

Ecch

1

Problem Title ELECTRICITY BILL STRESS Author GRANT COBLE-NEAL

I am an electricity consumer with a lot of electricity appliances and a fixed income
 I am trying to minimize my electricity bill
 so that I can afford to buy groceries
 But, I don't know which appliances are consuming the most power and I don't
know how to manage my consumption problem to maintain my household services with a lower bill
 because I cannot see how much electricity each appliance is using
 which makes me feel stressed & angry

characteristic
 Outcome to be achieved
 Purpose of Outcome
 Root Cause of problem

The root cause is a Social Environmental Economic issue. (Tick one cause)
 Root cause is specific to the mortgage & retiree homes across Perth (suburban areas)
 during Summer & winter
 for stressed home owners with large mortgages & fixed incomes
 when I am at home trying to keep cool/warm activity is occurring.

Location
 Date/time (if relevant)
 identity of person/organisation/thing

EXAMPLE:

- I am a free-lance courier with assigned suburbs and my own vehicle.
- I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
- The problem is a [Social + Environmental + Economic] issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title _____

Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

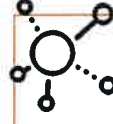
Prototype would take:

- Weeks
- Days



Explain the solution idea

See CS100 "Eddy" project.



Critical dependencies and resources required to prototype the solution:

Bean




1

Problem Title Market garden Owner Author Grant Coble - NEM

I am a market gardener with a large operation characteristic and large expenses characteristic
 I am trying to minimise Operational expenses & maximise produce Purpose of Outcome
 so that I can remain viable in the face of strong supermarket competition
 But, I am being squeezed by supermarket chains & could go broke Problem
 because Market prices are falling which costs are rising Root Cause of problem
 which makes me feel stressed Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)
 Root cause is specific to needing farm labourers, lack of fertilizer, & pesticides to produce high quality Location
 during planting season, especially winter frosts Date/time (age if relevant)
 for my customers Identity of person/organisation/thing
 when my vegetables are growing Activity is occurring.

EXAMPLE:

-  I am a free-lance courier with assigned suburbs and my own vehicle.
-  I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
-  The problem is a ~~Social~~ ~~Environmental~~ ~~Economic~~ issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title _____ Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

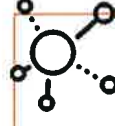
- Complex to explain
- Simple to explain

Prototype would take:

- Weeks
- Days



Explain the solution idea



Critical dependencies and resources required to prototype the solution:

Even

1

Problem Title BUDGET CLASH Author ROBERT HIND



I am the courier/traffic with a SAFETY + BUDGET and TRAFFIC RESPONSIBILITY characteristic
I am trying to PREVENT DAMAGE TO BUDGETS Outcome to be achieved
so that TRAFFIC FLOWS, SAFETY FOR THE COMMUNITY, BUDGETS OF COURIERS TO
But, OVERSIZED VEHICLES USE ROUTE + DRIVERS NOT AWARE Problem



because MULTITUDE OF REASONS VEHICLES LEADS ARE TOO LARGE Cause of problem
which makes me feel FRUSTRATED, ANGRY, ANXIOUS

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to SPECIFIC ROUTES (ROADS + BRIDGES), VEHICLES (LARGE)
during AT ALL TIMES Date/time range if relevant

for COUNCIL Identity of person/organisation/thing
when LARGE VEHICLES ARE PASSING UNDER BRIDGES Activity is occurring.

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social + Environmental + Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

(5)

1

Problem Title SHARKS!

Author CAM JEVENS




I am A DAD characteristic with a FAMILY characteristic and LIVE FM FROM THE BEACH characteristic
 I am trying to FIND OUT IF THE BEACH IS OPEN/CLOSED / SAFE Outcome to be achieved
 so that I DONT GET TO THE BEACH AND FIND ITS CLOSED Outcome
 But, THAT IS NO WAY TO TELL IF A SHARK IS PROBABLY STARTED
 because THOROUGHLY TO THE BEACH
 which makes me feel ANNOYED + HOT! Emotion

Root Cause of problem

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to BEACHES Location
 during AN DAYLIGHT (MAINLY SUMMER) Date/time/page if relevant
 for BEACH GOERS Identity of person/organisation/thing
 when SHARKS ARE AROUND Activity is occurring.

EXAMPLE:

-  I am a free-lance courier with assigned suburbs and my own vehicle.
-  I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
-  The problem is a Social / Environmental / Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title

Automated Duesen Alam Author/s

TEAM A

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

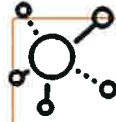
Prototype would take:

- Weeks
- Days



Explain the solution idea

AVHE-S 4 SAFETY A.I.D IS "ACTIVATED",
 A NOTIFICATION IS SENT TO RELEVANT
 PARTIES (POLICE, AMBO ETC...)



Critical dependencies and resources required to prototype the solution:

SELECTION OF APPROPRIATE IOT DEVICE ("RUST")

5

1

REAL-TIME PARKING.
Problem Title BROADBEN MOUNTAIN Author CHAM

I am A BUSY SHOPPER with a NEED TO GET AN OUTFIT and I NEED IT NOW
I am trying to FIND AN EASY PLACE TO PARK
so that IT MINIMISES TIME
But, EACH TIME I GO TO THE SHOPS THERE'S NO PARKING
because I CAN'T TELL FROM ~~THE~~ HOME IF SPACES ARE AVAILABLE
which makes me feel FRUSTRATED

characteristic

Outcome to be achieved

Purpose of Outcome

Identity of person/organisation/thing

Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to ALL BUSY SHOPPING CENTRES
during SHOP OPENING HOURS
for SHOPPERS
when I is occurring.

Date/Time range (if relevant)

Identity of person/organisation/thing

Activity

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social + Environmental + Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title

CAR SPACES!

Author/s ~~RETURNS~~

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

- Weeks
- Days



Explain the solution idea

~~SENSOR THAT DETECTS FREE PARKING SPACES AND SENDS DATA TO A MOBILE APP WITH ABILITY TO ALLOW USER TO NAVIGATE TO CORRECT SPOT. SUCH AS OTHER APPS. USERS OF THE APPS TO USE INTELLIGENT. A COMMUNITY APP THAT SHARES YOUR AVAILABLE PARKING SPACES~~



Critical dependencies and resources required to prototype the solution:

1

Problem Title Home Security Author Sarada Lee



I am home-owning with a recent break-in characteristic and increase security in my house characteristic so that I can ~~leave~~ go home with peace Outcome to be achieved

But, my existing security alarm system is passive Purpose of Outcome
and ~~not~~ limited to internal detectors ~~and sensors are not reliable~~ Problem

because external sensors are not reliable and existing solutions can be cost-prohibited. Root Cause of problem

which makes me feel unsafe Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to time away home Date/time if relevant
 during home-owners identity of person/organisation/thing
 for break-in Activity is occurring.



EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social Environmental Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.



(S)

2

Use Case Solution Title

Home Security Solution

Author/s Bobby. K. Jacob

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

- Weeks
- Days



Explain the solution idea

When ~~person~~ unidentified person is come near to the house, ~~it~~ the sensor has to detect and make alarms and try to send notifications to the owner. But simulated solutions already exist in the market. May be there is a possibility to find some of existing ideas, by incorporating more intelligence. So the systems.



Critical dependencies and resources required to prototype the solution:

1

Problem Title Fuel Prediction

Author MARTIN BROOK

(5)



I am driver characteristic with a car characteristic and I take long journeys characteristic
 I am trying to make sure I don't run out of gas Outcome to be achieved
 so that I'm not stranded Purpose of Outcome
 But, I'm not great at checking fuel levels and I don't always Problem
know where the next gas station is
 because my driving and the car itself vary widely based on Root Cause of Problem
 which makes me feel worried about low gas Emotion



The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to car drives for long journeys Location

Date/time tag if relevant

during any time of the year Frequency of Recurrence

for any driving that involves travel outside large urban areas Majority of Recurrence

travelling for work or pleasure Activity is occurring.

EXAMPLE:

I am a **free-lance courier** with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel **anxious** and frustrated with the parcel receiver.

The problem is a **Social** ~~Environmental~~ ~~Economic~~ issue. It is specific to **suburban areas** during **December** for parcel receivers and couriers when a **delivery** is occurring.

2

Use Case Solution Title FUEL PREDICTIONS

MADHU SUDANAN

Author/s

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

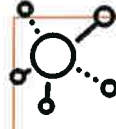
Prototype would take:

- Weeks
- Days



Explain the solution idea

Fuel gauge is available in car but do not show up until it is going to be empty. Long distance drivers need to know how much fuel left and how much distance they can travel and where is next fuel station. Car manufacturers have to improve upon fuel gauges. There should be a device to calculate distance which can be travelled before fuel emptying. Google maps can be integrated to know where is next fuel station.



Critical dependencies and resources required to prototype the solution:

Better fuel gauge by car manufacturers.
Device to calculate distance, which can be covered depending on fuel consumption by engine.

1

Problem Title SOCIAL INCONVENIENCE Author SAN 708H



I am residents ^{characteristic} with a multi-story building ^{flavours} with various neighbours of various ^{distinctive} and ^{characteristic} reduced ^{Outcome to be achieved} to find a way with which false alarms can be

so that inconvenience ^{Purpose of Outcome} to residents in the building is mitigated

But, the current method of detection is primitive and residents sometimes ignore it ^{Problem}

because of false alarms that they keep responding which makes me feel ^{Root Cause of problem} and frustrated

which makes me feel with the current system

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to Residential complex ^{Location}
during odd hours of the night ^{Date/time (age if relevant)}
for the residents ^{Identity of person/organisation/thing}
when an alarm occurs ^{Activity} is occurring.



EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.



I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.



The problem is a Social + Environmental + Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.



5

2

Use Case Solution Title _____

Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

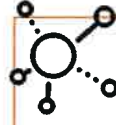
Prototype would take:

- Weeks
- Days



Explain the solution idea

Smart building emergency system with pre-cognition capabilities. As save cost.



Critical dependencies and resources required to prototype the solution:

IoT sensors, edge computing

1

Problem Title GETTING WASHING DRY Author Jim, Baker.

I am A PERSON characteristic with a MOUSE characteristic and WASHING characteristic

I am trying to DRY THE WASHING ON THE CLOTHES LINE Outcome to be achieved

so that THE CLOTHES ARE DRY Purpose of Outcome

But, I NEED TO KNOW WHEN TO BRING THEM IN BEFORE IT RAINS Problem

because THEY WILL GET WET. Root Cause of problem

which makes me feel ANNOYED. Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to WEATHER CONDITIONS Location

during WINTER. Note: check page if relevant

for PEOPLE WHO WASH CLOTHES & USE CLOTHES LINES TO SAVE POWER. Priority of person/organisation/thing

when WASHING Activity is occurring.

EXAMPLE:

I am a **free-lance courier** with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel **anxious** and frustrated with the parcel receiver.

The problem is a **Social + Environmental + Economic** issue. It is specific to **suburban areas during December** for **parcel receivers and couriers** when a **delivery** is occurring.

(E)

2

Use Case Solution Title

~~WILL IT RAIN?~~

Author/s ALEX & GRANT

WILL IT RAIN?

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force (barometer)
- Electric/Magnetic level
- precipitation sensors*

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

- Weeks
- Days



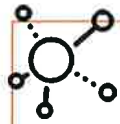
Explain the solution idea

ESTABLISH A GRID OF PRECIPITATION SENSORS CAPABLE OF TRANSMITTING DATA TO CENTRAL HUB TO PROCESS & INTERPRET THE DATA TO MAP AGAINST KNOWING LOCATIONS WITHIN THE GRID. THE SYSTEM MUST BE ABLE TO ~~PRESENT~~ ^{PREDICT} WHETHER IT IS RAINING IN THE DIRECTION OF THE RAIN FRONT. THE SYSTEM WILL ALSO NEED TO CALCULATE THE TIME TO RAIN FOR EACH HOWE LOCATION. THE SYSTEM MUST BE ABLE TO CAPTURE SENSIBLE INFORMATION & PROVIDE ALERTS.

Outline clothes retention method

Critical dependencies and resources required to prototype the solution:

GRID OF PRECIPITATION SENSORS.
 COMMUNICATIONS & SPATIAL MAPPING CAPABILITY
 CALCULATION ENGINE
 APP TO PROVIDE ALERTING FUNCTIONAL



(S)

1

Problem Title Where is my bus! Author Alex Layland

I am bus traveller characteristic with a desire characteristic not to waste time characteristic and remain safe characteristic

I am trying to minimise the time I spend waiting for my bus Purpose of Outcome

so that I save time getting to my destination Outcome to be achieved

But, when I get to my bus stop, my bus is frequently not on time & I have no way to tell when it will arrive

because the bus stop or transport app does not track where the bus is Root Cause of problem

which makes me feel annoyed when it is late or unsafe frustrating at night

The root cause is a Social Environmental Economic issue. (Tick one cause)




Root cause is specific to all bus networks except cat services in city centre Location

during all times of the day that buses run Date/time if relevant

for all bus travellers identity of person/organisation/thing

when bus services are run Activity is occurring.

EXAMPLE:

-  I am a free-lance courier with assigned suburbs and my own vehicle.
-  I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
-  The problem is a [Social / Environmental / Economic] issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title Bus Tracker

Author/s Alex Heyland

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic - *lack of investment*

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

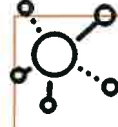
- Weeks
- Days



Explain the solution idea

Customer / bus traveller able to see an app. or on bus shelter display how long it is until the next bus arrives, based on their actual position.

- Needs proximity / position sensor in bus
- Ability to communicate position data back to central hub
- Data store will average travel times for each location to the relevant bus-stop
- APP or display in bus shelter
- If app. will need to pick up customer location.



Critical dependencies and resources required to prototype the solution:

- Bus sensor, comms mechanism
- Bus route information
- Average travel time to each stop database
- App display
- Scope / route for prototype

1

Problem Title Answer door bell Author MADHU SUDANAN

I am trying to answer door bell characteristic with a smart phone characteristic and IoT device characteristic

I am trying to communicate to visitor at my door when I am not in the house Outcome to be achieved

so that visitor can communicate with me Purpose of Outcome

But, I have to check identity of visitor before communicating problem

that I am not at home Root Cause of problem

because visitor may be an intruder and may use the information

which makes me feel Secure Emotion



The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to any suburban house Location

during Any time Date/time (age if relevant)

for _____ Identity of person/organisation/thing

when _____ is occurring.



EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social Environmental Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.



2

Use Case Solution Title Answer door bell. Author/s MADHU SUDHAN

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

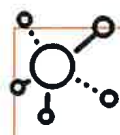
Prototype would take:

- Weeks
- Days



Explain the solution idea

Identify the visitor at door, communicate remotely.



Critical dependencies and resources required to prototype the solution:

→ Internet enabled camera, \$ with MIC

Eden

1

Problem Title Navigating from A to B and. Author Meng-wei Lebe.

I am a consultant characteristic with a planning road trip characteristic and car characteristic

I am trying to visit my clients Outcome to be achieved

so that I can lister to their problems. Purpose of Outcome

But, road traffic conditions may cause me to Problem

be late for client meetings

because of unexpected traffic incidents or road works root Cause of problem

which makes me feel anxious Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to road conditions and congestion spots Location (road planning and maintenance)

during wet weather time range if relevant

for certain time periods when traffic flow increases entity of person/organisation/thing

when driving my car Activity is occurring.

EXAMPLE:

-  I am a free-lance courier with assigned suburbs and my own vehicle.
-  I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
-  The problem is a ~~[Social]~~ ~~[Environmental]~~ [Economic] issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title

Real time vehicular traffic information

Author/s Hong-wei

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

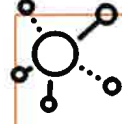
Prototype would take:

- Weeks
- Days



Explain the solution (detail)

Vehicle traffic (density) measured @ intersections and traffic-lights via gas and road vibration detectors.



Critical dependencies and resources required to prototype the solution:

- + Installing the sensors - customised sensor housing or ready-made sensors.
- + Energy source for sensors likely to be lithium batteries, eg CR2032.

5

1

Problem Title Bread + Milk. Author Tom Zorpe

I am a Citizen characteristic with a busy lifestyle characteristic and fresh bread + milk characteristic

I am trying to get fresh bread + milk Outcome to be achieved

so that My kids dont well at the time I get Purpose of Outcome

But, shops are shut well at the time I get home Problem

because They dont operate at my schedule Root Cause of problem

which makes me feel Frustrated + Powerless Emotion

The root cause is Social Environmental Economic issue. (Tick one cause)

Root cause is specific to Suburbs + shops + home Location

during 7pm - 4am Date/time range if relevant

for Busy People like me Identity of person/organisation/thing

when I need bread + milk Activity is occurring.

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social + Environmental + Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title BREAD + MILK Author/s MARTIN ARLOTT

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

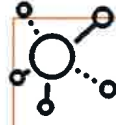
- Weeks
- Days



Explain the solution idea

Crowd sourced solution that offers to provide basic food & milk rights via an app facebook for food & milk

Could use sensors within fridge to detect low levels and use local people who are trusted as people who could provide basic provisions



Critical dependencies and resources required to prototype the solution:

1

Problem Title Homeless Realtime Help Author Don Thatch



I am a concerned member of the community with a limited resource and mobile

characteristic

I am trying to find out where the Homeless are tonight in realtime Outcome to be achieved

so that particular needs can be provided by people in close proximity Body/Start/End/Start/End/Start/End
But, they are not discoverable and very nomadic by nature it is Problem

hard to track monitor their movements

because I don't know where to find them I can't help them nor can the community

which makes me feel sad about knowing they are out there and we could help.



The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to CBD and outskirts.

Location

during both winter and summer

Date/time range if relevant

for any homeless (one night / a family / long term homeless)

identity of person/organisation/thing

when it happens every night.

Activity

is occurring.

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.



I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.



The problem is a Social Environmental Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.



(5)

2

Use Case Solution Title

HELPING THE HOMELESS Author/s MARTIN KRBOT

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

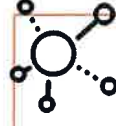
- Weeks
- Days



Explain the solution idea

a simple device given to the homeless that could provide them with random help & needs based on the location and proximity to volunteer help.

Provide food (and shelter) based on need and proximity



Critical dependencies and resources required to prototype the solution:

Device - visibility - App - Crowd solution



Each

1

Problem Title GARAGE THEFT Author HARRIN ARBOR



I am a home owner characteristic with a garage characteristic and valuables characteristic
 I am trying to ensure my garage is shut Outcome to be achieved
 so that things don't get stolen Purpose of Outcome
 But, I'm forgetful Problem



because doors are not automatic Root Cause of problem
 which makes me feel anxious Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to home owners with garages containing valuables Location
 during all times Date/time range if relevant
 for home owners identity of person/organisation/thing
 when garage is left open Activity is occurring.

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social Environmental Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title Garage Theft Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

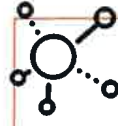
Prototype would take:

- Weeks
- Days



Explain the solution idea

Decision tree process based on movements, sound - light & behaviour which would result in automatic shut down of the garage door.



Critical dependencies and resources required to prototype the solution:

off the shelf sensors assembled by a skilled person...

1

Problem Title Forgetful Kids Author TOM ZORDE

I am a Parent characteristic with a Kids characteristic and they're at school Outcome to be achieved

I am trying to juggle work and parenting Purpose of Outcome

so that I can pay the bills and raise my kids

But, My kids need reminders about not forgetting their books + lunch and other things Problem

because they are forget-full Root Cause of problem

which makes me feel Anxious + stressed Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to MON - FRI Time range if relevant

during Parent + kids. Identity of person/organisation/thing

for My home + school Location

when They are leaving home + school Activity is occurring.

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a [Social + Environmental + Economic] issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title

"Learn from mistakes",

- non-IoT problem.

Author/s

Sarada Kees

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

- Weeks
- Days

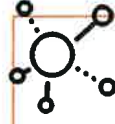


Explain the solution idea

* Trackers / taps on very things. on kids' belongs.

⇒ [But actually, let the kids learn the consequent if they are forgetful.]

- i.e. they needs to "learn" and "save" for their replacements.



Critical dependencies and resources required to prototype the solution:

* Trackers. / Sensors.

(5)

1

Problem Title water craft safety Author C. Hollier

I am a kayaker windsurfer with a small watercraft and 1 train on rivers + ocean

characteristic

characteristic

I am trying to recreate

Outcome to be achieved

so that I get fit

Purpose of Outcome

But, sometime I get in trouble and I am late home.

Problem



because I get separated from my craft or I am injured.

Root Cause of problem

which makes me feel in danger (from my wife)

The root cause is a Social

Environmental Economic issue. (Tick one cause)

Root cause is specific to knowing where I am + where my boat is

Location

during a training session.

Date/time range if relevant

for myself

Identity of person/organisation/thing

when I am late getting home activity is occurring.

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social + Environmental + Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title watercraft safety Author/s E. HOLLIER

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

- Weeks
- Days

Explains the idea 

needed to specific to small cheap unpowered craft. it could also be used to track stolen craft.

Am I ~~using~~ ^{missing} my kayak?

If not send an alert.

Am I upside down? Alert

Am I overdue? Alert

Critical dependencies and resources required to prototype the solution: 

Cost sensitivity of the solution due to

potential equipment cost.

Especially, but very commercial

1




Problem Title DAMN TRAFFIC LIGHTS Author CHRIS HAMRATTY

I am regular driver characteristic with a need to get from a to b characteristic and driving my own car characteristic
 I am trying to get there as fast as possible Outcome to be achieved
 so that I am not late and can spend more time doing lot work! Purpose of Outcome
 But, no matter what time of day it is, the damn traffic lights are Problem
stupid and seem like they are designed to stop traffic flow not help it!!!
 because I DON'T KNOW HOW HARD IS IT!!! Root Cause of Problem
 which makes me feel Road Rage (which is dangerous) Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)
 Root cause is specific to Roads all over Perth (in Houston traffic flows better !!!) Location
 during all times Date/Time (only if relevant)
 for everybody Identity of person/organisation/thing
 when always... especially at night. Activity is occurring.

Please solve.
 Please in Advance,
 Thanks in Chris.

EXAMPLE:

-  I am a free-lance courier with assigned suburbs and my own vehicle.
-  I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
-  The problem is a Social + Environmental + Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

5

2

Use Case Solution Title _____

Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:


- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

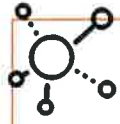
- Weeks
- Days

Engineer solution to be
 flows. focus on car and the lights. It is approaching. 

Each car broadcasts its location which is detected by the lights. ^{The lights} ~~It~~ decides in advance of the car arriving if it can prioritise the lights for that ~~car~~ car. The lights will use information about all cars that are approaching.

Critical dependencies and resources required to prototype the solution:

- GPS sensor on car.
- network.
- server software



2

1

Problem Title WATER QUALITY Author RICHARD

I am A CITIZEN with a COMMUNITY OF FREEDOM characteristic and SHARE OPINION characteristic
I am trying to BE INFORMED OF WATER QUALITY ISSUE Outcome to be achieved
so that OUR COMMUNITY ~~SH~~ SHARES A RESPECTIVE OF A CLEAN COMMUNITY Purpose of Outcome
But, DATA IS OFTEN IN THE PAST AND HARD TO FIND EASILY Problem

because TRADITIONAL METHODS OF LAB TESTING AS COSTLY + TIME CONSUMING + CONTAINING A LOT OF PROBLEMS
which makes me feel ANNOYED Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to SUBURBAN / REGIONAL AREA Location
during THE YEAR Date/time (age if relevant)
for INTEGRATE RISK MANAGEMENT: ANY CITIZEN Identity of person/organisation/thing
when OUT AND ABOUT TO SCHOOL + CLEAN UP THE JUNK Activity is occurring

EXAMPLE:

- I am a **free-lance courier** with assigned suburbs and my own vehicle.
- I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel **anxious** and frustrated with the parcel receiver.
- The problem is a **Social + Environmental + Economic** issue. It is specific to **suburban areas during December** for parcel receivers and couriers when a **delivery** is occurring.

2

Use Case Solution Title Is it safe to swim?

Alex & Grant
Author/s Theng

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence (bio)
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

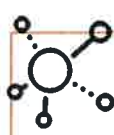
- Weeks
- Days



Explain the solution idea

Place biochemical sensors at popular swimming spots with localised ~~media~~ intelligent monitors ~~interpreting~~ the data automatically & using alerts & warnings to local authorities, media outlets & the general public.

- Smart phone apps
- Localised display



Critical dependencies and resources required to prototype the solution:

Biochemical sensors
 Intelligent monitoring boxes (e.g. PLCs)
 Communication mechanism
 Analytical model
 APP TO SURFACE RESULTS

NOTE: THERE ARE MANY OTHER USE CASES THAT WOULD APPLY E.G. DAMS WITH CONTAMINATED DRINKING WATER
 multi-headed

(S)

Anna e
Clint

1

Problem Title Bus location Awareness Author Anna e



I am Commuter characteristic with a specific time characteristic and I convenient to get somewhere characteristic.
I am trying to get to a destination ~~at~~ Purpose of Outcome
so that I can be on time Purpose of Outcome



But, I don't know if the bus is early or late Problem
because I don't know the bus' location Root Cause of problem
which makes me feel anxious/frustrated Emotion



The root cause is a Social Environmental Economic issue. (Tick one cause)
Root cause is specific to metropolitan areas Location
during all hours Date/time range if relevant
for all bus passengers Identity of person/organisation/thing
when the bus will be arriving Activity is occurring.

EXAMPLE:



I am a **free-lance courier** with assigned suburbs and **my own vehicle**.



I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel **anxious and frustrated** with the parcel receiver.



The problem is a **[Social + Environmental + Economic]** issue. It is specific to **suburban areas during December** for parcel receivers and couriers when a **delivery** is occurring.

(S)

1

Problem Title Home Security Author Sean Druer

I am a home owner ^{characteristic} with a property and a full time job away from home
I am trying to detect people or events (like fire) around my property Outcome to be achieved
so that I can protect my property Purpose of Outcome

But, wifi is subject to power outage and I find it difficult to find
ways to monitor it ^{available}
because wifi is not reliable and sensors are not appropriate or cheap ^{not Cause of problem}
which makes me feel insecure ^{Emotion}

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to per locations susceptible to burglary Location
during night/day time Date/time (age if relevant)
for home owners identity of person/organisation/thing
when they are out home (but asleep) or at work. Activity is occurring.

EXAMPLE:

- I am a free-lance courier with assigned suburbs and my own vehicle.
- I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
- The problem is a Social ~~Environmental~~ ~~Economic~~ issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title _____

Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

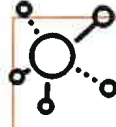
- Weeks
- Days

Explain the solution idea



Get a dog + remember to feed it

Critical dependencies and resources required to prototype the solution:



- 1) Feed the dog! with
- 2) an auto feeder or be nice to your neighbor.

(S)

1

in a Area

Problem Title Availability of Car Parking space Author BOBBY K JACOB

I am person characteristic with a Family coming to the city/mall purpose and for a shopping Outcome to be achieved

I am trying to park my car quickly Purpose of Outcome

so that I can finish my shopping fast Problem
But, the availability of parking space is not known, that make me to
go around the area/differed floors of the mall multiple times
because space availability is not known in advance Root Cause of problem
which makes me feel tiring and stressed Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to Any place [city or mall] where many people are visiting
during any busy day Date/time Page if relevant
for any person who wants to park identity of person/organisation/thing
when ever parking (?) Activity is occurring.

EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social Environmental Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title

PARKING VAGANCY SYSTEM

Author/s

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

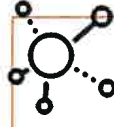
- Weeks
- Days



Explain the solution idea

We need an app

- Address
- 2 Km Geo Fencing
- Car Park displayed on a Map. with availability



Critical dependencies and resources required to prototype the solution:

- Sensors
- Comms
- API registry
- Cloud Platform

1

Problem Title | I cannot sleep | Author | Nicolas



I am a resident characteristic with a bedroom characteristic and very loud characteristic
 I am trying to sleep Outcome to be achieved
 so that I can be in good shape with people who respect for the peace and tranquility
 But, there is sometimes a lot of noise at night Problem



because the neighbour's dog is barking or acting as an idiot in doing what is not his job
 which makes me feel angry and frustrated and sleepless.

The root cause is a Social Environmental Economic issue. (Tick one cause)

Root cause is specific to any the suburbs Location
 during nighttime Date/time range if relevant
 for many people Identity of person/organisation/thing
 when trying to sleep Activity is occurring.



EXAMPLE:

I am a free-lance courier with assigned suburbs and my own vehicle.

I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.

The problem is a Social Environmental Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.



2

Use Case Solution Title NOISE CANCELLATION Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

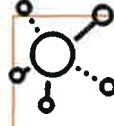
Prototype would take:

- Weeks
- Days



Explain the solution idea

→ Noise Cancellation



Critical dependencies and resources required to prototype the solution:

• Intellectual Edge Computing



1

Problem Title Monitoring people's health Author Xeng-Wei Toke

I am son/daughter with a not sick elderly parents and characteristic
 I am trying to find out my parents' health status Outcome to be achieved
 so that I know they are safe Purpose of Outcome
 But, no way to find out if they accidentally Problem
fell, I have unusual noise,
 because they require attention Root Cause of problem
 which makes me feel anxious, worried. Emotion

The root cause is a Social Environmental Economic issue. (Tick one cause)
 Root cause is specific to both of health information about the person. Date/time (age if relevant)
 during any time of day
 for parents identity of person/organisation/thing
 when parents may accidentally slip or hurt themselves is occurring.

EXAMPLE:

-  I am a free-lance courier with assigned suburbs and my own vehicle.
-  I am trying to deliver parcels and get a signature so that Christmas delivery metrics are met. But, often there is no one there to sign or they take a long time to get to the door because they don't know I am coming which makes me feel anxious and frustrated with the parcel receiver.
-  The problem is a Social + Environmental + Economic issue. It is specific to suburban areas during December for parcel receivers and couriers when a delivery is occurring.

2

Use Case Solution Title _____ Author/s _____

Relevant IoT readings include:

- Optical Light
- Position/Presence/Proximity
- Acceleration/Tilt/Motion
- Temperature
- Humidity/Moisture
- Acoustic Sound/Vibration
- Chemical/Gas presence
- Flow/Throughput
- Pressure/Load/Force
- Electric/Magnetic level

Root cause is:

- Social
- Environmental
- Economic

The idea will be:

- Complex to explain
- Simple to explain

Prototype would take:

- Weeks
- Days



Explain the solution idea



Critical dependencies and resources required to prototype the solution: