



Unearthed



Brisbane
Hackathon
21-23 April 2017
Innovator Kit



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The Unearthed Hackathon – What is it?



**54 hour-long event intended
to prototype solutions to industry challenges**

- Access to open data from resources industry
- Clearly defined problem sets
- Developers work in teams to innovate on problem sets
- Experienced mentorship and judging
- Prizes, recognition, future opportunities
- Teams retain 100% ownership of all IP



Unearthed Community: Welcome!



2000+
Innovators
50+
Challenges
170+
Prototypes

Join the
community:
[bit.ly/UE-
LinkedIn](http://bit.ly/UE-LinkedIn)

#UnearthedBrisbane



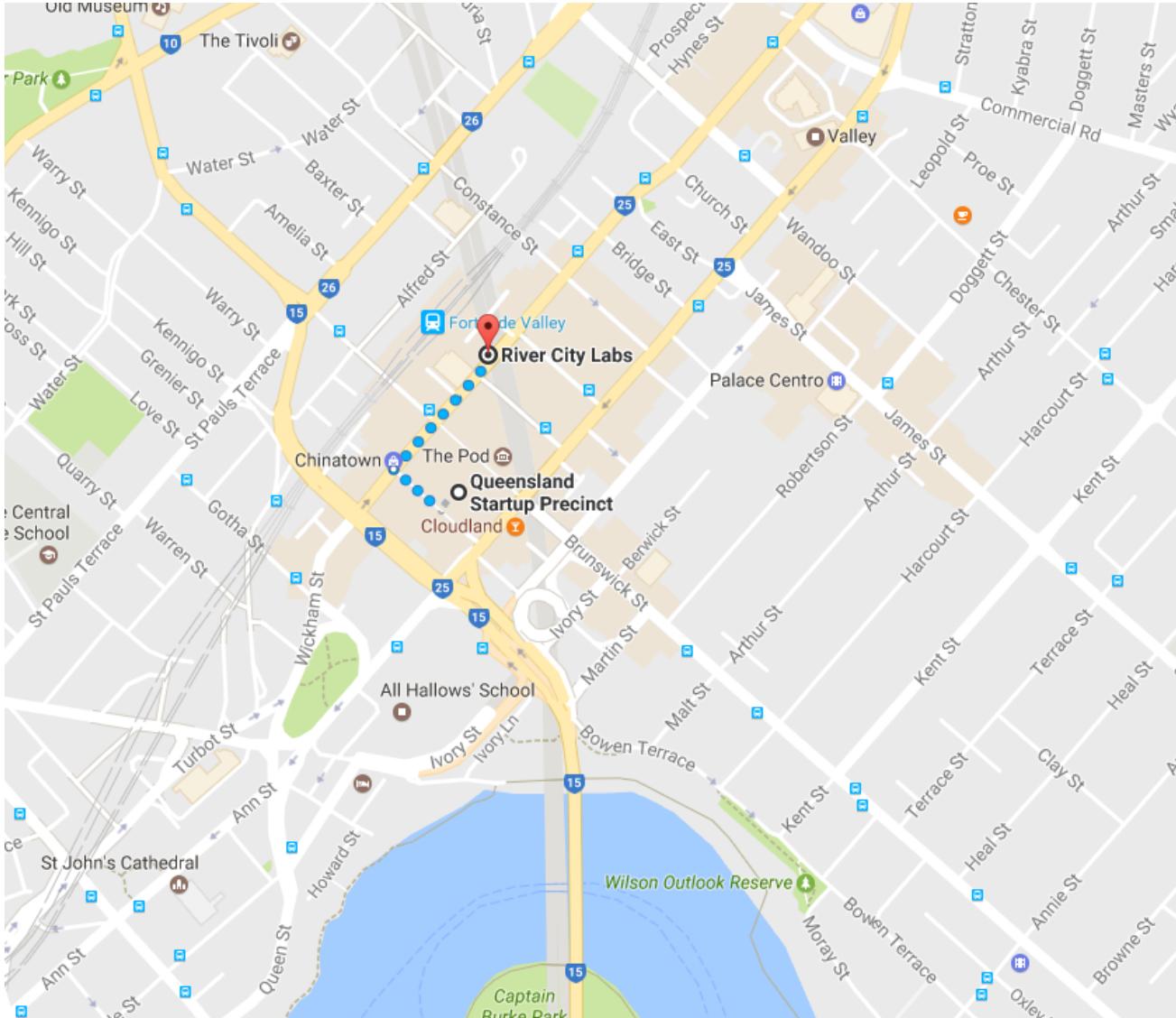
Unearthed Brisbane

Third hackathon that Unearthed has hosted in Brisbane. Almost 300 innovators and entrepreneurs from across QLD have participated in Unearthed hackathons!

21st - 23rd April
Opening Night @ The Precinct
Coding & Prototyping @ River City Labs



Unearthed Brisbane: Where is it?



The Precinct

Level 2, 315 Brunswick St,
Fortitude Valley QLD 4006
(entrance via TCB mall)

Opening & closing nights

& River City Labs

282 Wickham Street,
Fortitude Valley QLD 4006

Hacking/coding at RCL

Visit <http://unearthed.solutions>

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Unearthed Brisbane: Participants

Participants of all ages and backgrounds are encouraged to take part. We encourage participants with the following skills:

- Software developers (aka coders, hackers, programmers etc...)
- Software engineers, mechanical engineers, mining engineers
- Data scientists, mathematicians, analysts
- Software designers
- Entrepreneurs (with little or no technical/coding skills)



Event Schedule

Friday 21 April

17:00 Event Registration
18:00 Welcomes & Key Note Speeches
18:30 Dinner & networking
19:00 Mentor briefings on challenges & data distribution
19:00 **Lets get coding!**
24:00 Close- go home!

Saturday 22 April

08:00 Doors Open
10:00 More mentor briefings
12:00 1 minute status updates & lunch
14:00 Call for Industry Support
18:00 Presentation from startup – Imago
19:00 Last Status Update & Dinner
24:00 Close- go home!

Sunday 23 April

08:00 Doors Open
12:00 Status Updates, pitch coaching sessions & Lunch
14:00 Finalize Prototypes
15:30 Final Deadline to submit
16:00 Presentations Start
18:30 Dinner
19:00 Judging & Prize Awards



Challenges Overview



Challenge #1: “Optimise drilling through real-time performance feedback”

Data analytics for drilling optimisation and real-time performance feedback

Challenge #2: “The well of the future – downhole pressure”

Determine the pressure or level in a well without a gauge

Challenge #3: “Break into our vehicle data to enhance driver safety”

Improve driver safety by leveraging existing data and devices

Full Challenge Descriptions at: portal.unearthedsolutions



Challenge 1 – Drilling Optimisation



Innovation challenge: Data analytics for drilling optimisation and real-time performance feedback

When drilling wells for natural gas production, there are three main factors that define the success of the operation: the total time spent drilling (and thus the cost), the quality of the well, and the safety of the operation. It is, therefore, desirable to be able to drill high quality wells as safely and time-effectively as possible. The objective of this challenge is to provide drilling personnel with real-time feedback on drilling performance and well quality. Furthermore, it would be advantageous to identify which controllable drilling parameters could be limiting drilling performance.

Challenge Owner: **Sylvain Josserand**

Principal Drilling Engineer, Origin [X]



Available Data

For 105 wells, four data sets are provided:

- The Pason data, which details the drilling parameters that were used and measured as the well was drilled;
- The WellView data, which summarises drilling performance in terms of phase duration;
- The logging data, which includes the measured down-hole properties;
- The formation data, which describes the points at which new formations were penetrated during drilling.

Full Challenge Description at: portal.unearthedsolutions

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Challenge 2 – Well pressure level detection

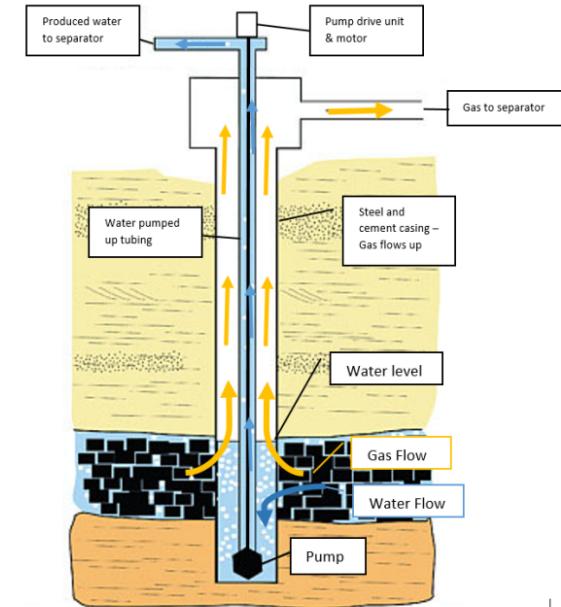


Innovation challenge: Determine the pressure or level in a well without a gauge

When operating coal seam gas wells, it is desirable to know pressure and/or water level at the bottom of the well. This “bottom hole flowing pressure” or “fluid level” is useful in operationally maximising the performance from the well in its operating life and production.

This challenge is to utilise all the live “production data” and knowledge of the installed equipment on a well to determine the bottom hole flowing pressure or water level without the use of a downhole gauge.

The advantage of reducing the bottom hole pressure (or fluid level) is that it has a direct impact/increase on the gas production from each well.



Available Data

- Example production data of wells with down hole gauges for period of 12mths
- Well design information

Challenge Owner: Rob Catchpoole
Principal Development Engineer

Full Challenge Description at: portal.unearthed.solutions

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Challenge 3 - Using vehicle data, improve driver safety



Innovation challenge: Make driving safer by leveraging existing data and devices

Every year, approximately 13,000,000 kms are driven by Origin Energy employees in the context of the [APLNG](#) project and related operations. The APLNG assets stretch over a large geographical area (~300km x 270km).

The above figures emphasise the fact that driving is the largest risk faced by Origin people while working on APLNG every day. Driving includes the operation of light vehicles, heavy vehicles and buses.

Protecting the health and safety of workers and the community is a key priority for Origin Energy. For this reason, most vehicles (including rentals, contractors' and sub-contractors') are equipped with an In-Vehicle Monitoring System (IVMS). The IVMS system records various driving performance indicators including the vehicle location, speed, seat belt use and 2WD/4WD status (4WD compulsory on all unsealed roads by company policy), braking and acceleration forces (to detect harsh driving) and pitch (to detect potential roll-overs). The IVMS has an emergency feature enabling the occupants to raise help if needed. The objective of this challenge is to use the IVMS data to improve road safety outcomes.



Available Data

- IVMS dataset for approximately 300 vehicles over 12 months.
- List of recent vehicle-related incidents

Challenge Owner: Rosie Lamond
Principal Health and Safety Advisor , Origin

Full Challenge Description at: portal.unearthedsolutions

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Team Recommendations

We recommend forming teams ahead of the event!

- We recommend 3-4 people in each team, with each team member bringing different skills to the group (more than 4 people to a team and you spend more time talking and less time being productive)
- If you are unable to form a team in advance, we will form teams on the Opening Night (Friday 21st April)
- Come prepared with a game plan/tech plan
- **Review the challenges & select which challenges you would like to work on**
- Only 54hrs, time goes fast so keep solutions simple and focused
- You and your team own 100% of your IP created across the weekend



Policy on use of Data

Data provided during the Unearthed event is for the participants to use during the event. Use the data provided as you see fit to create awesome and useful prototypes. If you need to reorganize, modify, or delete, feel free to do so during the event.

However, after the event you must either **delete** the copies of data you received, or **contact the data provider / owner** to arrange a long-term licensing agreement. If you have questions or concerns about this, contact us at info@unearthed.solutions.

Data remains the property of the companies providing it for use at the event (Unearthed supporters). By downloading and/or using data provided at an Unearthed event you agree to use the data only for the purposes of the event, and to delete the data at the end of the event.



General Recommendations

1. Come Prepared with multiple tech options if possible
2. Be ready to parse! csv is your friend.
3. Know your spatial options and keep them open.
4. Ask questions early. **Data mentors** will be there.
5. Focus on Key Feature. Don't over-commit!



Hackathon Rules

1. All code, design, and assets must be created during the Hackathon or freely available to the public
2. Must submit a presentation & prototype by 3:30pm Sunday
3. All teams retain full ownership of what they have created during the Hackathon. (*barring any agreement you have with an employer, etc.)
4. Be Respectful, Be Thoughtful, Be Open, Have fun
5. If you are under 18yrs old you must let organisers know



Intellectual Property

Should I sign an agreement with my hackathon team?

Promising startups sometimes fail because of disputes between founders. Often these disputes arise from ambiguity over who contributed and who owns what. Don't take our word for it, consider some of these examples:

- <http://pollenizer.com/dont-get-winkelvossed-have-a-conversation-about-equity-before-you-go-to-deep/>
- <http://www.bothsidesofthetable.com/2011/05/09/the-co-founder-mythology/>
- <http://www.shakelaw.com/blog/dont-get-winklevossed-get-writing/>

Don't let this happen to you! We highly recommend signing a co-founder agreement or hackathon collaboration agreement. Here are two excellent, free documents for you to pick from:

- <https://lawpath.com.au/legal-documents/co-founder-agreement>
- <http://www.docracy.com/0e4e5cc0kce/re-re-revised-hackathon-collaboration-agreement>

**** You own what you produce over the course of the Unearthed hackathon****

****Unearthed, nor the supporting companies claim ownership over any tech prototypes****



Judging

Judging Criteria

1. How **Creative** is the solution?
2. How **Impactful** the prototype can it be?
3. How **Easy** is it to Use?
4. How **Viable** and Scalable is the prototype?



Judges



Simon Orton

GM – Value Chain, NERA



Monica Bradley

Founder, Purposeful
Capital



Maia Schweizer

Chief Development Officer,
Origin Energy



Rob Catchpoole

Principal Surface Facilities
Development Engineer,
Origin Energy



Trent Weier

Senior Director, Value
Engineering, SAP



Keynote Speakers



Prof. Suzanne Miller

Queensland Chief Scientist



Maia Schweizer

Chief Development Officer, Origin Energy



Kathy Bunce

Accelerator Program Director,
Unearthed



Peta Ellis

CEO, River City Labs

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Prizes

1st Prize

\$2,500 cash +
\$3000 in credits &
support from AWS

2nd Prize

\$ 1,500 +
\$2000 in credits &
support from AWS

Young Innovator Award

\$1,000 +
\$1000 in credits & support
from AWS

Accelerator Program 2017

All top teams will be fast-tracked in their
potential application to the Unearthed
Accelerator Program

People's Choice Award

Tech Prizes for the People's Choice Award



Amazon Web Services Credits

Unearthed Hackathon participants are provided \$100 free AWS Credits on the AWS Activate program to build their prototypes:

- **Sign up here:** [LINK PROVIDED ON OPENING NIGHT](#)
**Link will be active at opening night of the hackathon
- **Credit code for:** \$100 AWS Promotional Credit Code will be sent within 1 hour via email after you sign up.
- Participants are provided stacks of other awesome perks!
Visit [AWS Activate](#)





Hackathon Portal

To confirm your participation at Unearthed Brisbane, all participants must create an account on the Unearthed Portal before submitting prototypes at 3:30PM on Sunday:

<http://portal.unearthed.solutions>

- Must submit team names and prototype description here
- Submit any photos/screenshots of your prototype here
- Teams submit **final pitch deck here**



Slack Channel

Between now and the beginning of the event, participants can post comments and interact on the slack channel **#unearthedbrisbane17**



Register for the #global channel here:

http://unearthed.link/UEBRIS_Slack

Only those registered for the event as “innovators” will be added to the slack channel. The channel will also be used throughout the weekend to quickly communicate messages and updates to all.



Mentor and Volunteer Support

1. Expert mentors will be on hand all weekend from Origin. Mentors can answer any questions you have around the challenges
2. A number of data mentors will be available to help with data and technical issues over the weekend. Mentors are here to assist teams throughout the weekend, please be respectful and courteous.
3. Specialist technical mentors from AWS, SAP and the startup community will also be on-hand all weekend.



Things to Bring

1. Please label all your stuff so we can return it to you if you leave it behind. Remember, most of you are working in a foreign space so take care with your possessions
2. You will probably want to bring with you:
 - Your laptop or development platform
 - Monitors, screens
 - Power plugs, power boards, keyboards, mouse, headphones...
 - A coffee mug or water bottle; and,
 - Open mind and enthusiasm



Food, Drinks, Snacks & Coffee

The following meals will be supplied:

- Friday: Dinner & Drinks
- Saturday: Breakfast, lunch, dinner
- Sunday: Breakfast, lunch, dinner & drinks
- Coffee is available all weekend. Please reach out to one of the Unearthed staff members for help if you need it
- Fresh fruit is also available all weekend!

The organisers have endeavored to accommodate various dietary requirements. If you have severe allergies or important dietary requirements please let the Unearthed team know: @Unearthed_S or mikey@unearthed.solutions.



Internet Connectivity

River City Labs provides free WiFi:

1. **Network:** RCL-282-5G
Password: wifi@RCL

Details on the wifi will again be provided on the Opening Night

Please make sure the laptops or computers you bring can connect via WiFi, or that you bring a WiFi dongle. **Hard connections are not available at the venue.**



Parking & Transport

McWhirters Secure Parking

Across the road from RCL on Warner Street, Fortitude Valley.

Cost: \$5 if pre-booking

<http://www.secureparking.com.au/car-parks/australia/qld/brisbane/mcwhirters>

Fortitude Valley train station is a 5 min walk from River City Labs, buses are also available throughout the valley. **Uber** is also an ideal method of transport.



Emergency Contacts

Mikey Kailis, Growth Manager, Unearthed

0411264650 mikey@unearthed.solutions

Tarryn Thiele, River City Labs

0424525621 tarryn@rivercitylabs.net



Occupational health and safety 1 of 2

OH&S refers to policies, procedures, legislations and activities, which aim to protect the health and safety of people within a workplace. It is imperative that your health and safety is never compromised.

- If you have any existing injuries, inform a volunteer
- If you notice any hazards, report them immediately to a volunteer (e.g. water spillages)
- Minimise the risk of tripping by placing gaffer tape over cords, securing them to the floor
- Place tables and electrical items close to the power outlets whenever possible



Occupational health and safety 2 of 2

Think before you lift!

Manual handling occurs when you are lifting, lowering, pushing, pulling, carrying, moving, holding, re-straining any person or thing. It's unlikely you'll have to lift anything heavy at this event - do you really need to be moving that?

First aid

If the person is unconscious or requires an ambulance, dial 000.

Emergency procedures

Details of emergency procedures will be introduced to participants during induction and on display within the venue. Make yourself familiar with these procedures at any time you're onsite.



Unearthed Brisbane Supporters



#UnearthedBrisbane



Keep the conversation going...

 slack Slack Channel

Signup at: http://unearthed.link/UEBRIS_Slack

Facebook facebook.com/UnearthedSolutions



Our Facebook page will provide progress updates throughout the weekend, and will hold the photos of the weekend. Post photos of your teams and share them. It's a great way to show what you achieved.

Twitter



Ask any questions online by linking [@Unearthed_S](#). Please also use [#UnearthedBrisbane](#) throughout the weekend.

#UnearthedBrisbane



Want to learn more?

Unearthed Brisbane Info

http://unearthed.link/UEBRIS_17

For challenges:

<http://portal.unearthed.solutions>

Contact us:

unearthed.solutions

info@unearthed.solutions