

SPL2 Project Proposal Form, 2025
Institute of Information Technology (IIT)
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Project Title: MotionMatrix : A Hand Activity Detection System.

Motivation: The Garments sector plays a vital role in the national economy. Despite its massive production, many factories still rely on manual processes for tracking worker productivity, attendance, performance, and efficiency. This often leads to mismanagement and low productivity.

Our system will solve this problem. It will assist floor managers track daily activities, analyze worker performance, schedule shifts efficiently and the owner and managers will be provided data-driven insights.

Project Description: MotionMatrix (MM) is a web-based application. It is designed to enhance efficiency in garment factories by automating activity tracking and performance monitoring. The system aims to address issues like manual record-keeping and lack of real-time insights by providing tools for worker scheduling, and productivity analysis.

Normal features :

- Face recognition of workers.
- Worker's Hand activity detection.
- Time measurement based on whether the worker is active or idle.
- Create or remove profiles for the workers.
- Generate various types of reports.

Exciting Features :

- Get real-time notification based on workers' inactivity.
- Overtime management.
- Provide messages to reserve workers for replacement if requested.

Strategy & Timeline: The strategy we are planning to follow is to divide our project into modules and parallelly develop the independent modules. We would use the pair programming approach for interdependent modules.

The approximate timeline for the whole development process is as follows :

Timeline													
Task Name	Duration (in weeks)	Week -1	Week -2	Week -3	Week -4	Week -5	Week -6	Week -7	Week -8	Week -9	Week -10	Week -11	Week -12
Software Requirement Specifications	1												
SRS Documentation	3												
Learning	6												
UI Design	2												
Authentication & Authorization	1												
Face Recognition	2												
Hand Activity Recognition	4												
Report Generation	2												
Testing & Deployment	2												
		Both		Farhana		Mushfiq							

Languages or Tools to be used: React, FastAPI, PostgreSQL, Github

Supervisor's Name: Professor Dr. Mohammad Shoyaib

Signature of the supervisor: _____

Date: _____

Before the Midterm Presentation 1:

I confirm that the progress is satisfactory and I am forwarding it for midterm presentation.

Signature of the supervisor: _____

Date: _____

Proposal Presentation Feedback (if any) :

Midterm 1 Presentation Feedback (if any) :

Midterm 2 Presentation Feedback (if any) :