

**HackHound 3.0**

# Project AirGuide

**A device navigation system tailored for specially-abled**

**Team ID: 25**

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## Problem Description

Navigating the vast landscape of online learning platforms like LinkedIn Learning can be a daunting task, akin to searching for a needle in a haystack. This challenge is amplified for individuals with limited mobility or dexterity, who may face significant barriers to accessing such resources.

## Our Solution

Our assistive system addresses both of these critical issues. Firstly, it provides personalized course recommendations based on spoken keywords, streamlining the search process and ensuring learners discover content that truly aligns with their interests. This saves valuable time and improves learning outcomes. Secondly, it offers a touchless interface using speech and finger gestures, making LinkedIn Learning accessible to those who may find traditional input methods difficult or impossible to use. This not only enhances accessibility but also provides a more hygienic and ergonomic way for anyone to engage with online learning, creating a hands-free, efficient, and inclusive learning experience.

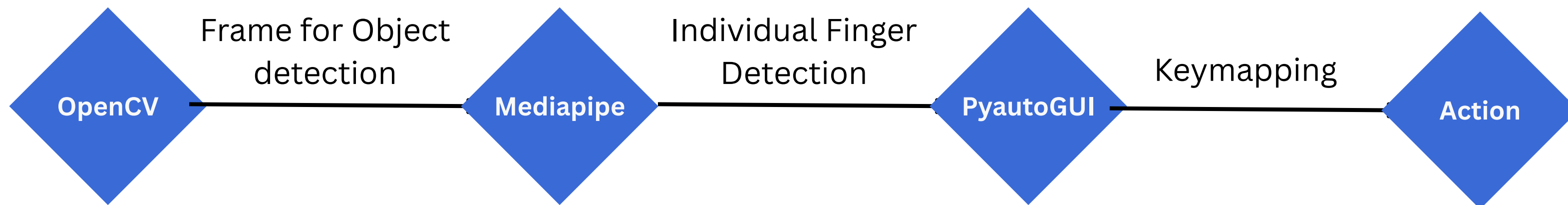
# How Does Our Solution Stand Out?

Our solution stands out by seamlessly integrating personalized, speech-driven recommendations with a touchless, gesture-based interface. This combination empowers learners, especially those with disabilities, to efficiently discover and engage with relevant online learning content in a way that is both accessible and intuitive. The use of spoken keywords for course discovery, coupled with hands-free navigation, represents a novel approach to online learning, enhancing both personalization and accessibility.

# Technical Approach

## Tech Stack and Libraries/Frameworks:

- Python (3.12.x)
- google-generativeai (AI Course Recommendation)
- OpenCV (Initializing camera frame)
- Mediapipe (Hand/finger movement detection)
- PyAutoGUI (Keymapping specific actions)



# Minimum Viable Product (MVP)

This MVP is more than just a prototype; it's a tangible proof of concept showcasing the core innovation of our assistive learning system. It will demonstrate the seamless integration of speech-driven course recommendations with a touchless, gesture-based interface, highlighting how these features empower learners to efficiently discover and engage with relevant content. Specifically, the MVP will:

- **Personalized Recommendations:** Implement the core algorithm for recommending LinkedIn Learning courses based on spoken keywords.
- **Touchless Interaction:** Enable basic navigation and interaction with the recommended courses using speech commands and finger gestures.
- **Accessible Design:** Prioritize accessibility from the outset, ensuring the MVP is usable by individuals with a range of abilities.

# Revenue & Development Model

## Value Propositions & Market Validation

**Problem:** Difficulty navigating online learning platforms & accessibility barriers for individuals with limited mobility

**Target Customers:** Individuals with disabilities & anyone seeking efficient/ergonomic learning.

**Unique Value:** Personalized, speech-driven recommendations + touchless, gesture-based interface.

## Customer Persona & Feedback

**Customer Segment:** Individuals with physical disabilities seeking professional development online.

**Behaviors:** Reliance on assistive tech, prioritize ease of use & accessibility.

## Metrics & Growth Strategies

**Growth Plan:** Target disability orgs & online communities initially. Expand marketing, partner with learning platforms, explore funding.

**Key Metrics:** User engagement, accessibility metrics, user satisfaction, partnerships.

## Cost Structure & Revenue Stream

**Revenue Model:** Freemium/Subscription.

**Pricing:** Freemium (basic features free), Premium (advanced features subscription).

**Cost Structure:** Development, marketing/sales, customer support, infrastructure.

# Thank You

