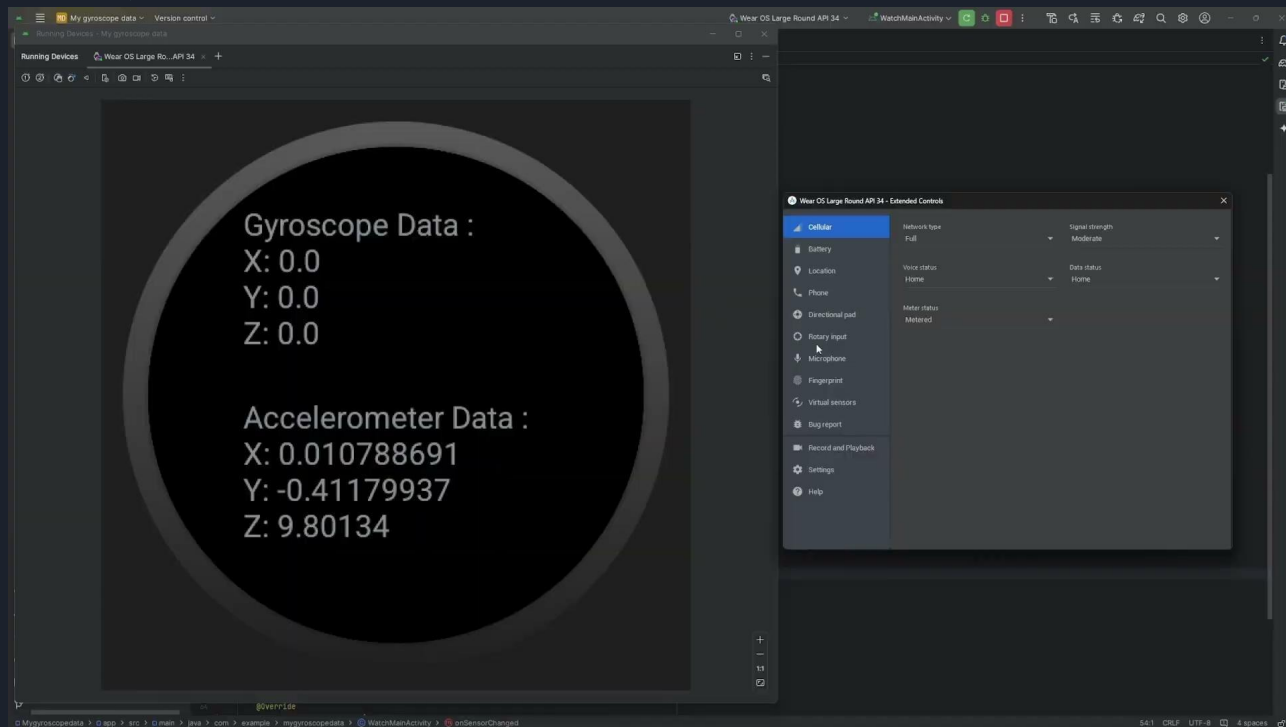
# Completion Milestones

1. Retrieve X-Y coordinates from the wearable gyroscope and display them in a readable format
2. Display motion tracker on X-Y graph
3. Upload X-Y coordinate data to .csv files after testing is completed
4. Find a method to communicate between the wearable and smartphone
5. Create a predefined path, and motion tracker to follow along predefined path

# Prototype 1

## SMARTWATCH SRT

ONLY SCREENSHOT



# Gantt Chart

