PositurIA is an AI-based solution that detects and alerts users to the risk of musculoskeletal issues. It uses advanced techniques to identify and provide feedback on bad postures, preventing long-term issues. By monitoring users through their device cameras, it offers real-time feedback and encourages healthy posture habits. Our solution is designed to be accessible and user-friendly, making it easy for users to identify and correct their postures, ensuring a healthy and productive lifestyle.

**How the System Works?**

1. **Data and Detection**
   - We developed a deep learning model that uses a dataset with pictures of heads and bad postures to detect bad postures in real-time. Our goal is to provide an accurate analysis of the user's posture.
   - By collecting images, we can compare the user's posture and provide feedback to improve their posture.

2. **Recommendation and Smart Assistant**
   - Our recommendation system uses a DNN architecture to provide custom exercise recommendations based on the user's posture.
   - The system analyses the user's posture and suggests exercises that are tailored to their specific needs, ensuring effective and efficient improvement of posture.

**Conclusion**

Our AI-based solution detects various types of bad postures without recording visual data to ensure user privacy. We apply the perfect combination of exercises to fix and prevent further damage caused by bad postures. Our smart assistant helps users perform exercises correctly and efficiently using customized voice and visual assistance. Our goal is to provide an accessible and effective way for users to improve their posture and prevent long-term musculoskeletal issues.

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**Key Problem**

With smartphones and computers being used more extensively, more people are becoming more prone to bad postures as they hunch their shoulders, slouch, and look down. This leads to bad posture syndromes which can cause chronic pain and many diseases. The American Chiropractic Association estimates that 80% of people especially workers will experience back pain at some point in their lifetime. Bad postures become something habitual and having a good posture is something mandatory as it allows an individual to maintain maximum stability, minimal stress, and minimal energy consumption. However, everyone now is highly prone to become posture attitudes. Studies have shown that more than 60% of the population in the world is affected by back posture syndromes which lead to destroy the body shape and cause many diseases.

**Facts about Bad Postures**

One more effective example concluded from a study made by the American Chiropractic Association shows the average human head weighs about 10-12 pounds. However, for every 15° the head is bent forward, the more weight is distributed that our neck to support. The weight distribution is as follows:

- 15° forward feels like 27 pounds
- 30° forward feels like 40 pounds
- 60° forward feels like 60 pounds

By sitting with our heads leaned over at such a high angle, our necks and spines are at risk of being pulled out of alignment. An increased strain on our necks can be dangerous and lead to muscle pain, pinched nerves, and herniated discs. Over time these conditions can result in additional issues, including surgical interventions and spine surgery.

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**The Outro**

"We help you build good posture habits"