Sri Lanka Institute of Information Technology
Information Technology Project
Year2, Semester 2 - 2022

Project Charter

Title of the Project:	Human Resource Management System for AGIO Tobacco	
Batch:	Weekday – Batch 01.1	Group No: ITP_WD_B01_01
Development Technology:	MERN Stack (MongoDB, Express, React, Node-js) Machine learning with python using face recognition and OpenCV	
Client:	Agio Tobacco Processing Co. Biyagama	

Description of the Project:

Scandinavian Tobacco Group (STG) is a leading tobacco producing company in the industry. Currently, they have their parent company located in Denmark and other branches functioning across the globe. There are about 10,000 workers approximately working under STG globally. Their Sri Lanka branch contains 2000 employees working for two shifts. We were entrusted to build an HRM system to mitigate the current problems available in their existing system and to add some new features.

Objectives

Problem	What system does?	Reason	Why it's important?
Employers are unable to track which employees are on leave currently. And applying for leave was done by filling a physical leave card which takes time. Frequent errors regarding leave when calculating salary.	Inform the acceptance or denial of leave to the employee via the system. Can generate reports about the leave status of an employee for the reference of the employer as well as the employee	Since this process is not computerized it takes time. Without a system like this HR department cannot get a clear idea about how many leaves an employee has taken immediately when required	This will reduce proceeding time, so the process becomes faster, and it enables employer to get a clear view on employees leave status, so it increases efficiency
Poor tracking of stationery.	Keeps track of requests made for inventory from employees of the HR departments and, once reorder level is reached, requests from employees will be cancelled.	There could be failures in providing stationery on time which will result in decrease of productivity. Improper tracking can lead to misuse of resources.	In order to prevent any disruptions of work that might have been caused due to unavailability of stationery. And to have a proper control over resource usage
No proper current system to check the availability of shuttle service	The system keeps track of the route of each shuttle, information of the driver and availability of the number of seats in each shuttle	When employees request for shuttle details, it is difficult to provide them since this system is not yet computerized. When recruiting employees shuttle information is needed	It is important because HR department needs to have a clear idea about the shuttle services and the number of employees who are using the shuttle services
There's no existing method to ensure all employees are given equal opportunities in getting industrial training	There is a count attached with each employee that shows the number of training sessions that an employee has participated per year. Once the limit is reached, that given employee is suspended from joining any other training sessions	Since there's no proper methodology to track whether the employees were given industrial training or not, same set of employees can come for training repeatedly depriving other employees from getting a chance to be trained	All employees are given a fair chance to improve their skills. Thus, overall productivity is improved.
Retrieving of emergency contact details, health status and other medical information from manual records could be hectic	The system notifies about the nearing delivery dates of the pregnant employees, thereby allowing the health officials to give a significant focus on such workers. Retrieving of emergency contact is made easier	It is the duty of the HRD to notify the dependencies of employees in case of unexpected accidents immediately and to provide necessary subsidies to pregnant employees in the due time	Allows the nurse to have a better track of each employee's health history. Could prevent the worsening of the health status of the respective worker
The existing system is unable to filter black-listed employees from being re-hired at the	Details of the blacklisted employees are compared with those employees who have applied for the vacant positions. These candidates are	It is against company policy to re-hire blacklisted employees	Ensures that the backlisted employees will not be chosen again. Selecting them again, could tarnish

selection stage, as checking of details are done manually.	eliminated from the selection process.		the reputation of the organization.
Flaw of marking attendance where if the face recognition does not work either at entry or exit face recognition'	System uses a double authentication(verification) to make sure that the attendance of the worker is collected properly.	When attendance is not marked properly, possible disruptions when calculating payments and when determining performance appraisals of employees could occur.	To ensure precise results of performance appraisals and pay reports are generated to the workers.
The existing system doesn't have a mechanism of updating qualifications of existing workers	Updates of skills of the existing workers will be updated by the HR clerk. This ensures that any vacant job roles are given to currently working employees who have satisfactory skills before hiring people from outside	Currently no system is implemented in recording the skill of employees. This is done using an Excel sheet and it is a hard task to do.	This system will mitigate the time taken to record employee details on a excel sheet. The system will filter the qualification of employees. Hence the HR can directly refer the system and look for employees who are capable of filling vacancies.
Employees are unable to check whether their over-time hours are correct	System maintains the necessary details required for the salary calculation	Currently employees cannot see their working hours till they receive their pay sheet	Being able to see if there's any error early on will reduce the hassle during payment processing, and also it will motivate employees when they are able to see hours worked

Details of the Group Members: *(Provide the details of the group leader in the first row)*

	Surname with initials	Registration Number	Contact Phone Number	Email
1.	Sanuthi Vihansa S.A	IT21134180	0714695475	it21134180@my.sliit.lk
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4.	Senadheera P.V.P.P	IT21126888	0714204648	it21126888@my.sliit.lk
5.	Perera O.R.V	IT21119644	0725326372	it21119644@my.sliit.lk
6.	Wijethunge W.D.S.H	IT21126956	0769841383	it21126956@my.sliit.lk
7.	Dilara V.G.N	IT21111488	0710192886	it21111488@my.sliit.lk
8.	Perera P.Y.C	IT21131424	0783424135	it21131424@my.sliit.lk

List of Functions Developed by the Group Members:

	Name with Initials	Brief Description of the Function
1.	Sanuthi Vihansa S.A	**Leave management** – Managers permit leave for all employees. There are three leave entitlements namely casual, annual, sick. Employee can request this leave and the leave is granted once it is accepted. An employee should be able to request leave. The HR Clerk should be notified about the leave request. And the employee is notified about the leave status once the process is over. The HR manager should be able to have an overview of how many employees are on leave and the employees should have an idea about their leave count. HR should be able to generate reports regarding leave and search number of employees leave status for their management purpose.
2.	Wijeratne D.M.S.D	**Payroll Management** – Maintains all details regarding payments of every employee. Users of this function can see all payment details of all employees including bank details, and a particular employee's salary details can also be viewed. The details are employee's salary, overtime hours, ETF, EPF, expenses, allowances, number of leaves taken and working hours. A detailed salary report can be generated for any employee by the HR staff and Accountant.

3.	Christy H.M	**Inventory management** – Stocks of the company including all stationery are managed in this system. Once the inventory reaches the re-order level, a notification is generated automatically. Once the stocks have been received, the system is updated with the new set of stocks, by the HR clerk. Furthermore, any errors made by the HR clerk in relation to stationery could be eliminated using the delete option. The system will also be able to generate a report of the currently available stationery quantity, stationery types etc. Furthermore, at any point in time, the HR clerk could search and get the details regarding the stationery that is maintained. A notification is displayed when the re-order levels are reached, so that the HR clerk can do the needful.
4.	Senadheera P.V.P.P	**Transport management** - Manages all the shuttle services of the employees. This function has a separate table in the database and the records are based on vehicles and drivers' details such as vehicle number, vehicle type, driver's name, hired company, driver's NIC, driver's license number, number of passengers of the vehicle and the route. This will generate a special report on the shuttle services, route-wise. And, it has a search function to get details of a specific shuttle service. Through this the HR manager should be able to get an idea about the number of vehicles provided for each route and the available space capacity.
5.	Perera O.R.V	**Attendance management** – When employees enter the building, the attendance is marked using face recognition technology. Employees need to point his/her face to the camera and a success message will be displayed. Then the employee can enter the building. When employees leave the factory, the details are recorded. The checked in/out date and time will be recorded and will be saved in the database along with the employee details. If the face is not recognized due to a human or a technical error, it can be detected using the system. This is called odd clocking (odd number of records of a certain employee per day). Reports will be generated daily and monthly to get more information about the attendance of employees.
6.	Wijethunge W.D.S.H	**Skill metric system**– When a new employee is recruited, educational qualifications, skills and experiences are recorded in a database. When an employee obtains a new skill, the database is updated with the new skill set. A grid system is used to display the employees which are categorized according to a score generated based on the qualifications. By clicking on each grid, the relevant employees with their corresponding skills will be displayed. When a vacancy is available, the management can go through the skill metric system and find out whether there is employee that can be promoted to that position without hiring a new employee from outside. This is also helpful when creating a team for a project. Members can be selected by observing the skill metric system.
7.	Dilara V.G.N	**Health and benefits**-Manages the health and benefits provided for all the employees. The nurse should have a record of the accidents which occurred with the employee's name, EPF No., treatments, date of accident, victim's emergency contact number. Furthermore, the nurse needs to keep track of the pregnant employees and whether the benefits and subsidies granted are provided to them. Once the nurse enters the pregnant employees details the system calculates the due date of delivery and notify the nurse whether that employee is in a condition to work or not (if suitable to work the employee details are highlighted with green color, if due dates are close details are highlighted in yellow color, if the employee is not suitable to work details are highlighted in red color). When an employee visits the doctor, the nurse should record the employee details and the prescription given. The nurse should also keep a record of the medical stock so it can be notified when the stock is low.
8.	Perera P.Y.C	**Employee Management**: - Manages all Employee details. This should display all the details regarding the Employee such as Employee Number, Name, Contact Number, Address, etc. It also should display details regarding the transport, salary, health, training, legal restrictions, etc. of each Employee. All Employee details are entered upon recruitment of a new Employee. HR Clerks are responsible for managing all these details. Any changes regarding the Employee should be informed to HR Clerks so that they can update the relevant changes. An Employee is responsible to inform any changes regarding personal information that they want to change to an HR Clerk. Existing details of an Employee are not removed completely from the system upon leaving the company. Should be able to generate any reports regarding Employees.