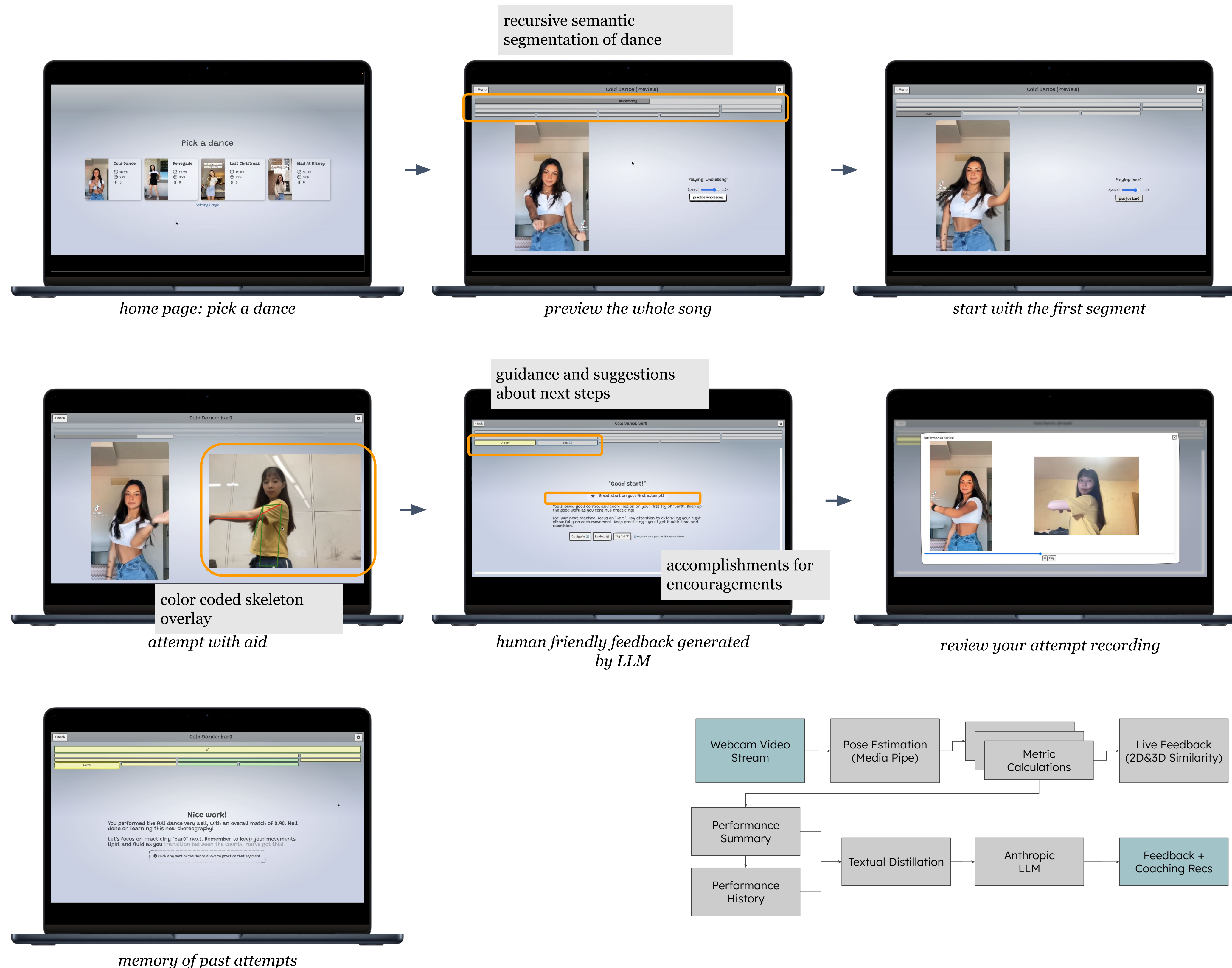# Demo: Breathing Life into a Virtual Dance Coach

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Dartmouth College

Features & UI/UX Design

recursive semantic segmentation of dance

home page: pick a dance

preview the whole song

start with the first segment

color coded skeleton overlay

attempt with aid

guidance and suggestions about next steps

accomplishments for encouragements

human friendly feedback generated by LLM

review your attempt recording

memory of past attempts

Webcam Video Stream → Pose Estimation (Media Pipe) → Metric Calculations → Live Feedback (2D&3D Similarity)

Performance Summary

Performance History

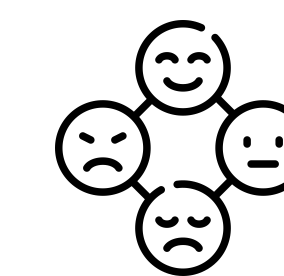→ Textual Distillation → Anthropic LLM → Feedback + Coaching Recs

Pilot Study

Methods:

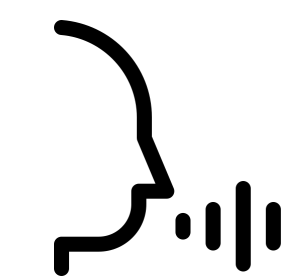- workshop-style user studies
- individual feedback & group discussion

Key Insights:

- Makes users focused on accuracy and aware of movements
- Scores are useful to show, but not all of the times
- Should allow for multiple modes, eg. drill without feedback
- Should have more intuitive and accessible interface

Next Steps

emotionally responsive coaching

conversational interface

richer motion understanding

watching replay

robot teacher

augmented mirror

Image credit: Flaticons