

Sprint Review 3

By Emma Brandes and Hakeem Yatim

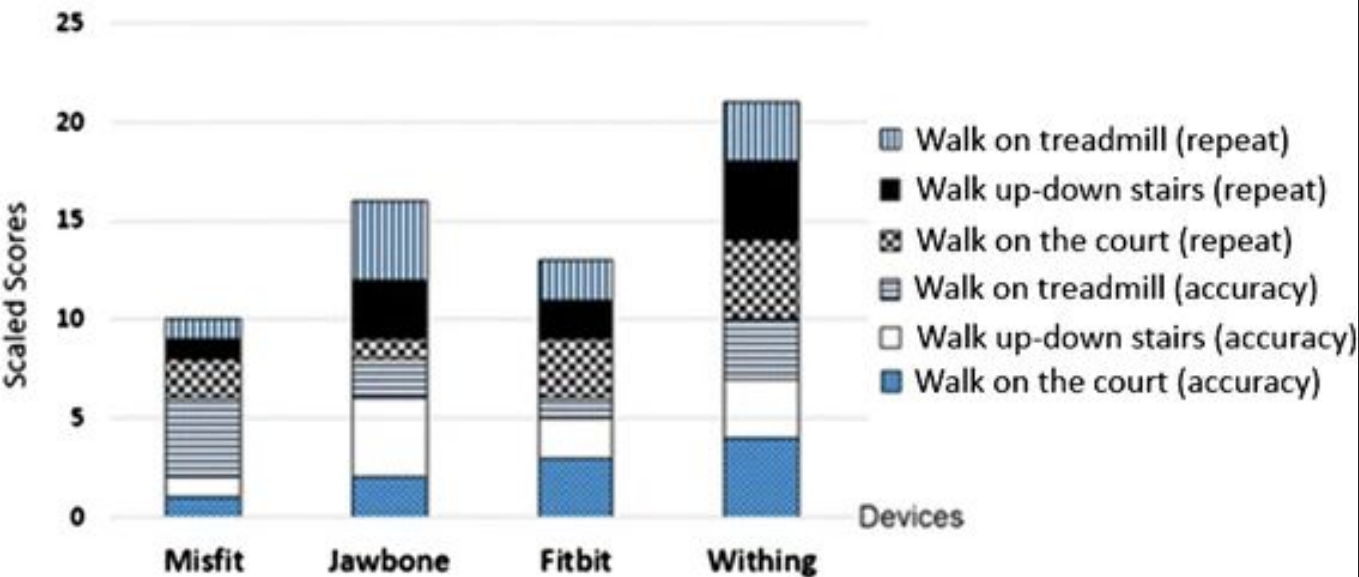
Research On How The Technology of the Sensors Works

- Fitness trackers are made up of various sensors that can obtain different information from the users
- Examples of these sensors would be accelerometer(tracking movement based on speed and direction), gyroscope (to measure rotation and orientation), temperature sensor (body temperature is connected to intensity of an activity) and heart rate monitor (tracking your pulse).
- However, the accuracy of these sensors aren't exact, and it generally gives an overview on the information of the user (ie. sleep tracking aren't as accurate since it only tracks movement in your sleep).

Experiments and Results	Devices	Accuracy (%)	Repeatability
Indoor Walking Straight	Jawbone	97.70	0.55
	Withings	99.90	0.86
	Misfit	92.40	0.69
	Fitbit	99.60	0.72
Walking Up/Down Stairs	Jawbone	97.00	0.89
	Withings	97.20	0.83
	Misfit	97.80	0.79
	Fitbit	96.40	0.81
Walking on Treadmill	Jawbone	97.00	0.89
	Withings	97.20	0.83
	Misfit	97.80	0.79
	Fitbit	96.40	0.81

(Kanitthika Kaewkannate, Soochan Kim, 2016)

Summary of Total Scores



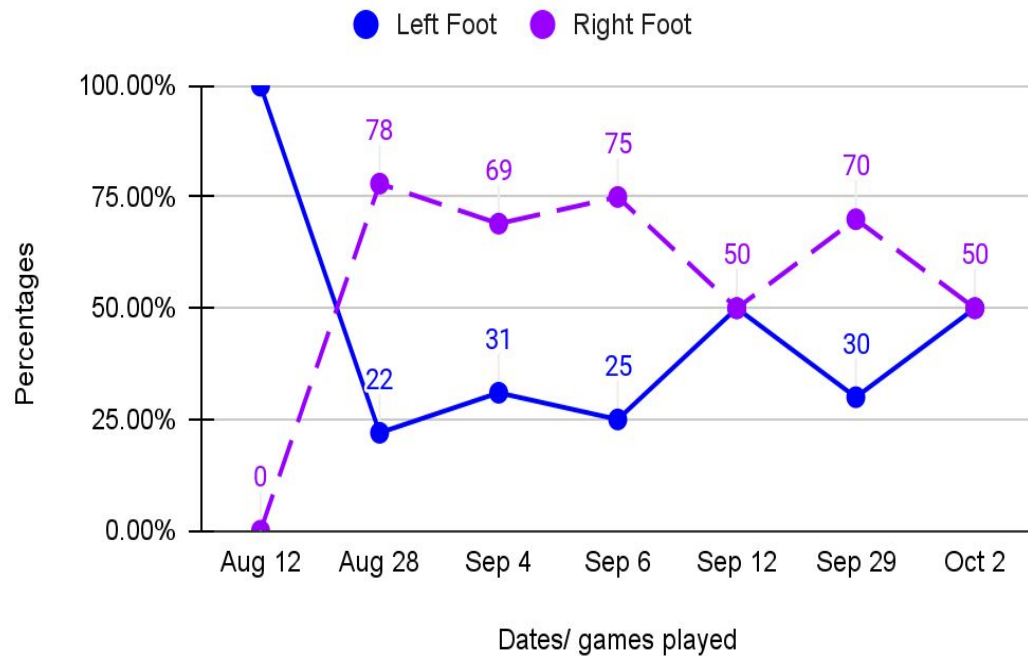
Scale (Point)	Meaning
4	Highest accuracy or repeatability among the four devices
3	Second highest accuracy or repeatability among the four devices
2	Second lowest accuracy or repeatability among the four devices
1	Lowest accuracy or repeatability among the four devices

Research On How Some Existing Sports Performance Aid Works:

- Looked into soccer and baseball AI products
- Users do have certain goals they want to achieve in their game and the AI products help them do that by tracking what they do
- Some of these products use accelerometers, bluetooth and infrared technology to send feedback to the user.

Existing Results for Playmaker

Passes per feet



What we wanted to achieve in the last sprint review

- Come up with a product idea, and the method of development.



- Spend more time working on our project



- Develop an idea about how the product will work



What we achieved for this sprint review

- Found existing AI products that use sensors to monitor progress to show proof of why our product idea can be used for tracking your workload and recovery.
- Found research on how the sensors operates and the accuracy of the sensors.

What we did not achieve in this sprint review

- We did not decide on what the finalized product idea would be, because during this sprint we felt it would be better to take a different approach (we are thinking of making it focused on one of the two main features, which is fitness tracker or sports performance tracker)

What we are going to for the next sprint review

- Figure out how the product might not work and the limitation our product might have.
- Analyze the data/literature review in a better depth so we can use it to develop our final product.
- Create the final product

Works Cited

Kyle Boddy, “The Limitations And Usefulness Of Biomechanics And Motion Capture For Athletes”, 2018, online: Driveline Baseball

Rachel Basinger, “How Do Fitness Trackers Work? Your Questions Answered.”, 2021, online: The Wired Runner

Kanitthika Kaewkannate, Soochan Kim, “A comparison of wearable fitness device”, 2016, online: BMC Public Health

Grace Shin, Mohammad Hossein Jarrahi, Yu Fei, Amir Karami, Nicci Gafinowitz, Ahjung Byun, Xiaopeng Lu “Wearable activity trackers, accuracy, adoptions, acceptance, and health impact: A systematic literature review.” 2019. online: Science Direct