ActivPal Week 7

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WHAT HAVE WE DONE PREVIOUS WEEK?

WHAT ARE OUR GOALS FOR THE NEW SPRINT?

What have we done previous week?

Sprint goal: Have basic activity recognition model (achieved)

Improved our activity recognition model

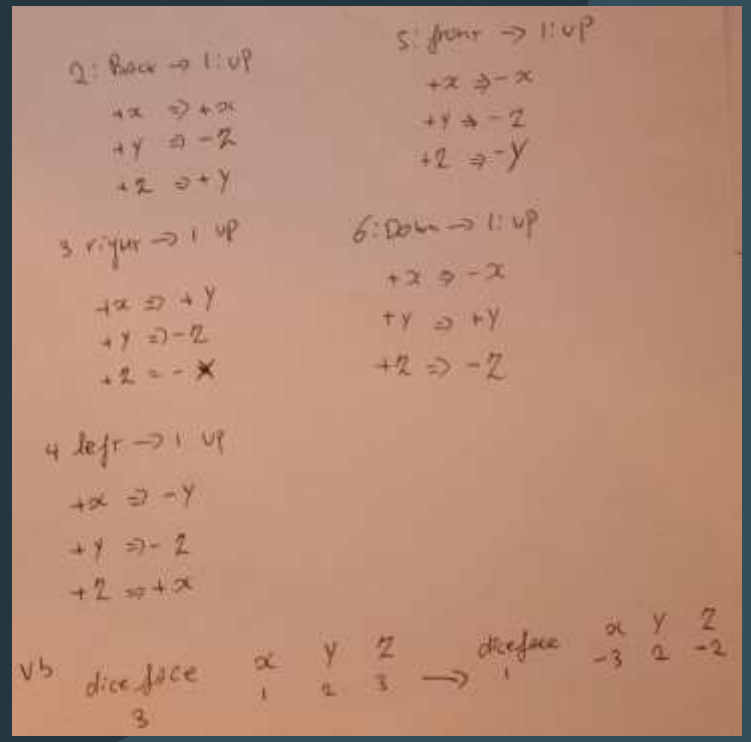
Normalized X, Y, Z values to solve the DiceFace issue

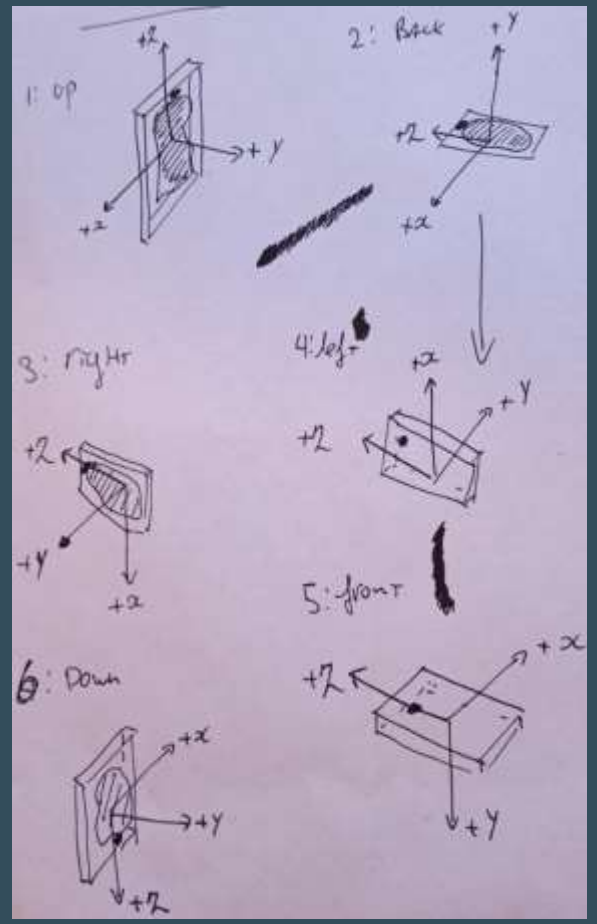
Discovered correlations between MET and X, Y, Z values

DiceFace Linear Regression Experiment

Normalized x, y, z values using diceface

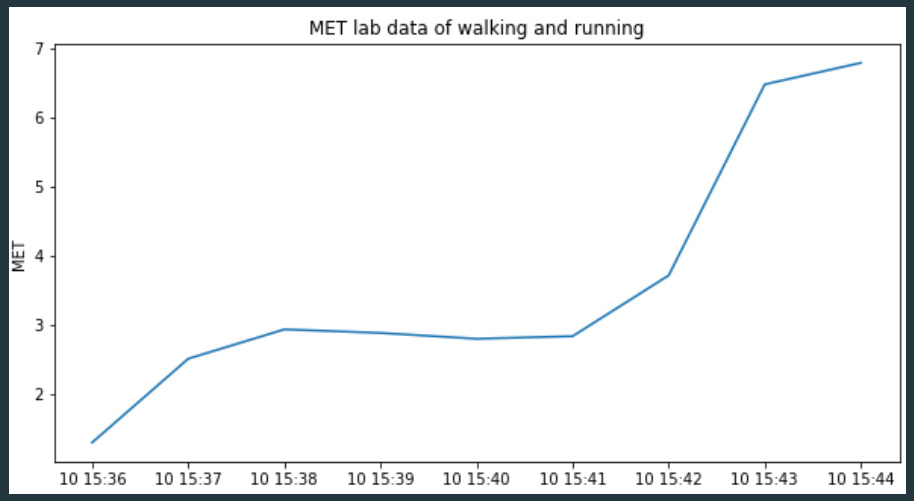
- Created efficient script to set the correct diceface values
  - Finished within 3 hours

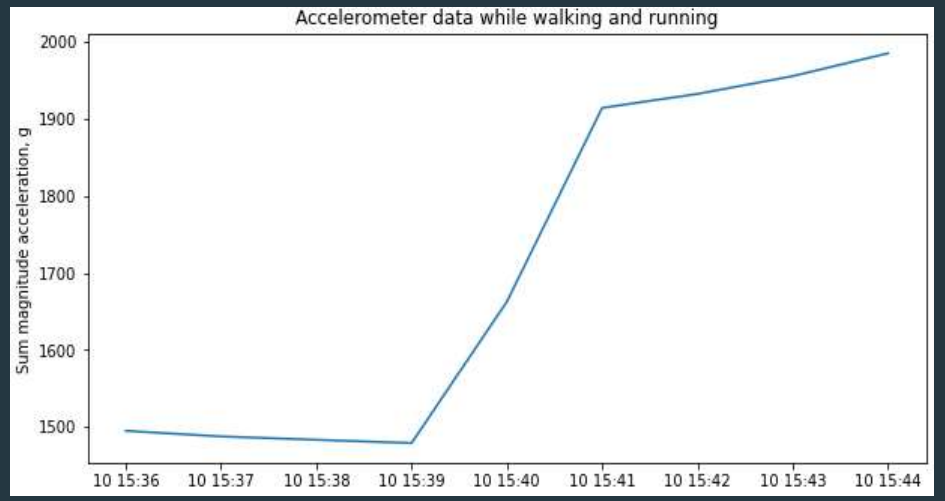


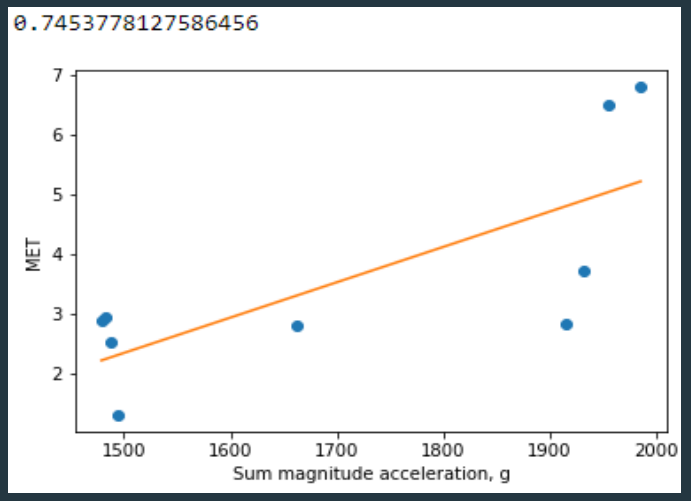


Discovered correlations between MET and X, Y, Z values

- Looked at lab and accelerometer data of 1 respondent (for now)
- Found 74.5% correlation between mean of MET and summation of magnitude of acceleration in a minute







Improved our activity recognition model

OPTIMIZATIONS / CONFIGURATIONS

- Balance dataset
- Time segment size 6.4 seconds
- Removed peak distance features
- Added features
  - Std and mean for y
  - Std and mean for z

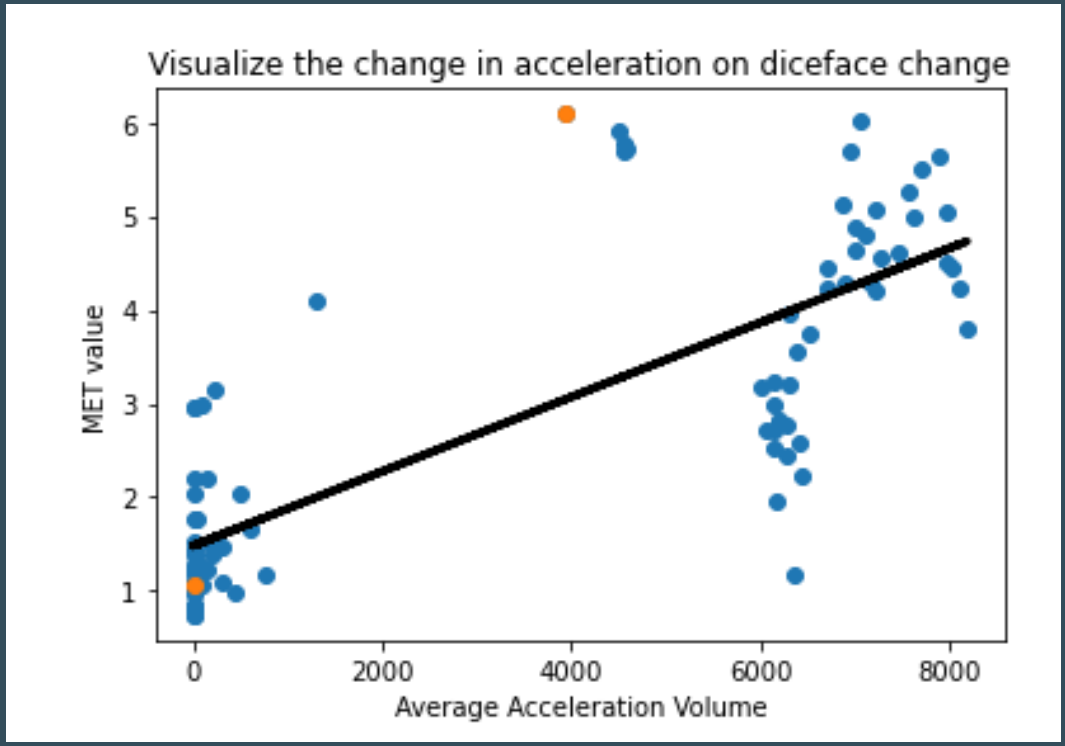
RESULT

- Decision Tree model
  - Accuracy: 0.87
  - Precision: 0.95
  - Recall 0.87
- Random tree forest
  - Accuracy: 0.87
  - Precision: 0.95
  - Recall: 0.88

Diceface Linear Regression Experiment

- - Goal of experiment is to see what changes happen when the direction of the diceface changes.

- - Orange dot is a change in diceface direction



What are our goals for the new sprint?

- - The Topic of our next Sprint is:
  "Create a model that predicts MET value based on XYZ value"
- - Improve/Update current models with our normalized dataset
- - Finish Research Plan

QUESTIONS?