HealthHack Brisbane 2019

Sponsors Review

HealthHack 2019 Delivered

We saw 9 awesome projects pitched during the closing ceremony of HealthHack 2019. All of them were winners 😻😻😻

CultureFluent

Multilingual appointment notices

A common problem in the healthcare system is that, even after we identify that a person cannot speak English, we continue to provide them with information in English. This is an acute problem with appointment notices. If a patient cannot understand appointment notices they miss out on receiving treatment.
The translation service the team developed can be integrated with an existing system or used as a stand alone app. It can translate appointment information into text messages and printouts.

Problem Owner
David Yohan
Code
https://github.com/HealthHackAu2019/hh19-LNotify
Slides
https://drive.google.com/open?id=1fovQnbc25kVN937FBxz8F7izknW_GsWnJU0VihUUXVU
Video
https://www.youtube.com/watch?v=W3pNZtsTCVw

Donate-a-Mole

Identify melanoma 'hotspots' through citizen science

We don't have a lot of data around where on the body people have moles appearing and how that relates to instances of melanoma. The team developed a smartphone and desktop app that allows a person to take a photo of a mole and mark it's location on their body and submit this to be used in building a database of moles by body location so that research can be done to identify high risk areas. Hopefully this will help diagnose melanomas sooner and also decrease the number of surgeries required.

Problem Owner
Brigid Betz-Stablein
Code
https://github.com/HealthHackAu2019/Donate-a-Mole
Slides
https://drive.google.com/open?id=1CVfRmKPulDbbouH4aS77Icuw_LaIwpNgNErLVbC65FY
Video
https://www.youtube.com/watch?v=KR1lWmiErQA

BioMap

A story of the bike ride

What do rural African girls actually experience when riding a bike to school? How to show the complexity of embodied, situated rural school bike rides to better understand & respond to gendered school travel constraints.
The team delivered an Open Source Dashboard that shows “a story of the bike ride”. It’s a map with biometric, environmental & transcorporeal overlay filters.

Problem Owner
Nina Ginsberg
Code
https://github.com/HealthHackAu2019/BioMap
Slides
https://drive.google.com/open?id=1NPeFcBGfH5SObSeFmiXhm3rZc5O5cEoq2RJkm4MxU74
Video
https://www.youtube.com/watch?v=pR6g01rtSaE

SMARTFLOW

Advanced eyes for strip test diagnosis

It is common practice in developing countries for medical laboratory professionals and clinicians to use a dipstick to detect and interpret a suspected disease like malaria using the naked eye. This visual interpretation has been shown to be unreliable or inconsistent, because it could be interpreted differently by different testers.
The team used a device commonly available, a smartphone camera, to prototype different ways of improving the accuracy of diagnosing test results.

Problem Owner
Dr. Ameh James
Code
https://github.com/HealthHackAu2019/MantisStripTester
Slides
https://drive.google.com/open?id=15Z5onAzbmBPLUUzs6fTrf-zjHcOEjfvur8ImyucJaR8
Video
https://www.youtube.com/watch?v=ay-nKLLTxX4

OMED Assist

GPS for acute pain management

Chronic pain is often treated by prescription opioid therapy. But a significant number of people misuse their opioid medications while others do not realise that long-term use is ineffective for pain. Use of these medications puts people at risk of future harm including adverse effects, dependence, and even death. Currently, access to specialised treatment is poor and there are few interventions that have been developed to address this problem.
The team built a brief, well-designed web-app intervention 'OMED Assist' that can assist people to manage their opioid medications, identify potentially harmful medication use and move them towards considering safer treatment options.

Problem Owner
Rachel Elphinston
Code
https://github.com/HealthHackAu2019/omed-assist
Slides
https://drive.google.com/open?id=1uq7UpBpjv1GYcjDZBdGP_vI-qB2QD9tHjp5hahW_k54
Video
https://www.youtube.com/watch?v=pNQts4eUd_I

What's up kid?

Improving communication for kids in hospital

Younger children making use of hospital services may find it difficult to express their needs such as pain, anxiety, toileting etc. There is currently no simple solution to help younger children to express their needs other than via parents, guardians, teachers, and staff such as play therapists.
The team built a system that asks the child what is wrong, where the pain is , what type of pain it is and that checks in on them every 3- 4 hours. They also built a separate interface that allows nurses to track children's answers and to see if their emotional levels rise. This could also be used as a research tool.

Problem Owners
Finlay & Arwen Canavan (actual children. Check the YouTube if you don't believe it)
Code
https://github.com/HealthHackAu2019/whatsupkid
Slides
https://drive.google.com/open?id=18iYONouvNYum2PDADc38o-IpJk0CVpANdtN4Sn1fKIA
Video
https://www.youtube.com/watch?v=CAndt3kybSc

juno

Virtual babies and training environments for newborn diagnosis

When assessing neonates, Midwives and Doctors too often mistake normal presentations as signs of disease. When this results in unnecessary procedures being performed it can cause distress to the baby / family, and be unnecessarily risky and costly. Educational programs to address this issue are currently delivered using neonatal manikins that don't accurately reflect the clinical signs.
The team delivered two things: an environment to deploy 3D models that can run on a range of devices (including an iPad), which will be used to deliver training materials; and a virtual 3D training manikin that was deployed to the environment.

Problem Owner
Luke Wainwright & Sue Hampton
Code
https://github.com/HealthHackAu2019/juno
Slides
https://drive.google.com/open?id=158FguvsdMyJT4uuR4lt1XvR3Yw9ASswqqrt0tH7WTzk
Video
https://www.youtube.com/watch?v=iSkcxxmh09Y

EatMe2

Image recognition to fight food wastage

Patients developing malnutrition while in hospital is a serious problem. Constraints in the system leave us with paper food charts and plate waste audits as a solution. The team have developed a solution to recognise and classify the food wastage by using a GoPro camera to record plates on the washing-up line.
The team delivered a prototype image recognition algorithm and patient dashboard to track food consumption based on the images of returned meals to the washing-up line.

Problem Owner
Russell Canavan
Code
https://github.com/HealthHackAu2019/EatMe2
Slides
https://drive.google.com/open?id=1v_adPFTvYzSZB0alK61BAueAXVk9eyj10akfQzPVaII
Video
https://www.youtube.com/watch?v=I-VFszMVDSk

CANNACARE

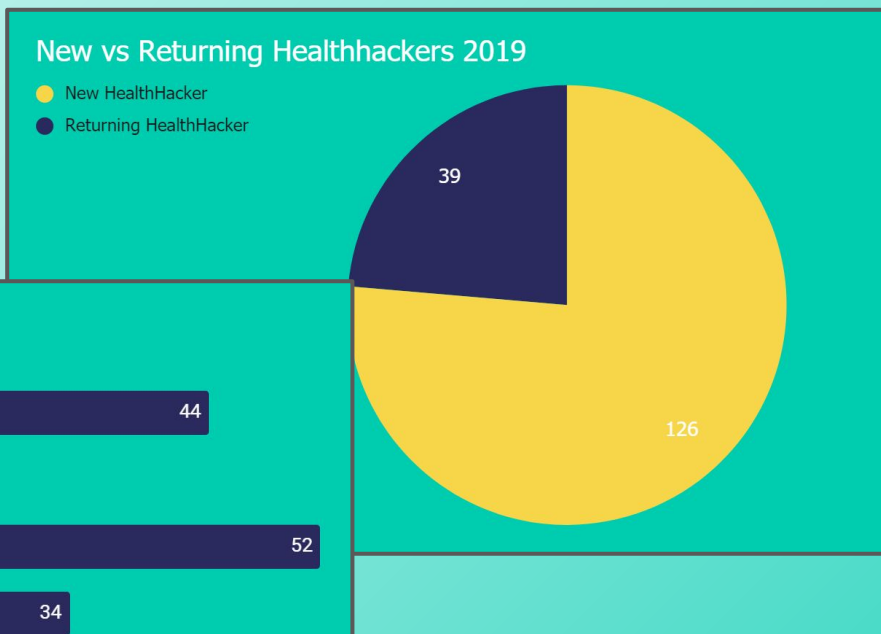
Streamline the process for cannabis trials and research approval

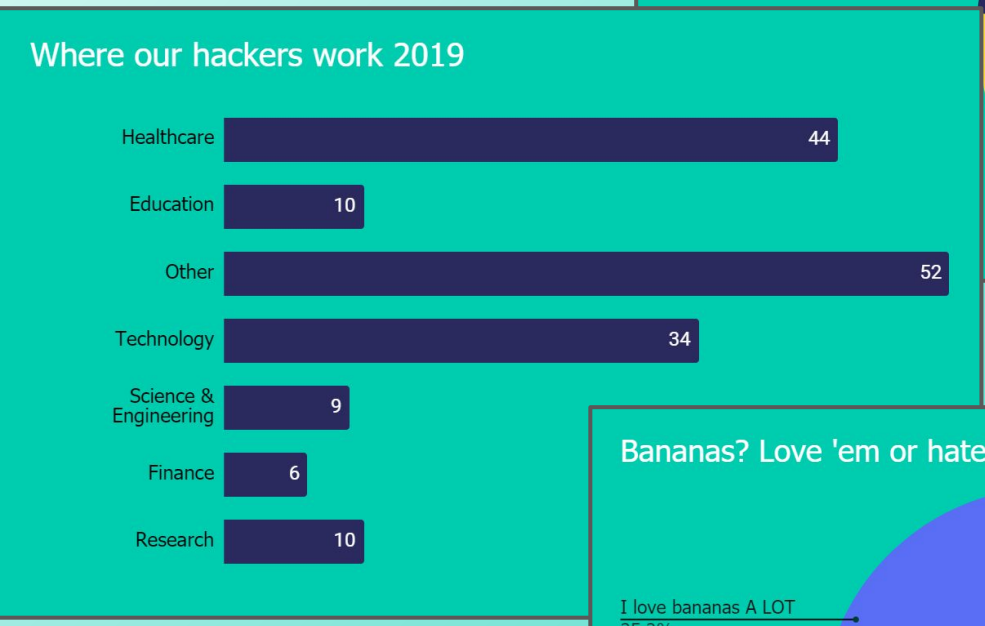
More and more scientific research is being undertaken to isolate and identify the cannabinoids like CBD and THC so we know which sets of molecules work with particular conditions. There are also numerous clinical trials underway in Australia and internationally. This evidence is scattered and of varying standards. The process of gaining approval for trials and research is slow and complicated. The team realised that the entire process of gaining approval for clinical trials was too much to tackle in one weekend, so they focused on building a web based platform where different researchers could automatically redact their submissions and share this information with other researchers and clinicians securely.

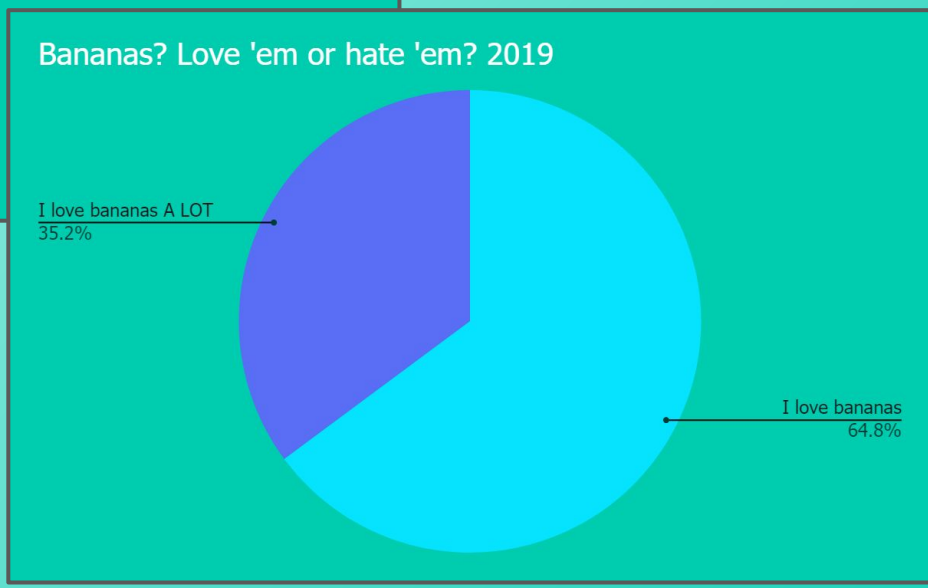
Problem Owner
Monique Lewis and John Flood
Code
https://github.com/HealthHackAu2019/CANNACARE
Slides
https://drive.google.com/open?id=1ck_d0vwwMmpMyLfhK_w9cDtqGcomZppGxH3vuYx_QA4
Video
https://www.youtube.com/watch?v=Zc8Dj1iJRGY

Participant Stats

At the 2019 event, we saw 165+ people attend across the weekend (including opening and closing nights). A record 21 kids were registered for childcare. Here's a few fun facts about our hackers in 2019.







Some highlights from our post event survey of our hackers were:

- Over 90% had shared about the event online or IRL 😻
- Just over 80% said they'd attend again. Just under 15% were maybe to attend again
- For just over 30% this was their first ever hackathon of any kind! We love that HealthHack got to be their first 🙌💚

Participant Feedback

Here’s some of the feedback we got from our hackers when we asked them what they enjoyed about the event

Open, collaborative energy amongst the participants.

Diversity and quality of people, breadth and type of problems, environment and general vibe.

Great energy and great environment. Everyone was welcoming and open to sharing and brain storming ideas. This meant that amazing, innovative solutions to some of healthcare's largest issues were resolved in a single weekend! What a unique and positive event to contribute to.

Amazing team environment from various perspectives coming together to solve challenges in such a creative way.

Very interesting problems and cool tech community.

The Bananas! Haha... the people, the challenges, the location... everything was terrific!

The dynamics with the problem owners. There was someone who understood the problem and *was in a position to implement our solution immediately*

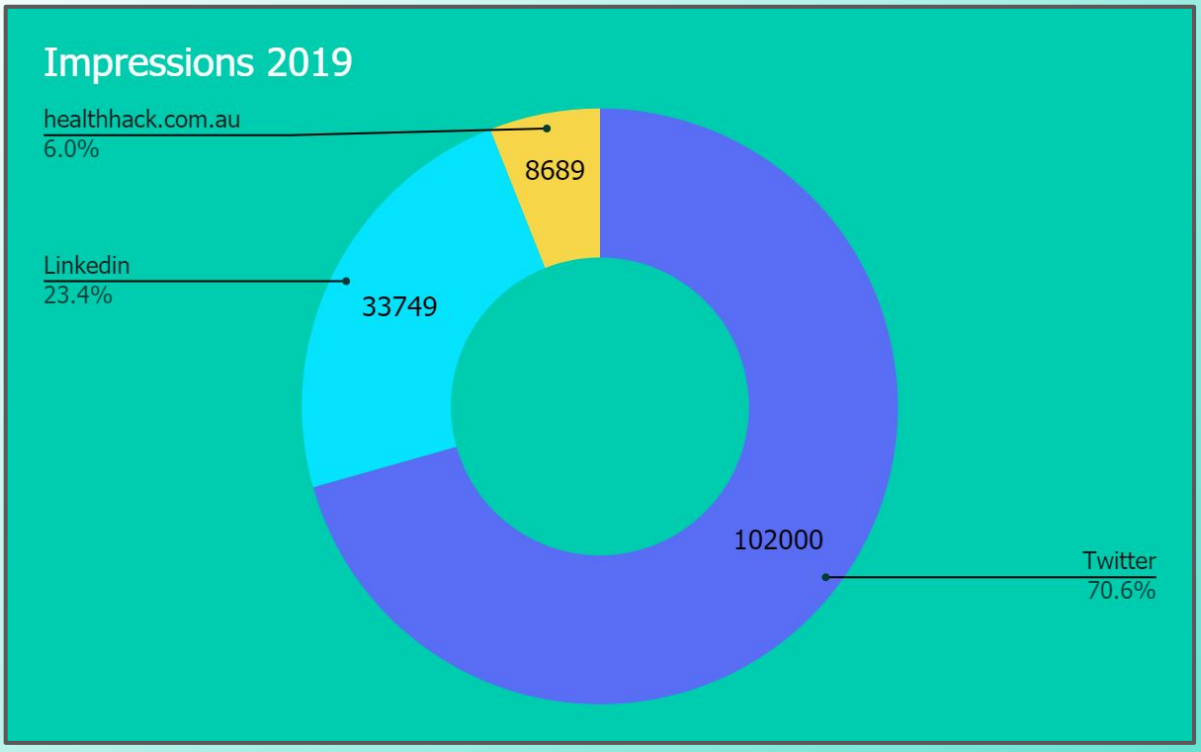
Meeting new people and being able to leverage literally everyone's unique skills. I learnt so much and was great for networking! Crowd was so positive, and it was really nice to be united with total strangers to achieve a goal that could potentially really make the world a better place.

The recognition that individual coders receive for their hard work.

Free childcare, food, drinks. Meeting new people. Solving problems. Catching up with old friends.

The problems were consistently good.

I loved the high energy, the enthusiasm and the spirit of sharing.



Our Social Reach

Twitter

We now have over a thousand followers. During 2019 we saw 102000 impressions for our posts. During the main event period we saw a 1.5% engagement rate.

Linkedin

We now have over 600 followers. During 2019 we saw 33749 impressions for our posts. During the main event period we saw a just under an 8% engagement rate.

HealthHack.com.au

During 2019 we had 5012 unique visitors and 8689 pageviews. Over 50% of all those views came to our Home page, which is where our sponsor logos are situated. Over 50% of our visitors were from QLD and over 70% were from Australia!

Want to learn more?

Visit the website: http://healthhack.com.au/

Watch the final presentations from this year (and previous years)
YouTube:
https://www.youtube.com/channel/UC1l1itVMUJ26TVz3BaBx_Dg

See all the photos from the event
https://www.flickr.com/photos/bystandr/albums/72157706489630691
You are welcome to use any of these pictures as they licenced under Creative Commons, but please remember to credit photos to Dr Nick Hamilton. Twitter is best: https://twitter.com/DoktrNick @DoktrNick

Check out all the code from the weekend on Github
https://github.com/HealthHackAustralia/HealthHackAustralia
(This page contains links to the code for all events since 2013!)

Finally you can follow us on our social media!
Twitter: https://twitter.com/HealthHackAu
Linkedin: https://www.linkedin.com/company/18282422/