**DESIGN PROJECT**

(WINTER SEMESTER 2023-24)

**SMART ATTENDANCE MONITORING SYSTEM BASED ON FACIAL RECOGNITION**

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Abstract:

This project proposes a smart attendance system leveraging facial recognition to revolutionize traditional methods like sign-in sheets and ID cards, notorious for their inefficiency and error-proneness. Utilizing pre-trained models like FaceNet for efficient facial feature extraction and the K-Nearest Neighbors (KNN) algorithm for classification, the system eliminates the need for physical identification. Users simply walk in front of a camera, enabling a contactless and convenient experience. This innovative design offers numerous advantages: increased convenience with no need to carry or present physical IDs, enhanced efficiency through automated attendance recording, improved scalability for large organizations, and potential security benefits through added verification and identification. However, the project emphasizes responsible and ethical implementation, prioritizing user consent and addressing privacy concerns throughout the process. Focusing on the front-end design, the system utilizes the Haar Cascade classifier for efficient face detection, facilitating real-time attendance recording. This innovative design with facial recognition has the potential to significantly improve attendance management by offering convenience, efficiency, and scalability while prioritizing ethical considerations.

Work Plan:

