Redback Operation

Weekly Meeting

Agenda	Weekly Meeting 2
Objective	Research on topics
Date	18 March 2022
Time	1pm
Location	Microsoft Teams
Chair	William
Attendees	TBA

Agenda Items	Key Points/Actions	Led by	Duration
1: Welcome	▪ Welcome by chair ▪ Introduce the member in the meeting	CHAIR	*1-2 mins*
2: Introduction	▪ Discuss issues in relation to research topics assigned in the first week	CHAIR	*3 mins*
3: Sharing information	▪ Each leader from research teams presents their progress (4 groups)	Team	*45 mins*
4: Discussion	▪ Viability in creating own database ▪ Viability in algorithms as a stepping to stone to create algorithm models ▪ Advice and recommendations	CHAIR	*10 mins*
5: Wrap up	▪ Next week's research topic	CHAIR	*5 mins*

Redback Operation

Minutes	Weekly Meeting 2
Date	18 March 2022
Time	1pm – 2pm
Location	Microsoft Teams
Chair	William
Attendees	TBA

Point (Item)	Discussion (Record main points)	Action (Initials & due date)
Open Source	Gouri: • Kaggle/Fitness Data Trends/Fitness Exercise data (gifURL) • Showing movements; considered useful potentially for dashboard	*Research viability of linking databases without breaking them* *Create own database using randomized data based on features of "Fitness Exercise data"*
Database (Storage)	Lucy: • Researched examples of opensource databases including SQL service (community edition), Microsoft Azure (useful for startup companies), Google data structure, Workflow86 • Showcase/ran through how Workflow86 works (user friendly & all-in-one platform)	*MySQL/Spark* *MongoDB/NoSQL* *Exploring more platforms focused on long-term* *Exploring whether the company is financially capable of hosting a platform*
Benchmark	Chris: • Presented how Zwift collects, analyses riders' data • Presented GAM model & ERG Mode (algorithm) • Presented limitations of ERG algorithm • Discussed about how/where to make improvements	*Use GAM in R to provide accurate feedback depends on aggregated data which will then be tailored to individual riders rather than professionals/athletes* *Useful for IoT teams to get the project going*
Generalised Research	Vinay: • Presented in-depth research on how data analytics can improve effectiveness and efficiency of exercise • Highlighted/pinpointed importance of exercise composition	William mentioned he will be sharing the documentation with other teams
Research Algo. – Oxygen Uptake in cyclist	Shashvat: • Presented Oxygen Uptake (VO2) method used in increasing O2 deficit and obligate a greater contribution from anaerobic mechanism of ATP production.	*Use algorithm to provide a more efficient working prototype model* *Identify what limits the algo might pose*

	• Data exploration on Wingate and incremental test • Explored relation between target and other feature variable • Explored correlation among various feature by using cor() and visualization using heat map	*Search more algorithms in health/well-being and update documentation.*
Discussion for next week	William: • Need further research on algorithms (presented by Shashvat, Chris and Lucy) Created a new group for up sales of exercise/health games	*Join the groups by end of week Sunday the 21st* *Otherwise, members will be assigned randomly*