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# Ruaidhri Molloy portfolio

Software Engineer

Dublin, Ireland

[ruaidhri.molloy@gmail.com](mailto:ruaidhri.molloy@gmail.com)

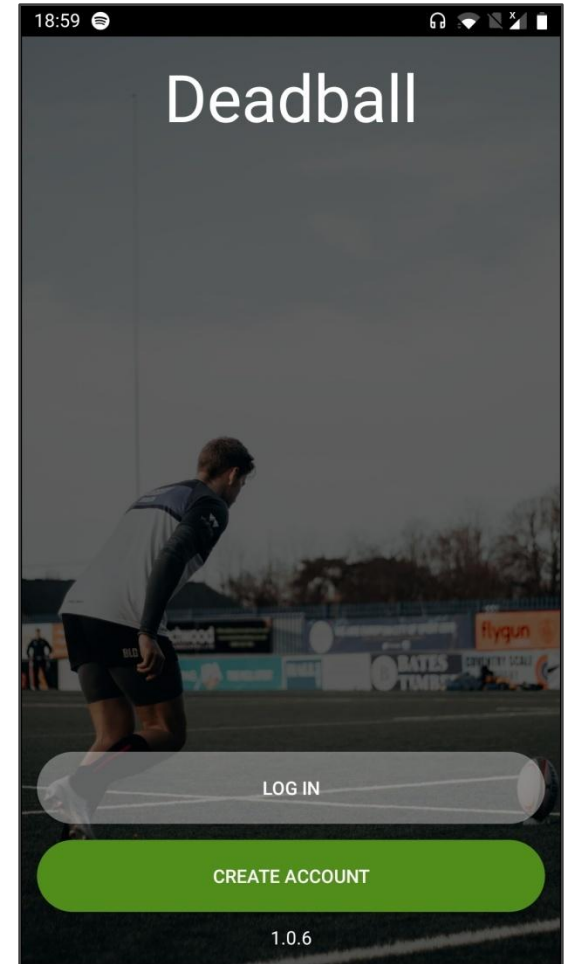
[Linkedin](#)

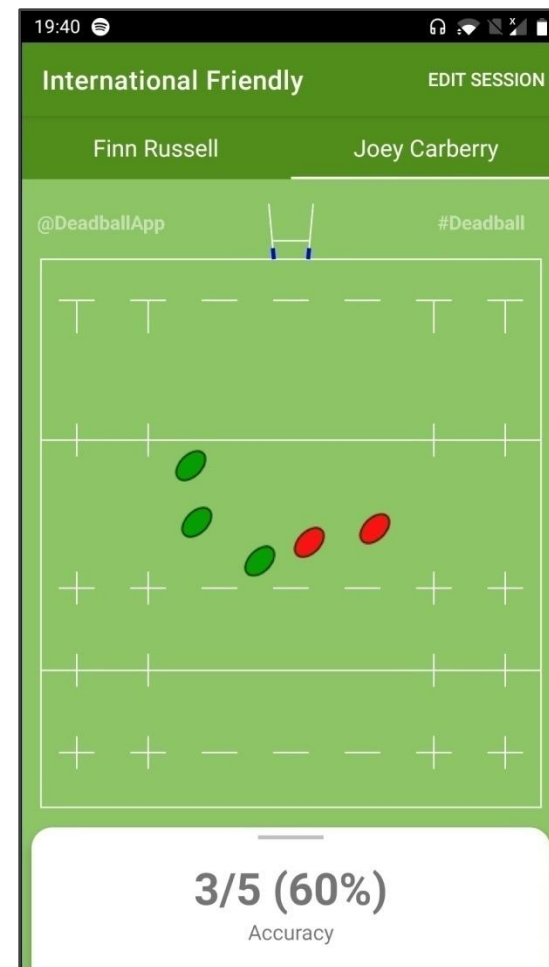
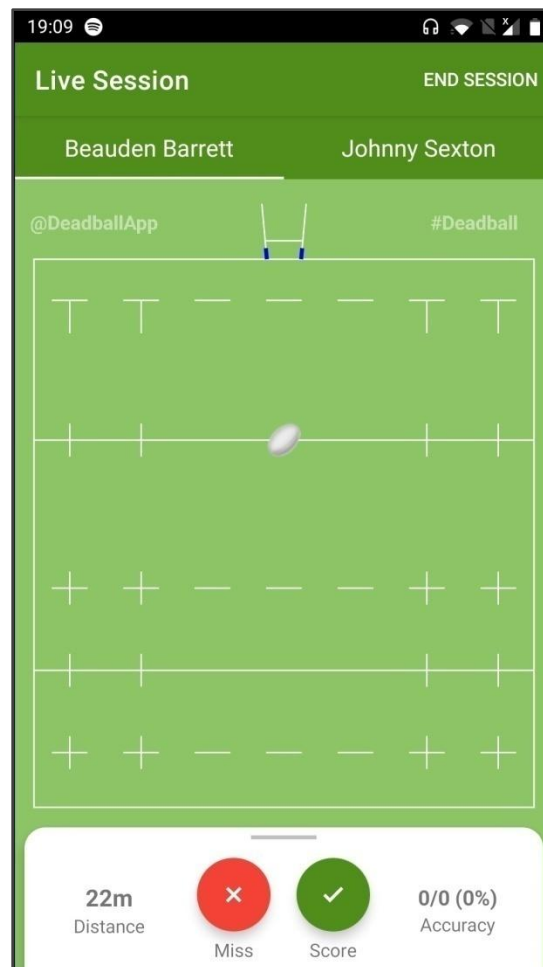
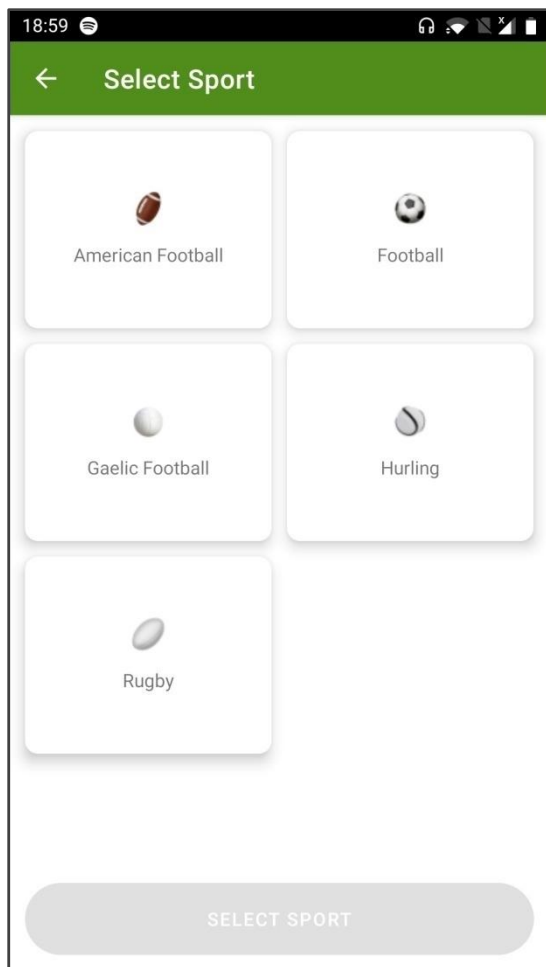
[Github](#)

# Deadball

- **Personal Side Project**
- **Platform:** Android (Kotlin)
- **Date:** 2022
- **Role:** Sole Developer – From Scratch

Sports analytics app to create shot maps for players and teams to see what areas of the field need improvement. Supports rugby, football, American football, gaelic football and hurling





19:09

Sessions

**France Camp**  
Matthieu Jalibert
2022-06-24

**Friday Evening**  
Beauden Barrett, Dan Bigger, Eoin Farrell, Finn Russell, Handre Pollard
2022-06-24

**Connaught Training**  
Jack Carty
2022-06-24

**Friday Evening**  
Eoin Farrell
2022-06-24

**Friday Evening**  
Dan Bigger
2022-06-24

**Friday Evening**  
Beauden Barrett
2022-06-24

**Southern Hemisphere**  
Beauden Barrett, Handre Pollard, Quade Cooper
2022-06-24

**Joey Training**  
2022-06-24

Sessions
 Players

19:09

Players

**Beauden Barrett**  
New Zealand

**Dan Bigger**  
Wales

**Eoin Farrell**  
England

**Finn Russell**  
Scotland

**Handre Pollard**  
South Africa

**Jack Carty**  
Ireland

**Joey Carberry**  
Ireland

**Johnny Sexton**  
Ireland

Sessions
 Players

18:12

Player Profile

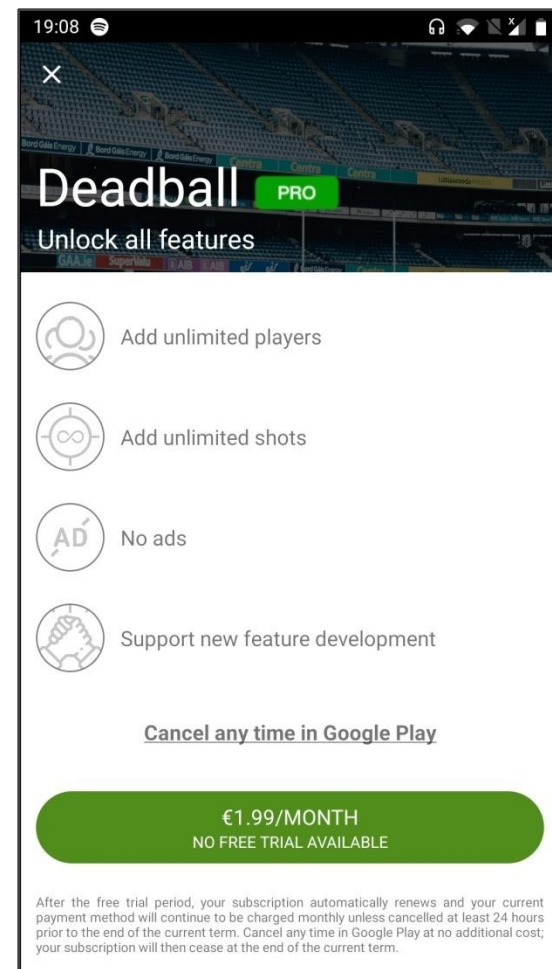
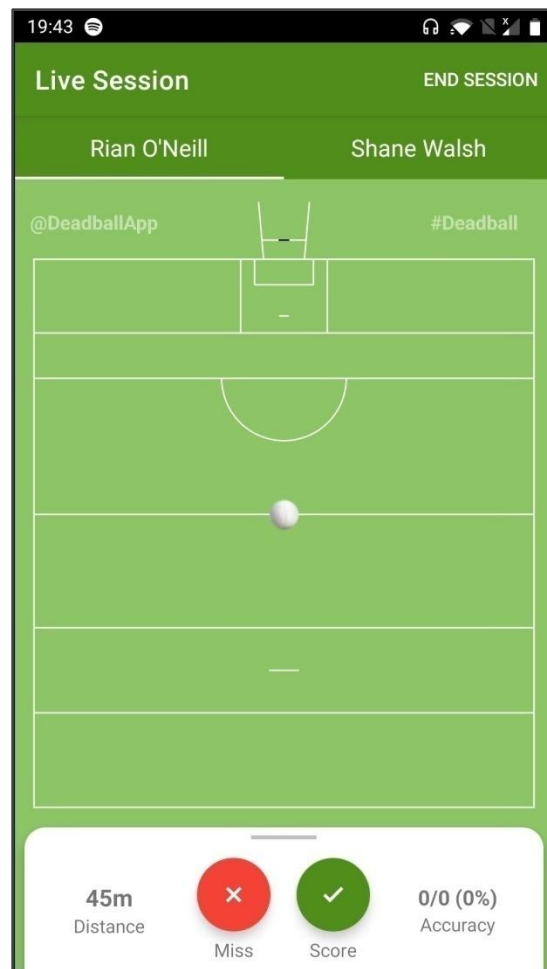
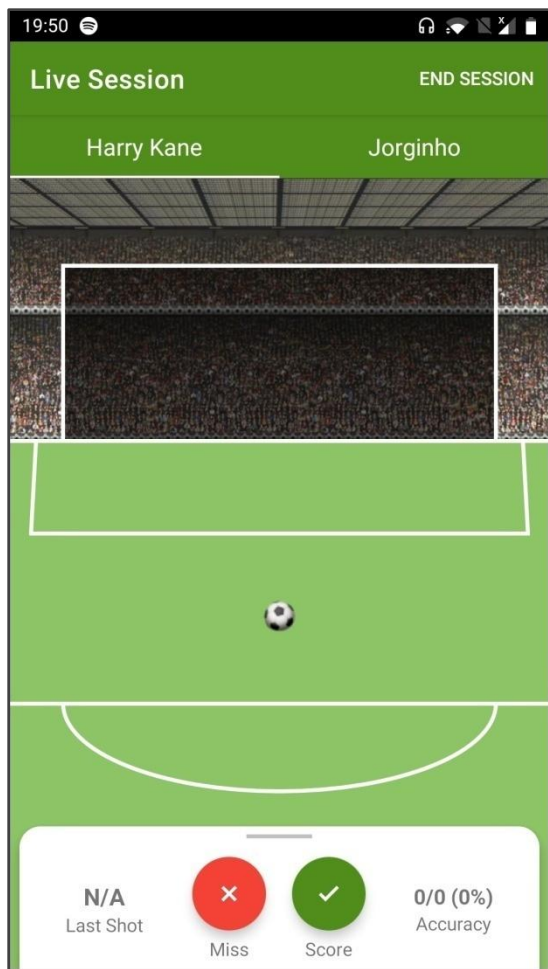
**Johnny Sexton**  
Ireland  
12 sessions | 5 Training | 7 Game

Session	Accuracy (%)
1	83.0
2	100.0
3	81.0
4	66.0
5	71.0
6	87.0
7	85.0
8	85.0
9	94.0
10	93.0
11	88.0
12	87.0

Average  
**8/10 (80%)**  
Accuracy

Total  
**107/122 (87%)**  
Accuracy

Last  
**7/8 (87%)**  
Accuracy



# Daily Doozy

- **Personal Side Project**
- **Platform:** Android (Kotlin)
- **Date:** 2022
- **Role:** Sole Developer – From Scratch

Multi-choice trivia app

What type of pasta is rigatoni?

Shaped pasta

Soup pasta

Tubular pasta

Stuffed pasta

Submit Answer

[Skip Question](#)

What type of pasta is rigatoni?

Shaped pasta

Soup pasta

Tubular pasta

Stuffed pasta

Submit Answer

[Skip Question](#)

What type of pasta is rigatoni?

Shaped pasta

Soup pasta

Tubular pasta

Stuffed pasta

Submit Answer

Incorrect

[Skip Question](#)

Which date on the Christian calendar marks The Epiphany, when Jesus, Mary and Joseph met The Three Wise Men?

January 6th

October 19th

June 20th

December 1st

Submit Answer

Correct

[Skip Question](#)

# Verisense

- **Developed at:** Shimmer Research
- **Platform:** Windows (Java)
- **Date:** 2019-2022
- **Role:** Contributor (Cloud)

Wearable sensing platform designed specifically for clinical trials





DASHBOARD

DATA

CONFIGURATION

LICENSE

SYSTEM V1.02.001

LICENSE EXPIRES: JAN 2020 (DATA PROCESSING)

LICENSE EXPIRES: JAN 2020 (SYSTEM ACCESS)

Dashboard

Operator  
jyong@shimmersensing.com

9 Sites

OK

Warning

Error

Name	Participant Status	Base Station Status
Barcelona	<div>Total: 0</div> <div>No Data</div>	<div>Total: 0</div> <div>No Data</div>
BOSTON2	<div>Total: 1</div> <div>Error: 1</div> <div>Total: 0</div>	<div>Total: 3</div> <div>Error: 3</div> <div>Total: 1</div>
Czech	<div>No Data</div>	<div>Error: 1</div>
FWTest	<div>Total: 4</div> <div>Warning: 2</div> <div>OK: 2</div>	<div>Total: 5</div> <div>Error: 4</div> <div>OK: 1</div>

DASHBOARD

DATA

CONFIGURATION

LICENSE

SYSTEM V1.02.001

LICENSE EXPIRES: JAN 2020 (DATA PROCESSING)

LICENSE EXPIRES: JAN 2020 (SYSTEM ACCESS)

# Hardware

Operator  
jyong@shimmersensing.com

Trial Hardware Algorithm Notifications Sites Users Participants

## Sensor settings

Reset

Save

Sensor Sampling Rate (Hz)

25

Sensor Range(Lg)

8

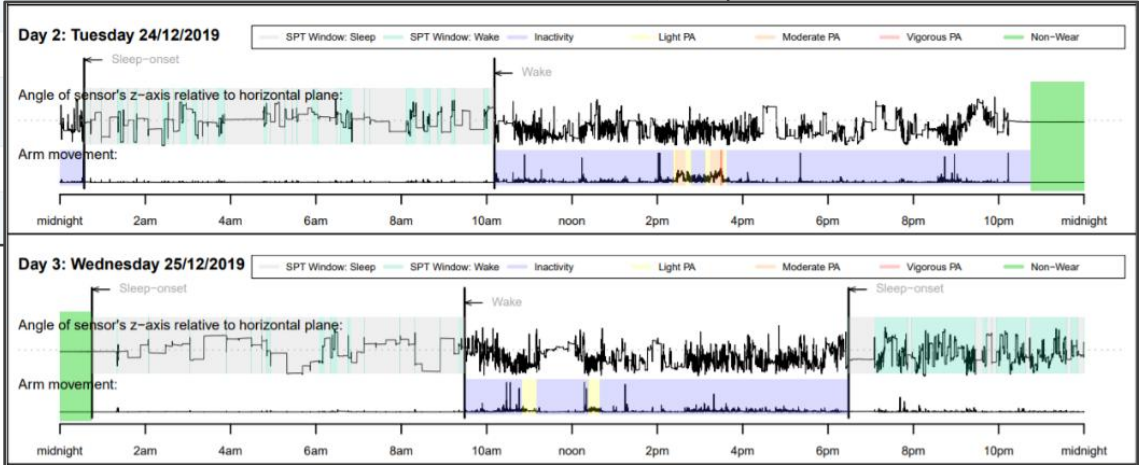
Firmware Version

v1.01.023

Upload Time

9:00 AM

SYSTEM V1.02.001  
LICENSE EXPIRES: JAN 2020 (DATA PROCESSING)  
LICENSE EXPIRES: JAN 2020 (SYSTEM ACCESS)



Sleep-onset

Wake

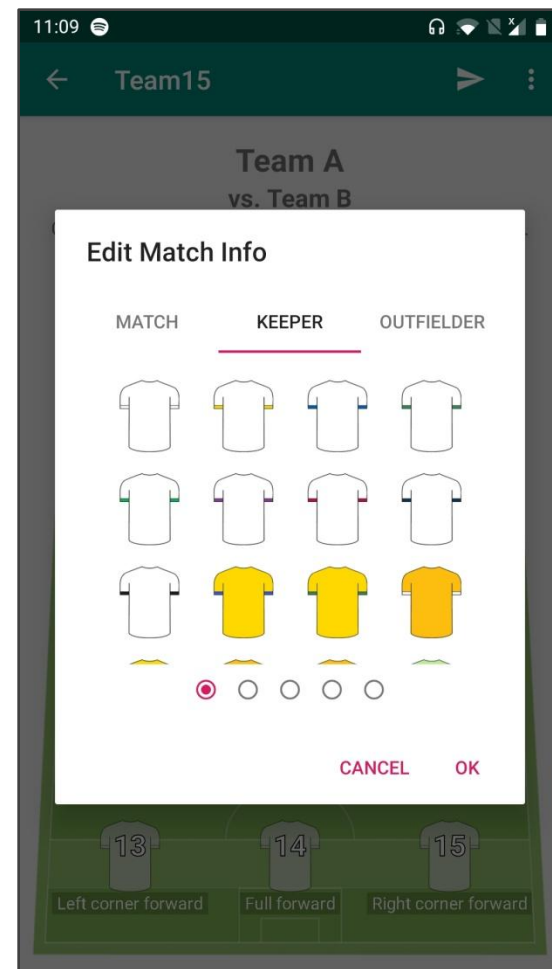
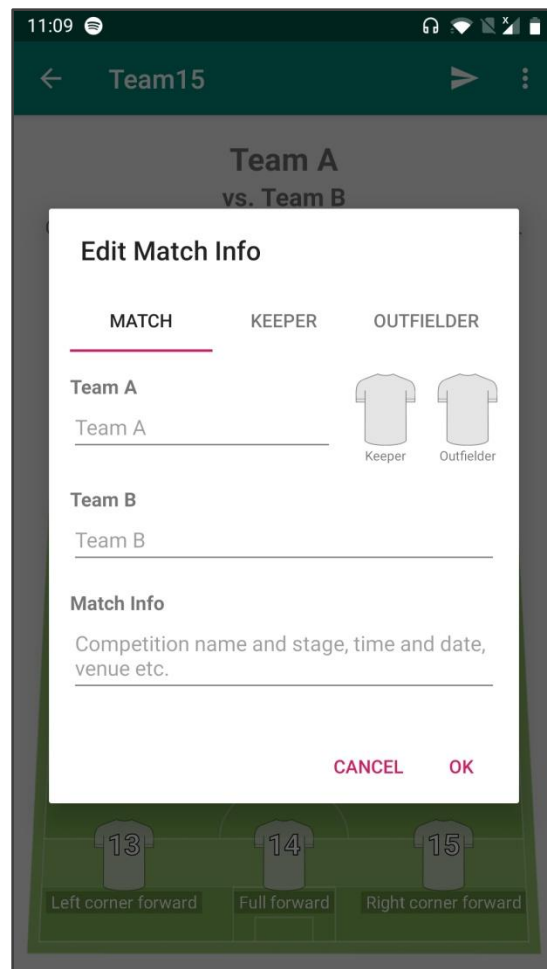
Sleep-onset

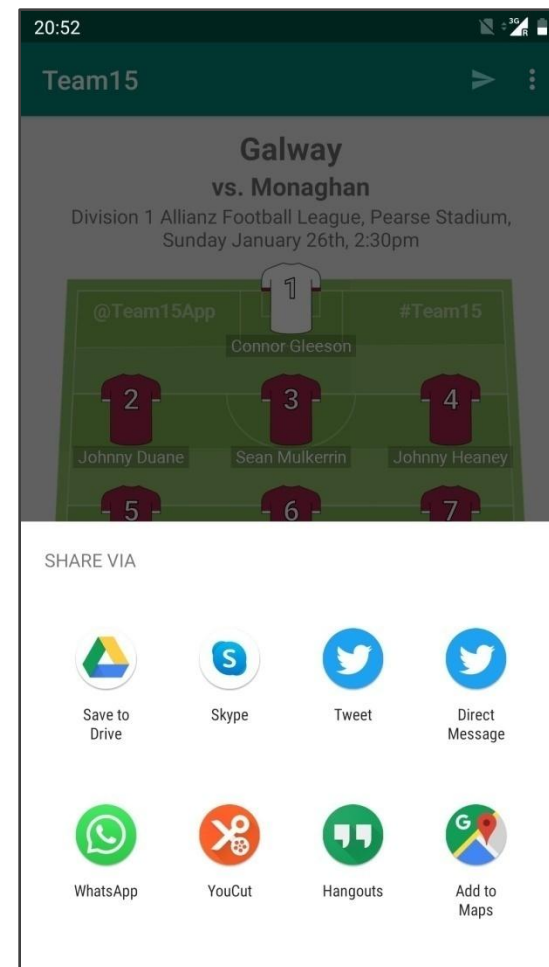
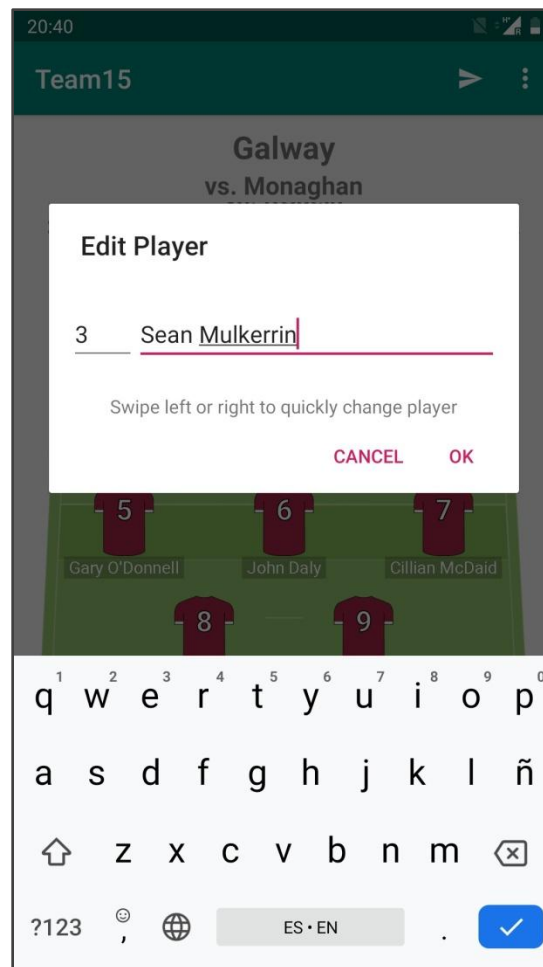
# Team15

- **Personal Side Project**
- **Platform:** Android (Kotlin)
- **Date:** 2019
- **Role:** Sole Developer – From Scratch

Gaelic football/hurling team builder app to share selection on game-day via social media



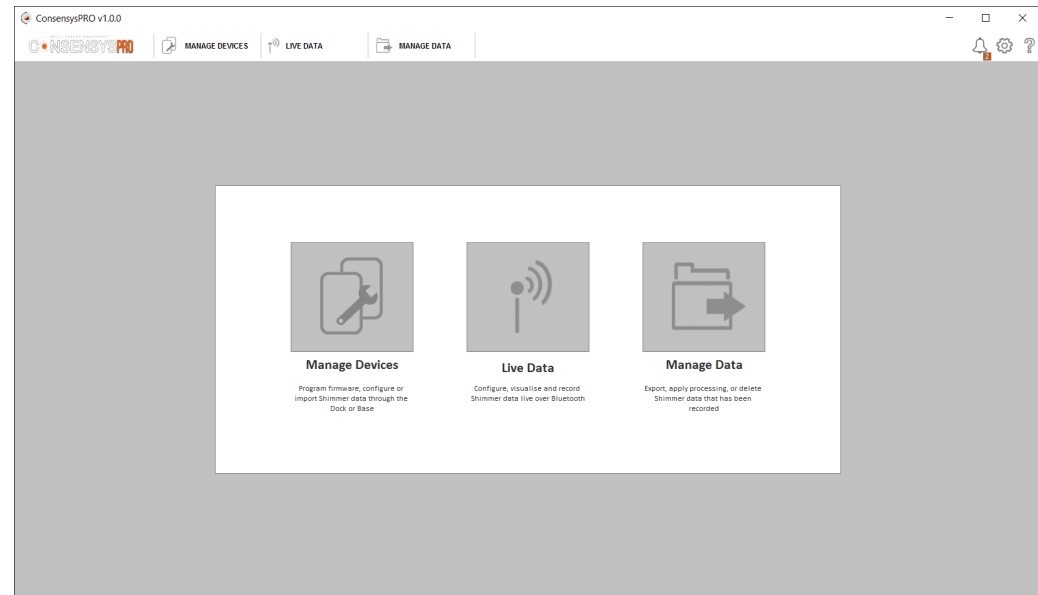


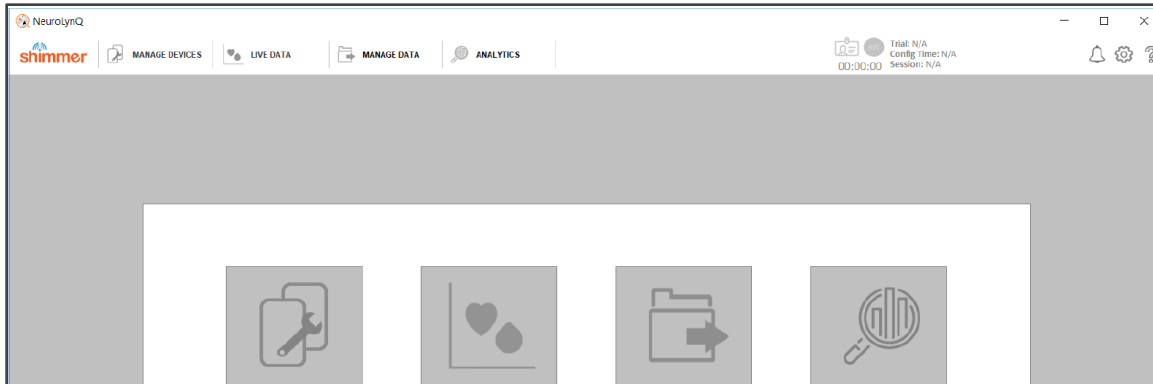


# NeuroLynQ

- **Developed at:** Shimmer Research
- **Platform:** Windows (Java)
- **Date:** 2018
- **Role:** Contributor

App to measure the emotional response of a group of up to 45+ people simultaneously through use of GSR and PPG sensor





NeurolynQ v2.0.0

shimmer | MANAGE DEVICES | LIVE DATA | MANAGE DATA | ANALYTICS

AVAILABLE HARDWARE (SELECT DEVICES FOR VISUALISATION BELOW)

Device	Status	Signal	Value
0146 [S01_0166]	On	all	1.1
0148 [S02_0101]	On	all	7.9
0164 [S03_0164]	On	all	6.8
0176 [S04_0176]	On	all	1.6
0111 [S05_0111]	On	all	1.5
0243 [S06_0243]	On	all	1.7
0287 [S07_0287]	On	all	6.5
0122 [S08_0122]	On	all	11.6
0157 [S09_0157]	On	all	17.1
0168 [S10_0168]	On	all	2.9

VISUALISATION (USE THE BUTTONS BELOW TO CHANGE THE PLOT STYLE)

Group Response | Plot per Sensor | Plot per Shimmer | Dashboard

Set QDR baseline (Std) | Apply QDR baseline

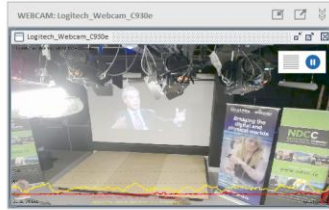
Group Response Instantaneous

INDIVIDUAL RESPONSE

Device	Status	Signal	Value
S01_01E6	On	all	1.1
S02_01D1	On	all	7.9
S03_016A	On	all	6.8
S04_017E	On	all	1.6
S05_0111	On	all	1.5
S06_02A3	On	all	1.7
S07_02B7	On	all	6.5
S08_0122	On	all	11.6
S09_0157	On	all	17.1
S10_0168	On	all	2.9
S11_0280	On	all	1.1
S12_0286	On	all	7.9
S13_0271	On	all	6.8
S14_0120	On	all	1.6
S15_01A1	On	all	1.5
S16_0287	On	all	1.7
S19_029A	On	all	6.5
S20_01C7	On	all	11.6
S23_01AE	On	all	17.1
S24_01A7	On	all	2.9
S25_01A6	On	all	1.1
S26_01A8	On	all	7.9
S32_01A9	On	all	6.8

Group Response

% High Response: 3.7%  
% Medium Response: 29.6%  
% No Response: 66.7%



Trial: Brett\_OCUI  
Config Time: 2nd Oct 2020 07:39:41  
Session: 1

00:07:14.135



NeurolynQ v2.0.0

shimmer | MANAGE DEVICES | LIVE DATA | MANAGE DATA | ANALYTICS

Manage Studies (EF Test) | Manage Segments | Analyse Segments

RESULTS

NAME	AVG	MAX
Triumphos		
Test		
% Any Response	40.80	70.00
% High Response	2.86	8.00
% Medium Response	37.94	65.00
% No Response	59.20	84.00

3D PLOT

3D Plot showing Group Response (%) over time. The x-axis represents time from 00:00:01 to 00:00:31. The y-axis represents Group Response (%). The plot shows two data series: Triumphos (orange line) and Test (blue line). The Triumphos series shows a peak around 00:00:01 and then fluctuates between 20% and 60%. The Test series remains near 0%.

Triumphos\_Test Any Response CAL % | Triumphos\_Test High Response CAL %

EXPORT

# Fusion – CIMIT

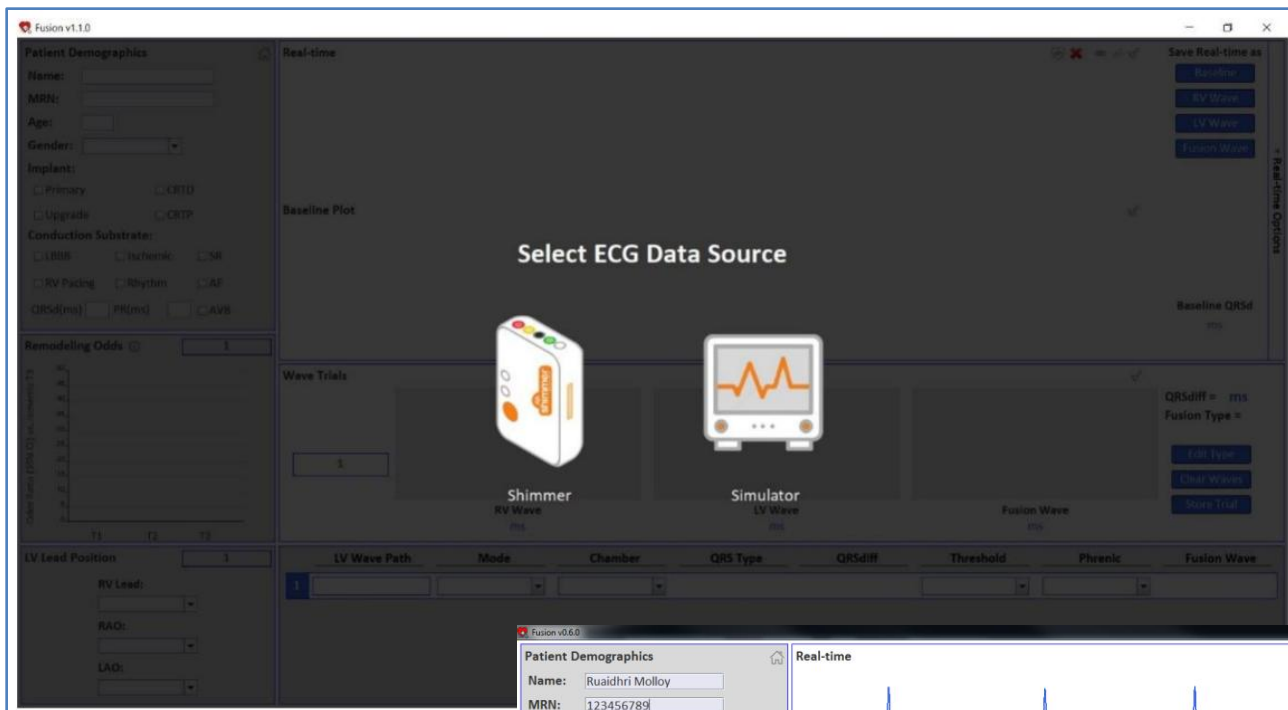
- **Developed at:** Shimmer Research
- **Platform:** Windows (Java)
- **Date:** 2017
- **Role:** Co-Lead Developer

App to assist clinicians with implant of a Cardiac Resynchronization Therapy (CRT) device and with periodic therapy titration using a single ECG sensor.



## FUSION



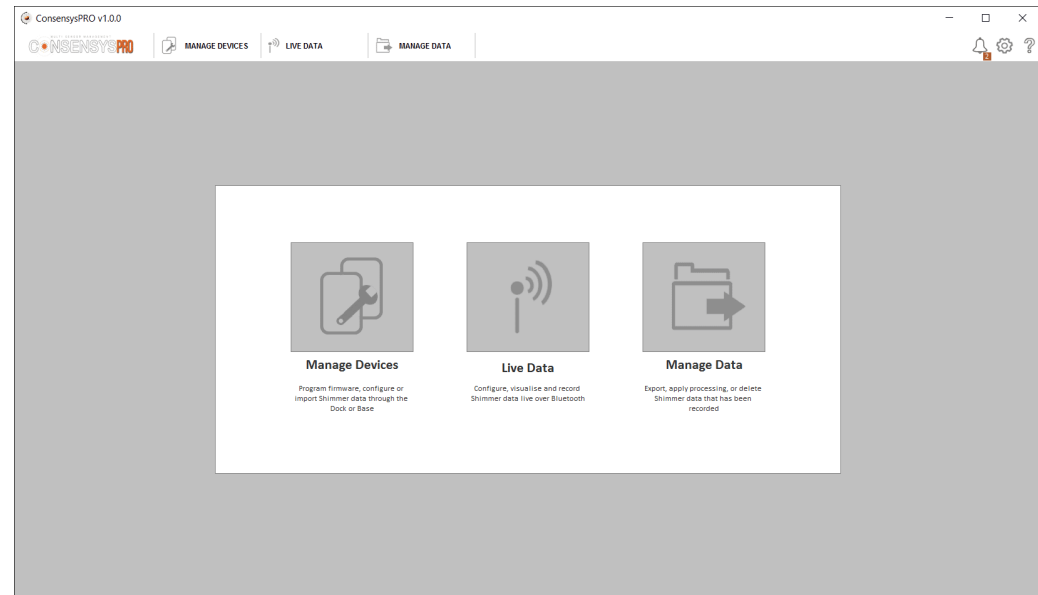




# Consensys

- **Developed at:** Shimmer Research
- **Platform:** Windows (Java)
- **Date:** 2016
- **Role:** Contributor

All-in-one multi Shimmer sensor management software supporting firmware updates, configuration, data collection, storage and processing



ConsensysPRO v1.0.0

MANAGE DEVICES

LIVE DATA

MANAGE DATA

AVAILABLE SHIMMERS (SELECT SHIMMERS FROM THE TABLE OR THE HARDWARE VISUALISATION)

LOCATION	BT RADIO ID	EXPANSION	FIRMWARE	SD CARD	TIME	BATTERY
<input type="checkbox"/> Base15U.01.01	9897	ECG/EMG/Resp	LogAndStream v0.7.0	0.38 MB / 7.39 GB	2016/09/01 12:39:07	99.7%
<input type="checkbox"/> Base15U.01.02	9ECF	GSR+	LogAndStream v0.7.0	0.22 MB / 7.39 GB	2016/09/01 12:39:10	100.0%
<input type="checkbox"/> Base15U.01.03	E74F	Bridge Amplifier	LogAndStream v0.7.0	0.38 MB / 7.39 GB	2016/09/01 12:39:12	100.0%
<input type="checkbox"/> Base15U.01.04	5331	ECG/EMG/Resp	LogAndStream v0.7.0	0.50 MB / 7.39 GB	2016/09/01 12:39:15	100.0%
<input type="checkbox"/> Base15U.01.05	9F38	GSR+	LogAndStream v0.7.0	0.50 MB / 7.39 GB	2016/09/01 12:39:17	100.0%
<input type="checkbox"/> Base15U.01.06	E751	Bridge Amplifier	LogAndStream v0.7.0	0.34 MB / 7.39 GB	2016/09/01 12:39:20	100.0%
<input type="checkbox"/> Base15U.01.07	9880	ECG/EMG/Resp	LogAndStream v0.7.0	0.63 MB / 7.39 GB	2016/09/01 12:38:37	99.6%
<input type="checkbox"/> Base15U.01.08	8066	GSR+	LogAndStream v0.7.0	0.22 MB / 7.39 GB	2016/09/01 12:38:39	100.0%
<input type="checkbox"/> Base15U.01.09	7711	None	LogAndStream v0.7.0	0.38 MB / 7.39 GB	2016/09/01 12:38:42	100.0%
<input type="checkbox"/> Base15U.01.10	9C70	ECG/EMG/Resp	LogAndStream v0.7.0	0.38 MB / 7.39 GB	2016/09/01 12:38:44	98.1%
<input type="checkbox"/> Base15U.01.11	38EB	GSR+	LogAndStream v0.7.0	0.69 MB / 7.39 GB	2016/09/01 12:38:47	100.0%
<input type="checkbox"/> Base15U.01.12	76FF	None	LogAndStream v0.7.0	0.53 MB / 7.39 GB	2016/09/01 12:38:50	99.7%
<input type="checkbox"/> Base15U.01.13	9D34	ECG/EMG/Resp	LogAndStream v0.7.0	0.38 MB / 7.39 GB	2016/09/01 12:38:52	99.3%
<input type="checkbox"/> Base15U.01.14	9F1A	GSR+	LogAndStream v0.7.0	0.25 MB / 7.39 GB	2016/09/01 12:38:55	100.0%

Base15U.01

ConsensysPRO v1.0.0

MANAGE DEVICES

LIVE DATA

MANAGE DATA

TRIAL NAME: DefaultTrial

SHIMMER NAME: Shimmer\_38EB

SAMPLING RATE (Hz): 51.20

Reset

Start/Stop Logging Method

User Button

Undock/Dock

SENSORS

ALGORITHMS

CALIBRATION

Low-Noise Accelerometer

Wide-Range Accelerometer

Gyroscope

All config options above apply to each of the Shimmers listed in the table below

#### AVAILABLE SHIMMERS

LOCATION	BT RADIO ID	EXPANSION	SHIMMER NAME
Base15U.01.08	8066	GSR+	Shimmer_8066
Base15U.01.09	7711	None	Shimmer_7711
Base15U.01.10	9C70	ECG/EMG/Resp	Shimmer_9C70
Base15U.01.11	38EB	GSR+	Shimmer_38EB
Base15U.01.12	76FF	None	Shimmer_76FF
Base15U.01.13	9D34	ECG/EMG/Resp	Shimmer_9D34

BACK

ConsensysPRO v1.0.0

MANAGE DEVICES

LIVE DATA

MANAGE DATA

AVAILABLE DEVICES (3/3) (SELECT SHIMMERS FROM THE TABLE FOR BLUETOOTH CONFIGURATION)

SELECT	DEVICES	RECORDING DETAILS AND STATUS
<input checked="" type="checkbox"/>	9F1A (Shimmer_9F1A)	Trial: DefaultTrial Time: 2016/09/01 12:54:36 Live Session: N/A
<input checked="" type="checkbox"/>	5331 (Shimmer_5331)	Trial: DefaultTrial Time: 2016/09/01 12:54:36 Live Session: N/A
<input checked="" type="checkbox"/>	76FF (Shimmer_76FF)	Trial: DefaultTrial Time: 2016/09/01 12:54:36 Live Session: N/A

CONNECTION (3/3)

CONFIGURE (3/3)

STREAM (3/3)

RECORD (3/3)

START (0/0)

STOP (3/3)

DATA VISUALISATION (Active: Plot 4)

Plot 1

Plot 2

Plot 3

Plot 4

Shimmer\_5331 Accel\_LH\_Z CAL m(g)<sup>2</sup>  
Shimmer\_9F1A Accel\_LH\_Y CAL m(g)<sup>2</sup>  
Shimmer\_9F1A Accel\_LH\_X CAL m(g)<sup>2</sup>

Shimmer\_76FF Accel\_LH\_Z CAL m(g)<sup>2</sup>  
Shimmer\_76FF Accel\_LH\_Y CAL m(g)<sup>2</sup>  
Shimmer\_76FF Accel\_LH\_X CAL m(g)<sup>2</sup>

Shimmer\_38EB Accel\_LH\_Z CAL m(g)<sup>2</sup>  
Shimmer\_38EB Accel\_LH\_Y CAL m(g)<sup>2</sup>  
Shimmer\_38EB Accel\_LH\_X CAL m(g)<sup>2</sup>

# LID Monitor - ClearSky

- **Developed at:** Shimmer Research
- **Platform:** Windows (Java)
- **Date:** 2015
- **Role:** Co-Lead Developer

App to monitor the side effects of medication for Parkinson's sufferers using six IMU sensors



ClearSky v0.0.1

# Welcome.

ClearSky<sup>®</sup>  
medical diagnostics  
shimmer

Waiting for patient details

Stage 1 of 6

## 1. Patient details

Please fill in the information on this page and click 'Next' when you are finished.

NHS Number:

Test start date & Time:

ClearSky v0.0.1

# Welcome.

ClearSky<sup>®</sup>  
medical diagnostics  
shimmer

Waiting for Shimmers to be docked

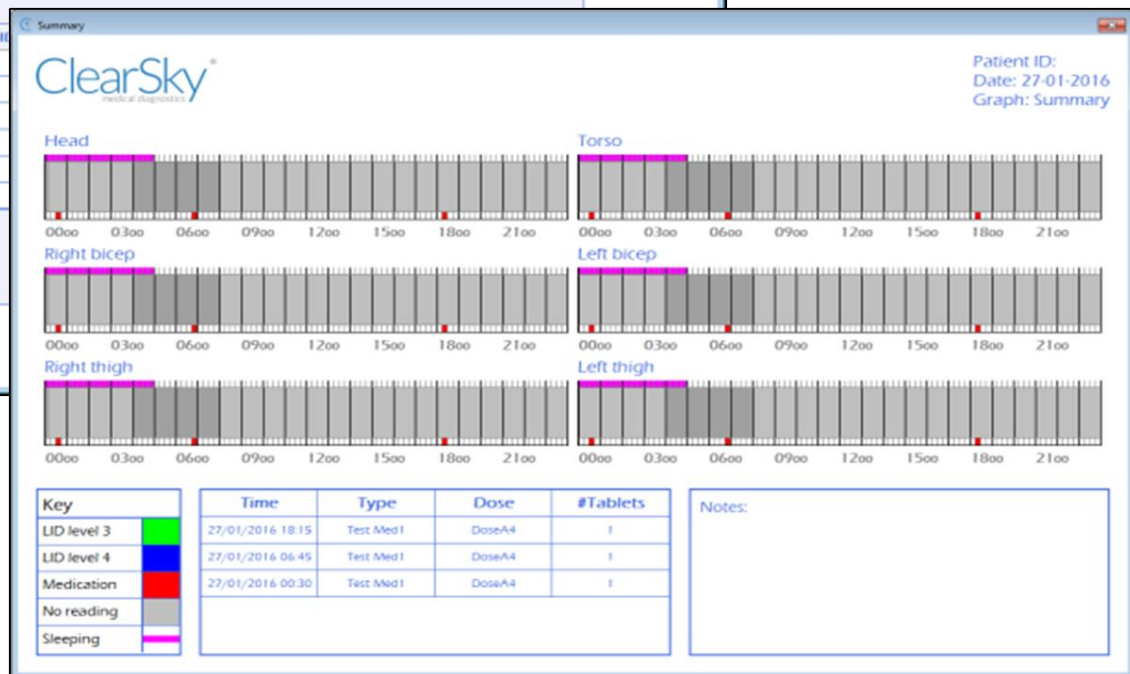
Stage 2 of 6

## 2. Docking Shimmers

Please insert the Shimmers into the Base as shown and click the 'Next' button when all Shimmers are docked.

Location	Shimmer ID
Base01.01.01	39FF
Base01.01.02	B64D
Base01.01.03	2A50
Base01.01.04	8628
Base01.01.05	9113
Base01.01.06	2A3B

Back



# 9DoF Calibration

- **Developed at:** Shimmer Research
- **Platform:** Android
- **Date:** 2015
- **Role:** Sole Developer – From Scratch

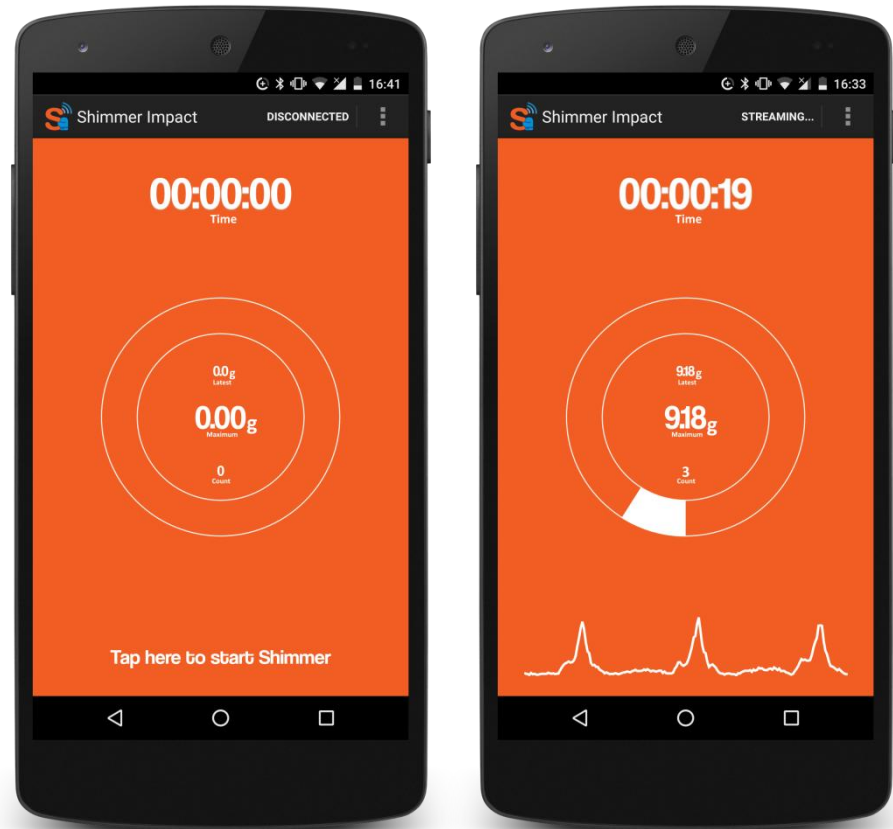
Automated procedure for calculating the calibration parameters for a tri-axial accelerometer, gyroscope and magnetometer



# Shimmer Impact

- **Developed at:** Shimmer Research
- **Platform:** Android
- **Date:** 2014
- **Role:** Sole Developer – From Scratch

App to record high impact events using the Shimmer3 200g accelerometer for tackle bag drills in sports such as rugby and American football



# Shimmer ECG Demo

- **Developed at:** Shimmer Research
- **Platform:** Windows (LabVIEW)
- **Date:** 2014
- **Role:** Sole Developer – From Scratch

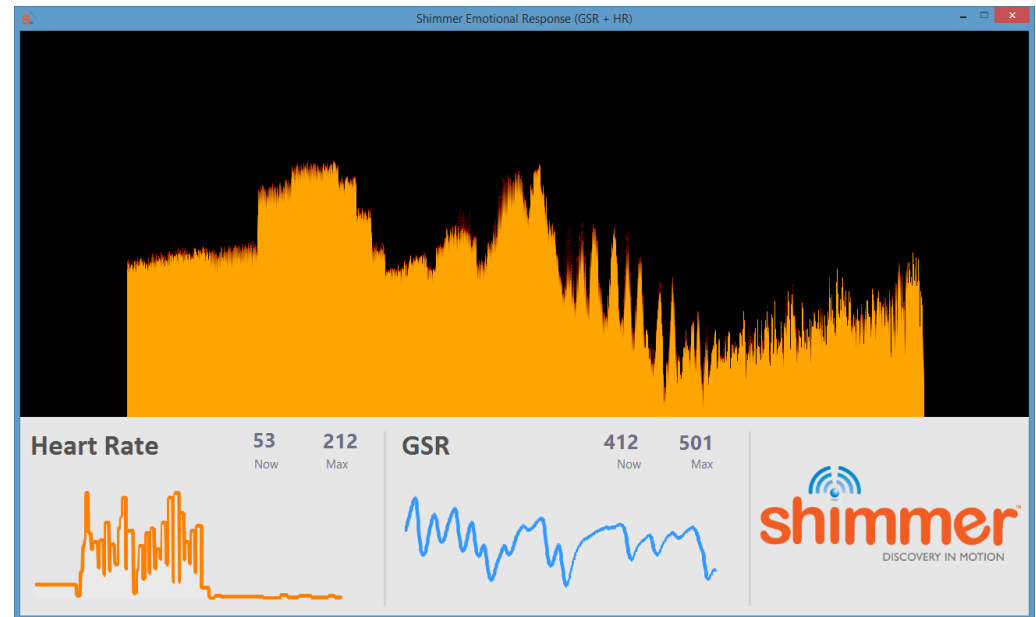
Marketing demo utilizing accelerometer, ECG, and respiration sensor with respective motion, heart rate and respiration rate algorithms



# Shimmer GSR Demo

- **Developed at:** Shimmer Research
- **Platform:** Windows (LabVIEW)
- **Date:** 2014
- **Role:** Sole Developer – From Scratch

Marketing demo utilizing GSR and PPG sensor with PPG to heart rate algorithm





# Shimmer Strain Gauge Demo

- **Developed at:** Shimmer Research
- **Platform:** Windows (LabVIEW)
- **Date:** 2014
- **Role:** Sole Developer – From Scratch

Marketing demo utilizing the strain gauge sensor to see who has the strongest grip strength

