Artificial Intelligence for Business  
Decisions and Transformation

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**Real-Time Sign Language Recognition System**

The Real-Time Sign Language Recognition System project aims to develop an advanced AI-based solution capable of accurately interpreting sign language gestures in real time. This system is designed to bridge communication gaps for the deaf and hard-of-hearing communities by converting sign language into text or spoken language.

**1. Identify Key Operational Areas**

* **Staffing:**
  + Determine the need for skilled personnel, such as interpreters, software developers, UX/UI designers, and project managers.
  + Consider ongoing training for interpreters in technology use and sign language variations.
* **Scheduling:**
  + Plan project timelines for development, testing, and deployment phases.
  + Set up a schedule for team meetings, progress reviews, and stakeholder consultations.
* **Inventory Management:**
  + Identify hardware (e.g., cameras, microphones) and software (e.g.interpretation algorithms, application platforms) requirements.
  + Manage resources to ensure timely acquisition of necessary technology.
* **Process Optimization:**
  + Streamline communication and feedback loops among team members.
  + Analyze workflows to identify bottlenecks and areas for improvement.

**2. Map Operational Flows**

A diagram of a company

Description automatically generated

**3. Set Operational Objectives**

Short-term Goals:

* + Reduce Downtime: Aim to achieve at least a 20% reduction in system downtime during peak usage.
  + Increase User Engagement: Target a 30% increase in user sign-ups within the first three months post-launch.
  + Enhance Response Time: Reduce the average time to connect users with interpreters to under one minute.

4**. Define Performance Metrics**

Key Performance Indicators (KPIs):

* + User Satisfaction Rate: Measure through surveys and feedback forms.
  + Interpretation Accuracy: Monitor error rates in interpretation to ensure quality.
  + System Efficiency: Track average connection time between users and interpreters.
  + Cost Savings: Analyze costs associated with manual interpretation versus automated processes.

**5. Design Tools & Resources**

* **Project Management Software** - Azure DevOps, Jira
* **Communication Platforms** – Slack, Microsoft Teams
* **Development Tools** – Python, OpenCV (for video processing), WebRTC (for real-time communication)
* **Feedback Mechanisms** – Google Forms

**Conclusion**

This initial phase emphasizes understanding the business context, operational needs, and user requirements for the Real-Time Sign Language Interpretation System. By focusing on these areas, the project can effectively align its technical development with the operational goals necessary for success in the marketplace.