Software Engineering

Assignment no. 1

BSCS-B(V)

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Topic: Exploring How Computer Science Students Can Support the Gujranwala Chamber of Commerce and Local Industries

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Exploring How Computer Science Students Can Support the Gujranwala Chamber of Commerce and Local Industries

Overview of GCCI:

The Gujranwala Chamber of Commerce and Industry was established in 1978 as the only trade body representing the Business Community of Gujranwala. Before GCCI was established, the Gujranwala Association of Trade and Industry (GATI) was functioning, which had been monitoring the business interests of the city's traders and industrialists.

Since its establishment, GCCI has continued striving hard to provide services to its members in different ways to promote and develop a better business environment in Gujranwala. At present GCCI has over 10500 active members both industrialists and traders who belong to almost thirty-four different business sectors.

Industries under GCCI:

Rice & Agro Processing, Cookware & Utensils, Hunting Knives & Swords, Textile & Apparel, Ceramics, Sanitary Fittings, Plastic Products, Pipes & Fittings, Home Appliances (Electric & Gas), Automobile Parts, Heavy Engineering, Metal Processing, Beauty Products & Cosmetics, Rugs & Carpets, Steel Security Equipment, Food & Beverages, Light Engineering, Hardware Items, Chemicals & Detergents, Nylon Rope & Nawar, Real Estate & Construction, Paper & Paper Board, Melamine Products.

For this assignment, we targeted the textile industry, focusing on identifying their current challenges and problems. After pinpointing these challenges, we explored solutions that Computer Science students can provide. This approach not only addresses industry issues but also builds a connection between the industry and the students of Gujranwala.

Key Industry:

Textile is the most important manufacturing sector of Pakistan and has the longest production chain, with inherent potential for value addition at each stage of processing, from cotton to ginning, spinning, fabric, dyeing and finishing, made-ups

and garments. The sector contributes nearly one-fourth of industrial value-added,

contributes 8.5% of GDP and employs about 40 percent (about 19

million) of countries' workforce.

Current Challenges faced by Textile Industry:

The Pakistan textile industry faces numerous challenges in maintaining its competitive edge in the global market. Here are some of the problems listed below:

1. **Energy Inefficiency:** High energy consumption due to outdated machinery.
2. **Quality Control:** Inconsistent product quality resulting from manual inspection processes.
3. **Competition:** Difficulty in managing trends leading to intense competition with foreign markets.
4. **Supply Chain Inefficiencies:** Delays and wastages due to a lack of real-time tracking and optimization.
5. **Lack of Modern Machinery:** High interest rates hinder the timely modernization of equipment.
6. **Wastage:** Pakistan is a dumping ground for post-consumer textile waste, and the lack of recycling leads to more textile waste in landfills.
7. **Unwell Production flow:** Inconsistent tracking of production flow.
8. **Poor Labour Management:** Inadequate wages, unsafe working environments, and poor scheduling.
9. **Government Policies:** Heavy Taxation and lack of supportive policies.

Role of CS Students:

CS students can boost the textile industry by developing energy-efficient systems, AI, and automated quality control. These technologies improve efficiency, reduce costs, increase the country’s income, most importantly link academia with industry and offer practical experience.

Solution can be provided by CS:

1. **Energy saving:** Students can develop IoT-based monitoring systems which can track and optimize energy in real-time.
2. **Quality Inspection:** Every industry/factory focuses on the quality of their product so students can build machine learning tools to detect defects in the product.
3. **Manage Competition:** Students can use different tools to understand the trends in the global and local markets.
4. **Enhance Production flow:** Students can build web-based applications to manage the work flow of the industry. Which gives local industries to manage their daily work easily and efficiently.
5. **Labour Management:** A software which can track all the employees, their working hours, wages, complaints, and work status.
6. **ERP Systems:** Enterprise resource planning (ERP) systems can help business to organize their organization core processes.

References:

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Conducted an interview with the CEO of Areeza Boutique, Hamza Abid which helped a lot in identifying the problems faced by the local textile industry of Pakistan.