



INNOVATION EXCHANGE CHALLENGE

BOXING PROJECT:
INTRODUCTORY OUTLINE

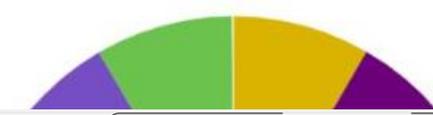
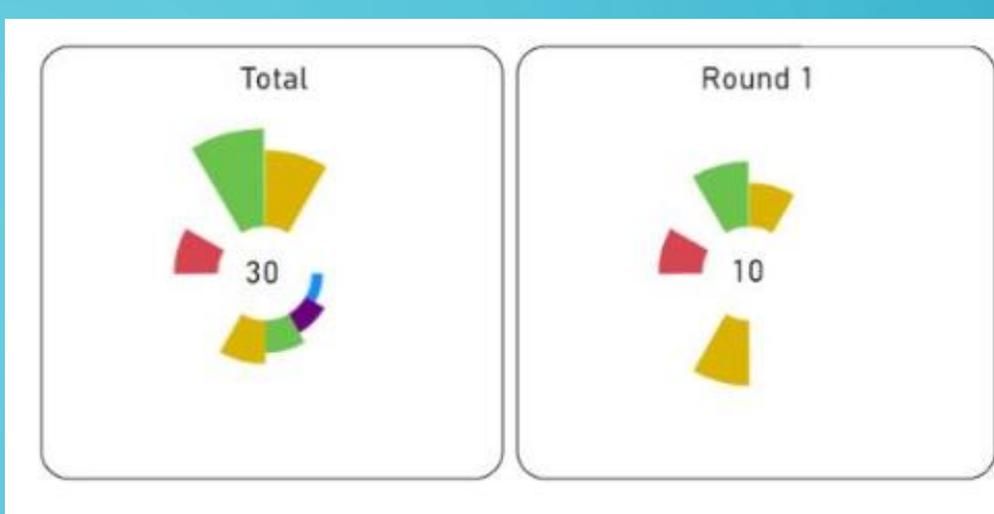
WHAT PROBLEM ARE WE TRYING TO SOLVE....

- Olympic boxing, 3x3 rounds is a combat sport where the round winner is assessed on a range of subjective criteria. Within the Irish Boxing High Performance program we use a bespoke analysis system to assess competitive performance.
- Through the advancement of computer vision/AI, a number of companies have emerged which provides assessment tools providing an in-depth analysis of boxing performance. Within the program we see significant opportunity in leverage these technologies to provide a more robust assessment of training and competitive performance. But what does the output really tell us? Of the many metrics outputted – which can we trust?
- The primary purpose is to use these tools to advance our understanding of training and competitive performance, adding a layer of depth and objectivity which isn't feasible to capture using conventional notational analysis. To develop a more robust assessment of external training load and to paint a clearer picture of how training intensity matches the demands of international competition

THE STARTING POINT

- What is currently in place & why?
 - Bout analysis tool in place
 - Post competition debrief primarily
 - Focus on IN competition performance evaluation

- What we don't know?
 - Within the Training environment
 - How many punches do they throw in the week?
 - Overall training Load – we have a picture but not the full picture



Irish Boxer

Tour Date: All | Primary Boxer: Chang, Yuan

Punch.Type	Score#1	Score#1+	Score#2	Total
BackHand	11	1	2	14
Jab	16		3	19
Left_UCut	1			1
Right_Hook	5		1	6
Right_UCut	2		2	4
Total	35	1	8	44

Rd_Full	Score#1	Score#1+	Score#2	Total
Rd_1	8		3	11
Rd_2	15	1	3	19
Rd_3	12		2	14
Total	35	1	8	44

Opponent: Akbas, Hatice | Stance: All

Punch.Type	Score#1	Score#2	Total
BackHand	4	4	8
Jab	6	5	11
Right_Hook	8	3	11
Right_UCut		1	1
Total	18	13	31

Rd_Full	Score#1	Score#2	Total
Rd_1	4	3	7
Rd_2	7	5	12
Rd_3	7	5	12
Total	18	13	31

Landed - 3Rds

Punch Quality Overview

When analysing landed punches, the quality of each punch is also considered

Score#1+: A Punch which lands with significant power on the target area which often results in a count from the referee

Score#1: A clean landed punch on the target area either head or body

Score#2: A punch which can be seen to land but but clearer does not carry the same 'power' as either of the above

Both figures below represent the % distribution of all landed punches across the full round. For a round with a greater % of Score#1 it can be considered that boxers lands their punches with greater 'quality' than their opponent.

Primary - Punch Quality Landed

Rd	Score#1	Score#1+	Score#2
Rd_1	72.73%		27.27%
Rd_2	78.95%		15.79%
Rd_3	85.71%		14.29%

Opponent - Punch Quality Landed

Rd	Score#1	Score#2
Rd_1	57.14%	42.86%
Rd_2	58.33%	41.67%
Rd_3	58.33%	41.67%

EMERGING TECHNOLOGY - JABBR

Red Boxer Stats: Landed 13, Thrown 34

Time	Type	Status	Quality
01:36	R Hook Head	Landed	●●●●
01:41	L Straight Head	Landed	●●
01:47	L Hook Head	Landed	●●
01:54	L Straight Head	Landed	●
02:15	R Hook Body	Missed	
02:16	L Straight Head	Missed	
02:17	L Hook Head	Missed	
02:18	R Straight Head	Missed	

Blue Boxer Stats: Landed 14, Thrown 43

Time	Type	Status	Quality
01:36	L Straight Head	Missed	
01:41	L Straight Head	Missed	
01:42	L Straight Head	Landed	●●
01:43	L Uppercut Head	Missed	
01:44	R Straight Head	Landed	●●
01:48	L Straight Head	Missed	
01:49	L Hook Head	Missed	
01:50	L Straight Head	Missed	

Red Boxer Balance: Front Foot: Neutral, Back Foot: Neutral, Stance: Orthodox, Distance: Outside

Blue Boxer Balance: Front Foot: Neutral, Back Foot: Neutral, Stance: Orthodox, Distance: Outside

RND 9 of 12 | 1:35 | jabbr.ai



JABBR – WHAT DOES IT DO?

- The Product

- Considered as a training tool

- x12 metrics

- Punches x8 –

- Type
- Outcome
- Power – x6 categories

- Pressure

- Distance

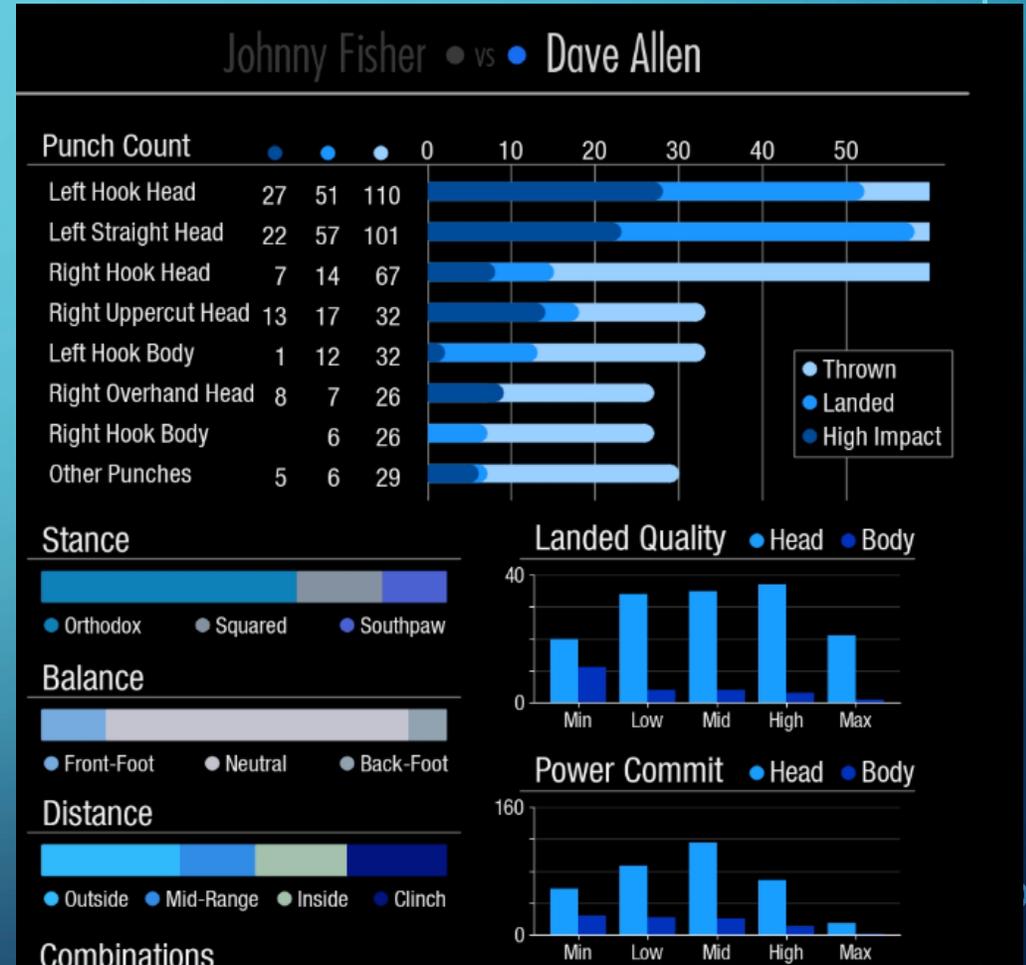
- Aggression

- Balance

- Automates report once video uploads

- Pdf per bout

- csv & json output



XEMPOWER



2025 ~~USA~~ National Championships



2025-12-11 18:00:00 / Evening Session

Youth / Male / 165lbs (75kg)

Bout 9 / Round 1

GULF / ~~Mississippi~~ VS ~~James O'Connell~~ / GA

TOTAL PUNCHES LANDED



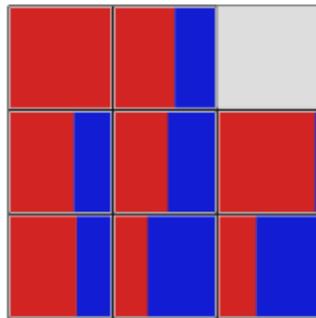
OVERALL COMPARISON



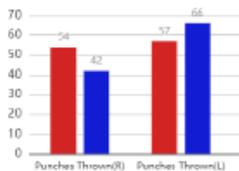
Avg Time Between Punches Thrown

Time(s) 3

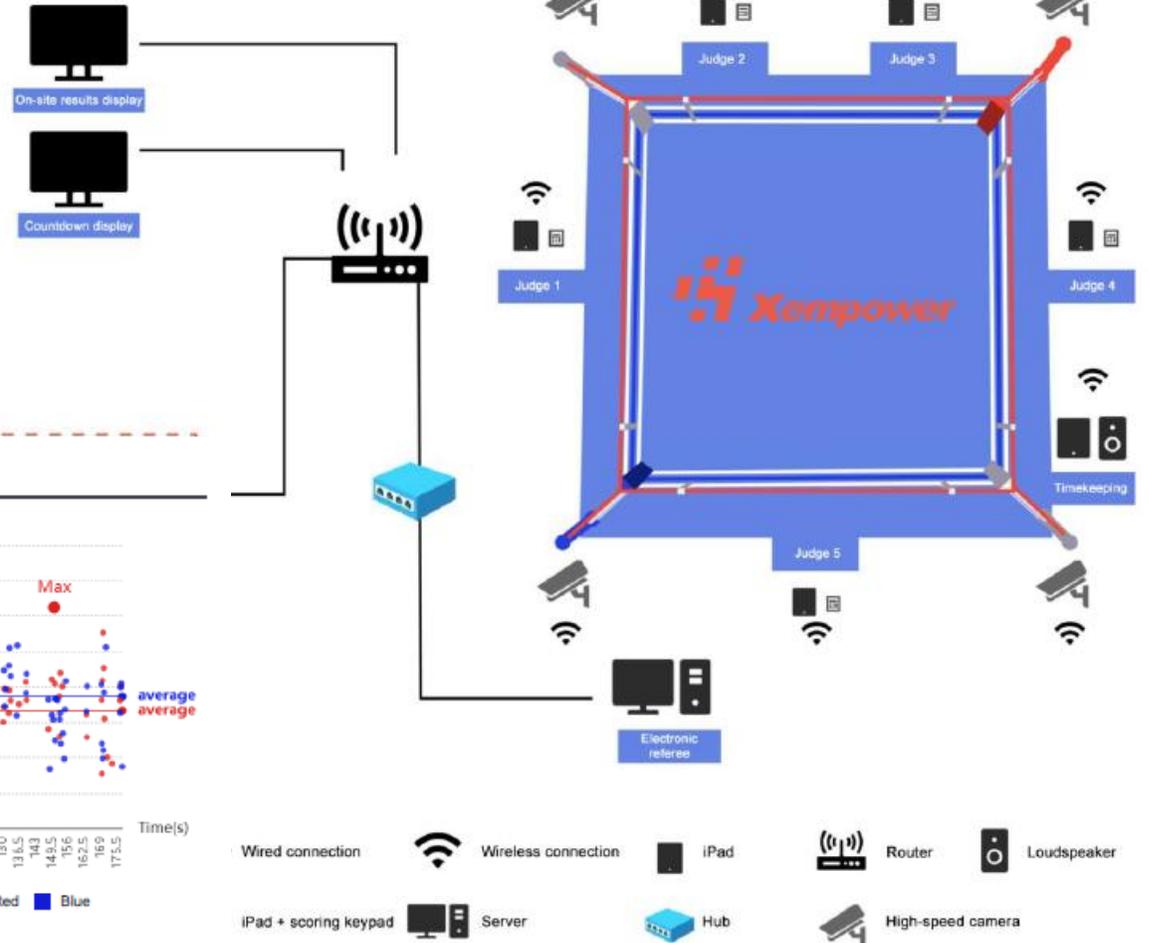
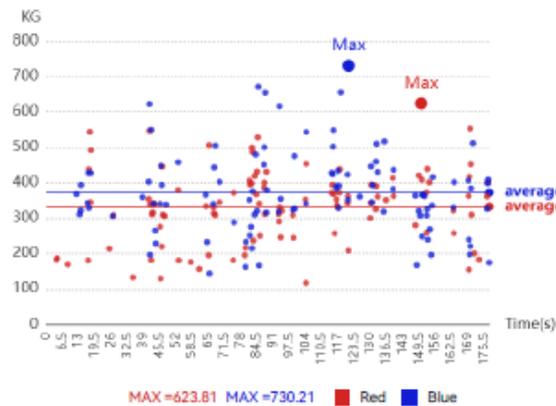
RING POSITION MAP (PUNCH COMPARISON)



PUNCHES THROWN



DISTRIBUTION OF PUNCH POWER



OVERALL APPROACH

Phase 0: Internal Ideation & Scoping

- Why - Would we engage with this technology?
- What - Does it need to do?
- How - Would you use it?

Developing a Coaching tool – they drive the use & application

Phase 1: Jabbr - Phased Integration

Across each variable

- What makes sense to coaches?

- Can we validate objectively?

- Data management, reporting & sharing

Only utilise what we can trust

Phase 2: Integrated sensors

- Sensors in the gloves
- Corner boxing tracker
- Hysko punch tracker
- PIQ Robot blue
- Heart rate
- Whoop, Aura etc.

Paint picture when away from HPU

Phase 3: Instrumented mouth guards

- Likely Medical focus
- Examine application across other sports
- Checks v both Human analyst!, Jabbr & Sensors in the gloves

WHERE WE ARE NOW

- Best case scenario
 - Jabbr v XemPower v Human!
 - 10-12 week trail
- Key pieces for successful trial
 - Validation v Us
 - Coach, Boxer & Analyst
 - Does the output make sense?
 - Data management & reporting
 - Proactive engagement with Tech providers
- What we don't know
 - How to protect our IP
 - Successful project delivery
 - Resource effectively to deliver desired outcome
- Desired Outcome
 - To have a usable system which we can trust in operation within the program in 2026
 - Not all metrics
 - Focus on Punches!
 - Total thrown
 - Outcome – Landed, Missed, Blocked