PosturePal

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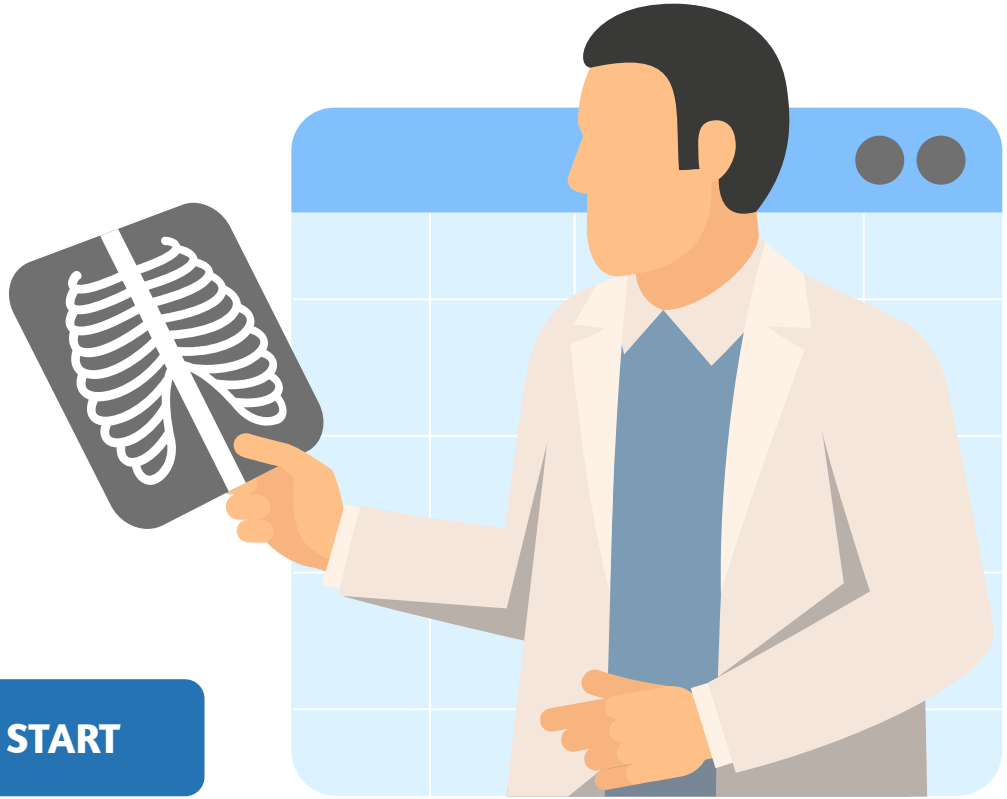
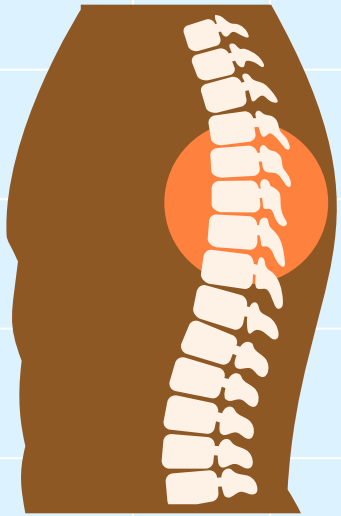
Group 19

START





Current Innovations

1. Passive Exoskeletons
2. Regenerative Medicine and Tissue Engineering
3. Neural and Muscular Interfaces
4. Advanced 3D printing to make prosthetics

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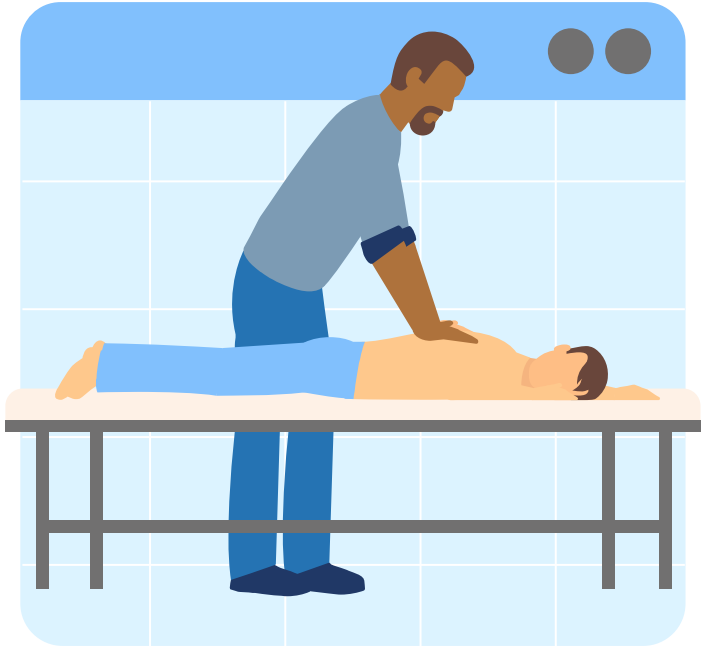
What is PosturePal?



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A smart app designed to maintain and improve posture. It integrates with wearable devices like smartwatches or smart clothing, which detect posture abnormalities such as slouching or leaning.

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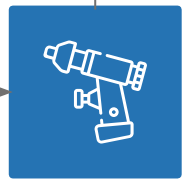
Key Features

Improvement Tracking

Posture Monitoring



Real-time Alerts

Personalised Exercise Plans

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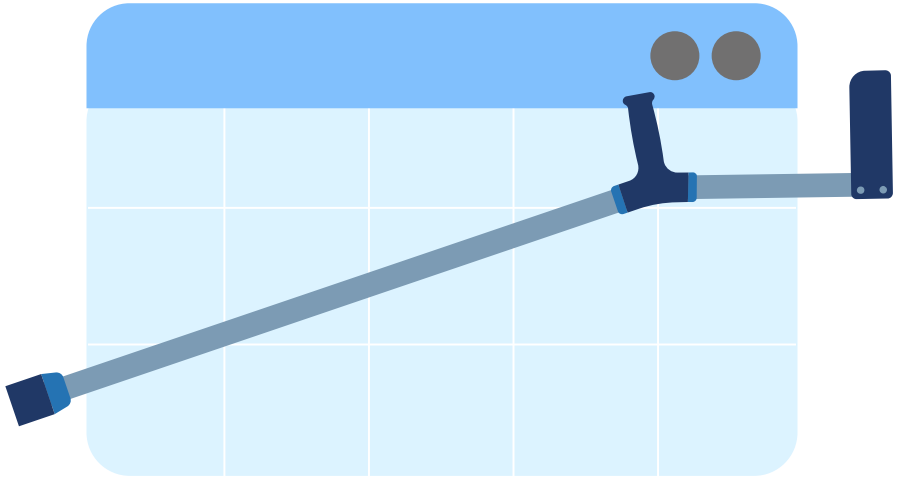

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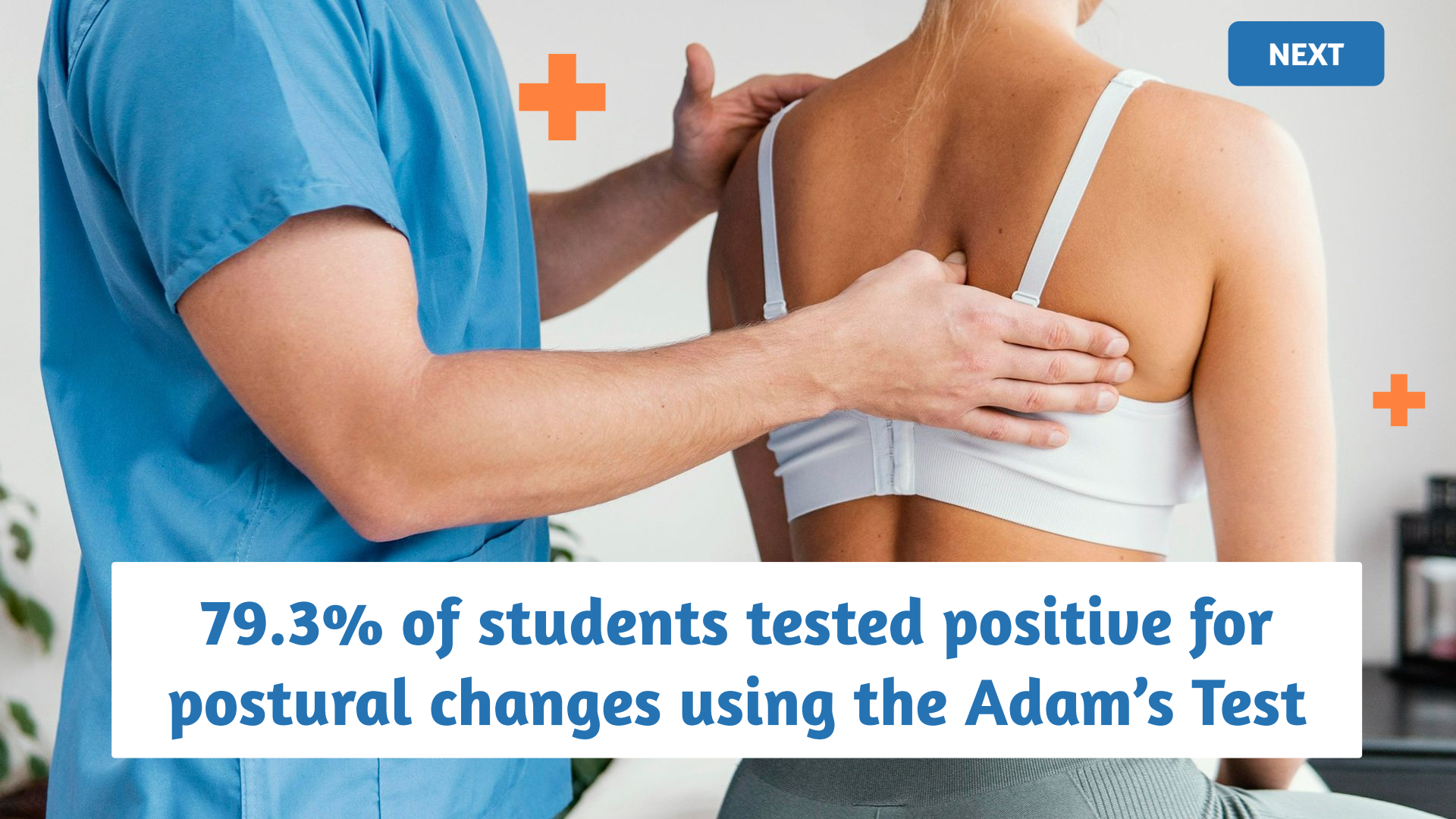
Why PosturePal?



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79.3% of students tested positive for postural changes using the Adam's Test

How does it improve everyday life?

Immediate Correction and Long-term Health

Reducing Work-Related Strain

Convenient and Accessible

Personalised Wellness Plans

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How it Works?

tracks the user's posture improvements, generating visual reports that display progress and help users stay motivated and committed to their health goals.

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Main Application Logic

Serves as the entry point of the application. It continuously retrieves posture data, provides feedback based on that data, and recommends exercises if the posture is identified as poor

posture_monitor.py

Simulates the process of monitoring posture by fetching data, which for demo purposes, randomly assigns a posture status of "good" or "poor."

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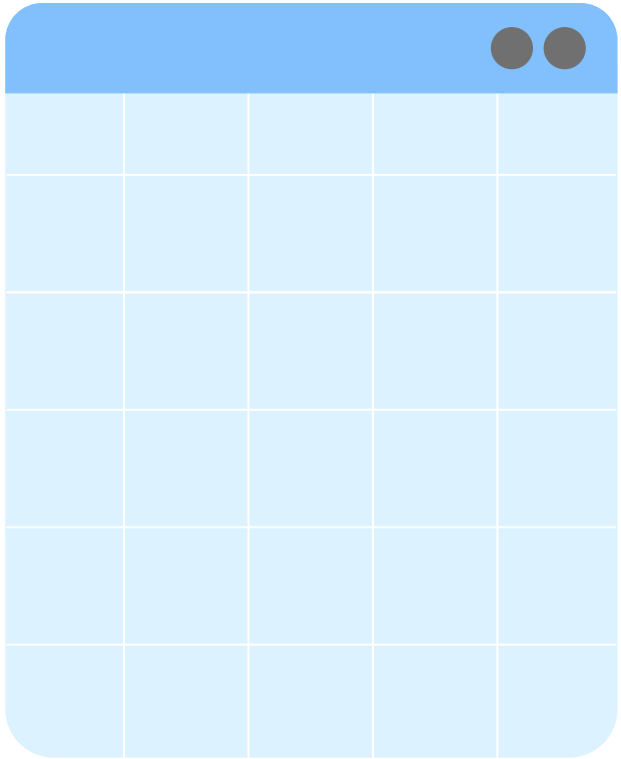
feedback_system.py

Offers real-time feedback to the user based on their posture status. If the posture is poor, it triggers an alert or feedback mechanism to inform the user.



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exercise_recommender.py

Suggests personalized exercises tailored to improve the user's posture based on the detected posture data.

Long-term Benefits

Prevention of Chronic Issues

By correcting posture early on, users can avoid long-term health issues like chronic back and neck pain

Better Productivity

Users can stay energized throughout the day by sitting or standing with proper alignment.

Holistic Well-being

encourages healthy movement, reducing the risk of sedentary-related conditions.

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Conclusion

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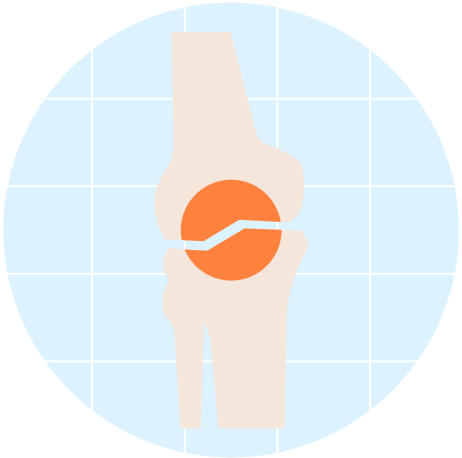

Thanks!

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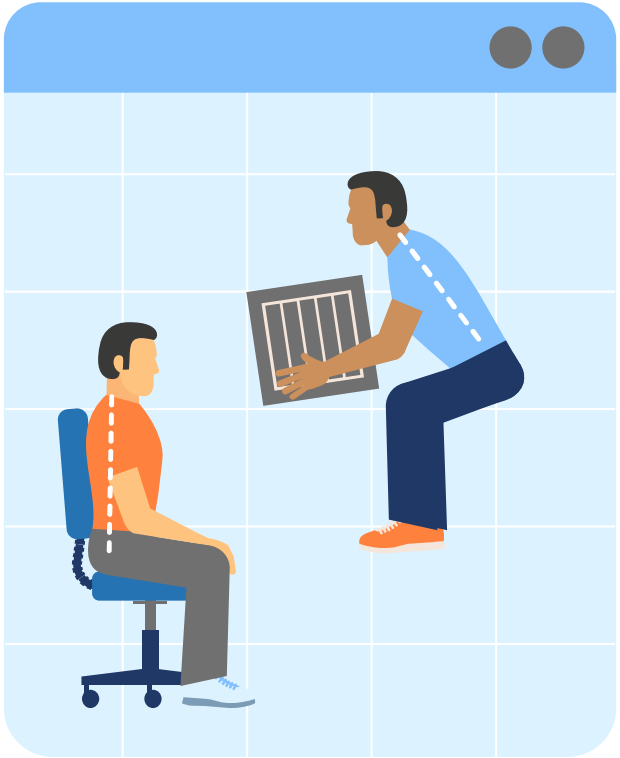

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References:

[1] Maria Paula Pacheco, Paulo José Carvalho, Luís Cavalheiro, and Filipa Manuel Sousa, "Prevalence of Postural Changes and Musculoskeletal Disorders in Young Adults," *International Journal of Environmental Research and Public Health*, vol. 20, no. 24, pp. 7191–7191, Dec. 2023, doi: https://doi.org/10.3390/ijerph20247191.

[2] "NSC Highlights Tech Solutions for Workplace Musculoskeletal Disorders -- Occupational Health & Safety," *Occupational Health & Safety*, 2023. https://ohsonline.com/articles/2023/10/05/nsc-highlights-tech-solutions-for-workplace-musculoskeletal-disorders.aspx (accessed Sep. 19, 2024).