

# BRAIN-COMPUTER INTERFACES FOR MOTION SICKNESS DETECTION AND PREVENTION IN VR

Research Idea

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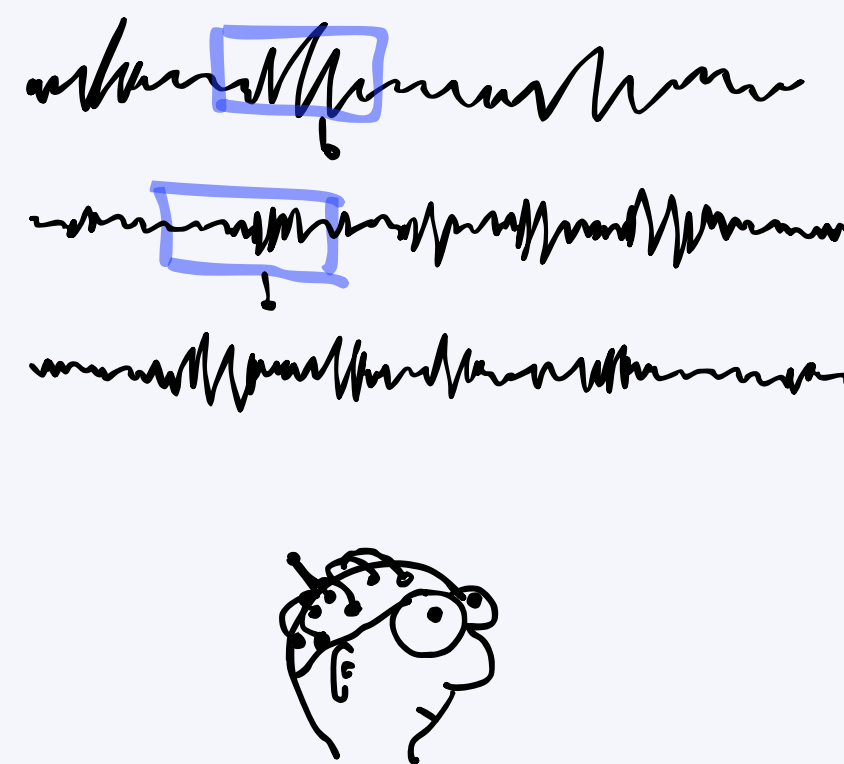
## Introduction

Motion sickness is a common issue in virtual reality (VR), making the experience uncomfortable for many users. This occurs due to a mismatch in sensory information about movement.



## Question

Can brain-computer interface (BCI) technology be effectively utilized to detect and mitigate VR motion sickness symptoms?



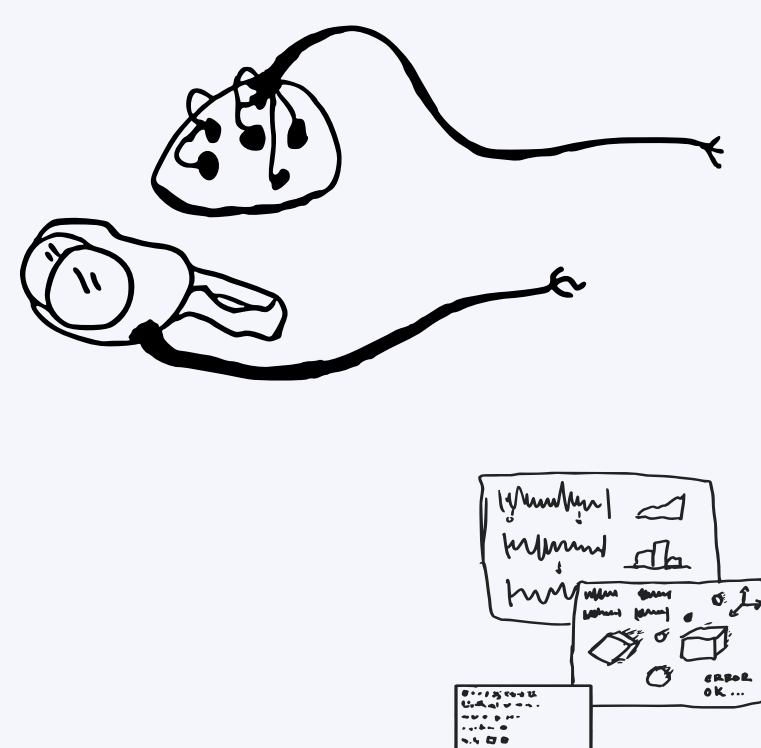
## Objectives

1. To explore correlation between brainwaves and VR motion sickness.
2. To develop a BCI system for detection of VR motion sickness.
3. To explore adaptive VR experiences that adjust based on detected user discomfort.

## Methodology

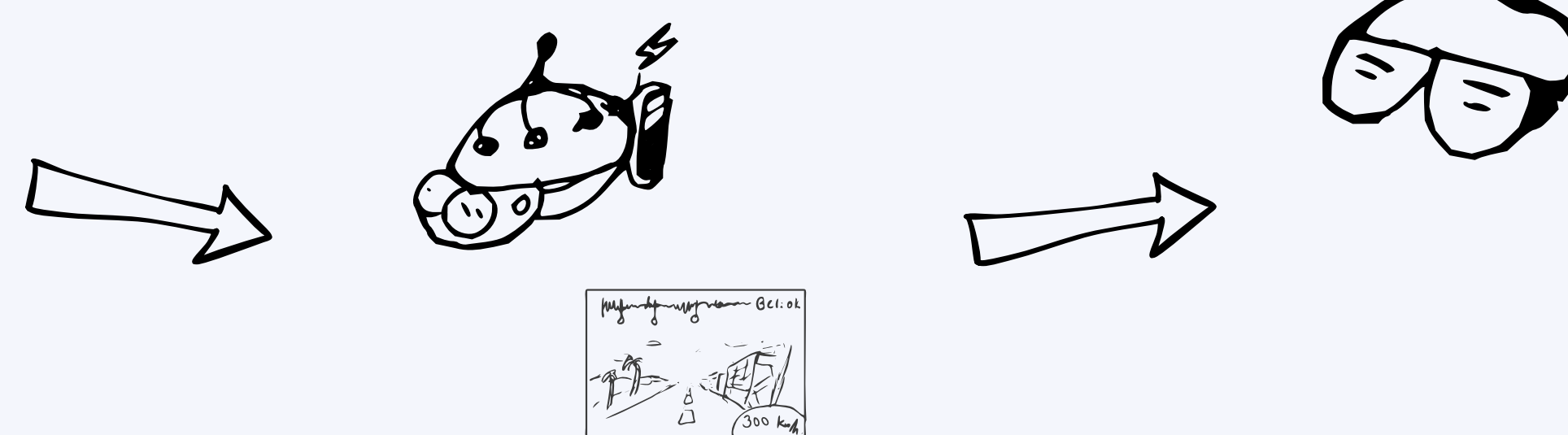
### Literature exploration

Review of existing literature on VR motion sickness and brainwave patterns. Identify key research findings, potential biomarkers, and existing BCI applications in this field.



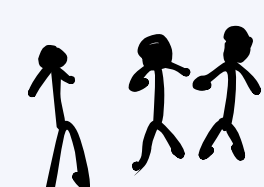
### Iterative Development

Develop initial prototypes. Collect user data and feedback to identify areas for improvement. Iterate on hardware and software components to enhance the system and VR experience.



### Collaborative Development

Co-operate with researchers, VR developers and testers.



### Open-Source Contribution

Work with relevant open source projects and open source parts of the system.

## Expected Outcomes

- Identification of reliable biomarkers for motion sickness.
- BCI for detecting and predicting motion sickness onset.
- Adaptive VR system capable of mitigating motion sickness.



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