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EchoPulse

EMERGENCY

Always call emergency  
services first, if they  
can be reached.

# What

- An entirely on-device AI, trained to act as an emergency services operator.
- Uses a rule-based core, supplemented by a small LLM.
- Interfaced with vocally through a mobile application.
- Designed to help people provide emergency medical assistance in remote areas.

# Who

- People who spend a lot of time in remote areas.
- May not be particularly tech-savvy.
- May already have some amount of first-aid training.
- Likely to own an EPIRB device.

# Why

## The Functional Problem - JTBD

- *When I am assisting in a remote medical emergency,*
- *I want to correctly diagnose the issue and perform the appropriate emergency medical procedure/s without any prior knowledge of how to do so,*
- *So I can keep the victim alive until emergency services arrive.*

# Why

## The Emotional Problem - JTBD

- *When I am assisting in a medical emergency,*
- *I want to stay calm and responsive,*
- *So I can provide the best care possible.*

# Why

## The Social Problem - JTBD

*When I am in a remote area,*

*I want to others to be confident that I can assist them in a medical emergency,*

*So they can feel safe with me.*

# How?





Okay, I'm here to help.  
Tell me what you see.

**There's a woman, lying  
on the ground... she  
looks unconscious.**

Okay, stay calm. Is she  
breathing? Look at her  
chest - is it rising and  
falling normally?

No... I can't see any  
movement. I don't know  
what happened, I was  
just hiking and I found  
her here...





movement. I don't know what happened, I was just hiking and I found her here.

If she's not breathing, we need to start CPR immediately. Place her flat on her back on a firm surface and kneel beside her chest. Do this now.

**Okay, I'm doing it.**

When you are ready, put the heel of one hand in the centre of her chest. Place your other hand on top and interlock your fingers. Then push hard and fast, at least 2 inches deep. I will provide a metronome for pacing.





fingers. Try to be hard and fast, at least 2 inches deep. I will provide a metronome for pacing.

Okay, I'm ready.

### CPR Guidance Mode

Continue compressions to the beat of the metronome...

...

Do not stop compressions. Soon, if you are willing and able, it will be time to administer rescue breaths. These are not required for CPR but may improve chances of survival. Are you willing to administer mouth-to-mouth?





## CPR Guidance Mode

to administer mouth-to-mouth?

Yes.

Do not stop compressions yet. To administer breaths, tilt her head back slightly by lifting her chin. Pinch her nose shut and make a tight seal over her mouth with yours. Give two slow breaths - just enough to make her chest rise. Each breath should last about one second.

Pause compressions now and perform two rescue breaths, then immediately resume compressions. Tell me when you're done.





## CPR Guidance Mode

compressions. Tell me  
when you're done.

Okay, I'm resuming  
compressions now.

Continue compressions  
to the beat of the  
metronome...

...

Administer two rescue  
breaths now.

Done.

Continue compressions  
to the beat of the  
metronome...

...



# Market Validation

- Large, at-risk audience facing higher hospitalisation rates (AIHW, 2024)
- With minimal first-aid ability/training (RFDS, 2020)
- Proven demand from competitors
- Tech ready target demographic (Oviedo-Trespalacios et al. 2019)
- Our solution is unique, fills a substantial market gap.

**Tobias Grice** design & development lead*BCS (Distributed Systems & Networking)*

- Software development (full stack)
- Network engineering
- Artificial intelligence
- Graphic design
- C/C++, Java, Python, HTML/CSS/JS

**Hargun Bains** project manager*Bachelor of Commerce (Marketing and Accounting)*

- Digital marketing strategies
- Efficient in Pos systems to streamline platforms
- Proficient in account softwares and budgeting
- Data analytics
- Analytical skills relating to auditing, tax and financial advisory projects

**Bladen Chen** secretary*Bachelor of Commerce (Marketing)*

- Quantitative market research
- Qualitative market research
- Data analytics
- Business modelling
- Project management

**Valerie Wong** team leader*BBA (Marketing & HRM), MBA*

- Branding and marketing
- Graphic design
- Data analysis/market research
- Business innovation
- Strategic planning



# EchoPulse

Thank you.