BUSINESS SOLUTIONS PROJECT
by
eHR

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eHR

Table of Contents

I. EXECUTIVE SUMMARY

PROJECT DESCRIPTION

eHR, a company that promotes going paperless, has a project to develop a cloud-based software application to maintain business employees' accurate and secure information. This software is accessible to employees, their managers, payroll and human resources administrators. **eHR** is a cost-effective solution to access anywhere with an encrypted password protected access.

The current uncertain circumstances due to the pandemic caused many employers to transform from manual paper document records to going paperless through on-line, intangible options to access information from anywhere to avoid spread of COVID-19 through contact of moving paper documents being passed around the business.

Software solution from **eHR** does not require a capital cost for the customer so they do not have to worry about spending additional expenses to the current financial stress due to the pandemic.

The web-based employees detail record keeping application portal **eHR** is written in Microsoft dot net platform and hosted in Microsoft Azure cloud servers to ensure maximum security to protect an employee's personal identification information in compliance with the privacy act.

The **eHR** web portal has the below features;

1. Secure login page for each employees and managers with their own usernames and passwords. They can re-set their passwords at any given time from the main login screen.

2. Employees can maintain the below information by logging into the web portal which will be emailed to human resources and their own managers as soon as they update the below information.

   a. Update their own updated basic information
      a. Address changes
      b. Contact phone numbers
      c. Emergency contact details
      d. Medical information
   b. COVID questionnaire, Time-off, overtime, vacation requests for approval online from submission to their department heads
   c. Training course completion details and review any upcoming training to get ready

3. Managers can perform the below functions
   a. Review their own employees job history
   b. Approve or dis-approve lieu days, time-off or vacation requests from employees

4. Human Resources Manager can retrieve the below information
   a. Attach any documents or complains related to an employee
   b. Track employees approved vacations and left-over days
   c. Employees benefits information

5. Payroll Manager can validate before processing biweekly or monthly payroll
   a. Check vacation days taken to determine vacation pay
   b. Check employees' benefits to deduct from their payroll

We researched in the below areas and came up with conclusions, recommendations, and evaluations.

RESEARCH

1. Explored already available software systems that can maintain employee's information

   We identified and went through a demo of two famous human resources management systems such as **BambooHR.com** and **Monday.com** that can maintain employee's information. However, these systems are built with many features, complicated business rules and take long time to implement with a very high software cost that these businesses cannot afford to implement. Even though the business will be using a fraction of the functionality of these systems to maintain their immediate need as per the problem statement above.

2. Zoom meeting discussion with a couple of businesses in different industries

   We spoke to a couple of customers to find out the similar problem and their interest in going paperless to maintain their employee's information and their budget to move to a software system. Also assessed their IT infrastructure to maintain a software system internally without hosting the system in cloud.

3. Send out a survey to a couple of businesses in different industries

   We send out a survey to collect data to determine how many businesses are facing the similar issues stated in the problem section of this reportand interested in going paperless to manage employees' details.

CONCLUSION FROM RESEARCH

1. Majority of the businesses facing the similar issues stated in the problem section of this report before and after the pandemic situation due to lack of communication while some people are working from home and some are in the office with their different work schedules.

2. Most of the business had very tight budget to implement an on-line employee management system to maintain employees related information so that they can access the information anywhere at any time by employees and managers.

3. Businesses wanted a very cost-effective solution without any capital cost to purchase additional computers, servers, and software to manage the above-mentioned employee related details to avoid going to the office and to eliminate delay in the approval process.

4. Even though there are many Human Resources Management Systems that can help manage employee's information along with other human resources functionalities, they are very expensive where the businesses will only utilize a fraction of their systems as per their immediate requirement.

RECOMMENDATIONS AND EVALUATIONS

1. We proposed an on-line Business Solution for their business operations to maintain current and past employees' details with the common immediate requirement demand and operations securely access using Microsoft Azure cloud services platform.

2. Zero capital cost with an affordable monthly recurring cost based on their number of active employees to maintain and access employee's information stated above from anywhere.

3. Highest level of system security access to protect employee's confidential information, eliminate the need of touching paper documents, automate processes to speed up the approval process, enhance the productivity and output with safety operations.

4. Employees web-portal to enter their own information and to alert their managers, payroll and human resources at the same time with the same information.

II. INITIATING

A. Statement of the problem

Small, medium and enterprise business owners are currently facing issues in managing and maintaining their employee's records accurately, and efficiently access information at anytime from anywhere. Currently the business manages information related to full time and part time employees' details, time off, overtime, vacation requests approval and training details in papers.

The information is stored in paper files at the office which is kept securely to ensure that nobody can take these files home from work because of employees' confidential and very sensitive information. Payroll and human resources managers had to go to the office to check on these documents when they wanted to process an employee's pay cheque.

The department managers had to visit the office to approve and dis-approve their employees' requests to maintain a document trail to provide the information to payroll and human resources managers. This process was causing delays and inconvenience in managing the employees' requests due to the pandemic restrictions of number of employees can go to the office at the same time.

Also, missing employees request documents, risk of touching the papers filled-in by employees and managers because of COVID. Over whelming emailing requests and approvals back and forth to track employees' requests and some companies do not have email addressed for all their employees to communicate with their employers.

Managers often missed to hand over the employees' time-off and vacation requests to payroll department and payroll manager ended up making errors in employees' wages who took vacations and time off. Even though human resources managers keep a manual record of employee's information in the files, often they find inconsistency of employee's entitlement records between payroll and HR department.

The business cannot afford to spend capital cost to develop their own on-line or on-prem systems.

B. Project scope

Included in the scope

eHR web base portal to maintain full time and part time employee's details, time off, overtime, vacation requests approval and training details.

Daily, weekly, and monthly employees' birthday, upcoming training course and vacation approval reminder email alerts to human resources manager, departments heads and employees.

The web portal will be hosted in Microsoft Azure cloud hosting platform server in Canada to avoid cross boarder legal implications pertaining employees' personal details.

Secure login for employees and managers with a higher level of password encryption, compatible with Google Chrome, Microsoft Edge, and Safari browsers.

Detailed user manual explaining where to find details and enter information and training of 3 key users.

Warranty of fixing any bugs and implementation of new enhancements free of charge

Not included in the scope

1. Desktop on-prem application
2. Mobile application
3. Integration to payroll system

Expected Benefits

1. Record keeping electronically where everyone can record and access employees information at anytime from anywhere
2. Maintain social distancing during this pandemic situation
3. Employees crucial information is stored securely
4. Businesses does not need a capital cost to develop a software system
5. Reasonable monthly recurring cost based on number of employees
6. Maintain an accurate employees current and past history
7. Very effective communication between the managers and employees

III. PLANNING AND ORGANIZING

A. Project goals

1. Hire software development team

2. Pre-implementation meeting to gather requirements from the businesses

3. Setup software development platform to start writing the software

4. Setup Microsoft Azure cloud server to host the system

5. Employer and Employee training to walkthrough the software application

6. Go-live support

7. Post-implementation meeting to find out any pitfall or improvement of the system

B. Human resource management plan

1. Project Manager
   3 years of Project Management experience with managing a software development team. Follow project timeline, coordinating with the customers and software development team. Report project status to CEO daily.
   Hire for 3 months contract period.

2. UI designer
   3 years of experience with user interface designing.
   Report to Project Manager.
   Hire for 1 month contract.

3. Microsoft DOT NET developer
   5 years of Microsoft DOT NET web application development.
   Report to Project Manager.
   Hire for 5 months contract.

4. Quality Assurance (QA)
   2 years of experience in testing various applications.
   Report to Project Manager.
   Hire for 1 month contract.

C. Schedule

i. Milestone

Detail requirement gathering

Setup software development platform

Delivery of User Interface (UI) designs

Software development of eHR

User Acceptance Testing (UAT) and Training

Go-Live

ii. Timeline to reach each milestone

June 1st 2020	Detailed requirement gathering
June 5th 2020	Setup software development platform
June 12th 2020	Delivery of User Interface (UI) designs
June 23rd 2020	Software development of eHR / QA
July 24th 2020	User Acceptance Testing (UAT) and Training
August 5th 2020	Go-Live

D. Quality management plan

1. Test web application using test cases and fix software bugs

2. Go through the detail user requirement and check whether all components in the projects scope is covered in the web application

3. Adherence to schedule and commitment to customer satisfaction

4. Overall solution assessment of quality of the user interface, professional colour theme used in the web portal

E. Risk management plan

1. Delay in User Interface design may delay software development – 5 days delay
   Hire a part time UI designer to assist the main UI designer or pay overtime or incentive to work during weekend and holidays to meet the deadline.

2. Lack of unit test by developer to identify bugs – 7 days delay
   Project Manager or UI designer can help the developer to identify and report the bugs.

3. Un expected leave of absence of any one of the staff – 10 days delay
   Hire a part time staff to temporary fill-in the position to continue the software development. However, this may be a major draw back since it will take some time for a new employee to go-through the system to catchup continue to work.

4. Un expected technical challenges during development – 5 days delay
   Seek third party contractors to seek assistance to resolve the technical challenges to continue software development.

5. Unit test by the customer – 5 days delay
   Work with customer's free schedule to test the system since they must do their regular work routine while spending additional time in testing the software.

F. Proposed project budget

Project Stages	Percentage Of Overall Budget	Budget $110,137
Office Space (Staff can work from home and no need office)	0%	$0
Employees' salaries - Project Manager for 3 months $20K - UI designer for 1 month $5K - Developer for 5 months $25K - QA/Unit tester for 1 month $5K - Contractors for contingencies $10K	59.02%	$65,000
Hardware and Software - Development Server $10K - Laptops for staff 4 x $1500 = $6K - Software licenses for development $1,199	15.62%	$17,199
Monthly communication and other cost - Cell phones 4 staff x $100 = $400 x 3 mths = $1,200 - Other miscellaneous cost $1,000 x 3 mths = $3,000	3.81%	$4,200
Subscriptions - Zoom Pro $200/year - SSL certificate to secure the website traffic $200/year	0.36%	$400
13% Taxes on purchases and employee payroll	12.11%	$13,338
Reserved funds	9.08%	$10,000
Total budget	**100%**	**$110,137**

Borough money equivalent to budgeted amount from home equity line of credit from my parents and apply for government research and development grant.

Loan will be paid back monthly from the government research and development grant and the monthly payment for the on-line software application from the businesses.

IV. EXECUTION

1. Registered eHR business name in Ontario

   Register from website https://www.ontario.ca/page/registering-your-business-name

2. Set up a Bank account and finance

   Talked to a banker to open an account and get a cheque book because we needed to pay our employees and suppliers when we were ready to buy the hardware and software. We applied for a credit card to get points and one-month credit to help cash flow.

3. Purchased hardware and software

   Opened an account with our computer hardware vendors and ordered the servers, laptops and software licenses.

4. Went through an employee hiring process

   Create Job post on indeed.com and hire all employees listed above on a short-term contract basic.

5. Pre-implementation meeting

   Setup a zoom call with our project team and the customer to go-through the items in details.

6. Setup software development platform

   Installed and setup our hardware and software development platform to work on Microsoft Visual Studio web portal application.

7. Detail system walkthrough and documentation

   Prepared a detail statement of work based on the requirements and get the customer to sign to avoid any major changes during the design and development cycle.

8. PM to start work with the project team

   The project manager coordinated and directed project resources to meet the objectives of our project plan. He managed all activities to meet the project deadline.

9. Setup Microsoft Azure cloud server, install and setup web portal

    Setup Microsoft Azure cloud server subscription and setup SSL secure certificate.

10. UAT (User Acceptance Test) walkthrough employer and employees

    Created a set of test cases and provide to user to test and report if they identify any glitches, bugs, or issues.

11. Go-Live

    Made sure the customer is trained and they are ready to work on the system. Stand by and made sure customers didn't experience any issues.

12. Post implementation meeting after a week of Go-Live

    Talked to the managers and employees about any performance issues or if we missed any items during development.

13. Bug fix and warranty maintenance

    Fixed the bug in the development environment, backup database and application before you apply new software version.

V. MONITORING AND CONTROLLING

A. Monitoring

1. Daily meeting with all the staff and discussed the progress of the project to ensure there are no delays or surprises in meeting the project deadline.

2. Use of free Slack collaboration tool with the team to communicate to ensure the continuity of the project. So that any of the team members can ask questions if they are facing any technical issues that can delay the delivery.

3. Since the budget amount is small, maintain an excel sheet to monitor the expenses daily accordingly to the budgeted items. Project manager identified when the costs were varying from the initial budget and he reported to me daily try to manage the variances.

4. Quality Assurance – Started testing the application modules that were completed while the developers work on other items. So that quality of the system can be addressed at an early stage to avoid delay in making changes after the completion of the project.

5. Maintained daily attendance of employees to monitor employees' absences in-order to avoid payroll issues.

B. Controlling

1. Developer was sick for a couple of days and I paid overtime for him to catchup the development to keep the project delivery timeline in control.

2. Project Manager had to take care of his family matter and took un-planed one week off. I took his position and managed the project until his return to keep the continuity.

3. Even though there were many un-expected expenses occurred during the cause of development period, I always tried to control the finance by cutting down cost on something that was originally budgeted.

VI.   CLOSING THE PROJECT

Evaluation of key metrics

1. Software project delivery time as planed so that the customer can expect as we promised in the beginning of the project.

2. Quality of the software development code readability to manage by another developer if needed.

3. Quality of software application testing to deliver a high-quality software application which can stand out in the market.

4. User input about the software application functionality and how easy to navigate between screens to enter details.

5. Developer productivity to see how efficient the development was completed, and time spent on learning curve on items out of developer expertise.

Lessons learned

1. Working from home
   Had issues with the daily communication due to poor quality internet used by some of our employees.

2. Inaccurate Employees attendance
   A couple of employees were dishonest, and they wrote down the overtime hours that they did not work.

3. User Interface (UI) design
   I felt that the UI design would have been a bit better than it is now.

4. One-week delay in project delivery
   Employees took an un-planned a couple of days during summer.

5. Quality Assurance / Unit test
   The software was not thoroughly tested by our software development team which resulted many bugs when we went live.

1. Working from home
    In-order to avoid this situation, we will look for an office where the project team can work together with an effective communication in future projects.

2. Inaccurate Employees attendance
    In-order to avoid this situation, we will install a Biometric electronic time clock in the office to keep track of employees' time.

3. User Interface (UI) design
    We will hire more experience with a creative idea UI designer next time to get a better design.

4. One-week delay in project delivery
    We will have to consider holidays and summertime and push the project delivery date by a couple of weeks to give room for un-planned time-off.

5. Quality Assurance / Unit test
    We will have to hire two QAs and make a strong test cases to go-through a very through testing to identify the bugs before release the application to the customer.

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APPENDIX

eHR Login screen

👤	Email address
🔒	Password

Sign in

Forgot Password?
Change Password

Employee Training Details

Training

Show 10 entries   Search: [   ]

Training Code	Training Title	Training Description	Due No.of days from start	Departments	Added by	Added Date	Actions
TRA008	Human Rights	Human Rights	60	Admin, Communicat, Front Desk, IT	Administrator	02/20/2020	✏🗑
TRA012	Breaks & Hours of Work	Breaks & Hours of Work	90	Admin, Childcare, Communicat, Front Desk, IT	Administrator	02/20/2020	✏🗑
TRA017	Conflicts of Interest	Conflicts of Interest	30	Admin, Childcare, Communicat, Front Desk, IT	Administrator	02/20/2020	✏🗑

Employee Vacation taken and available

Vacation Percentages

Show 10 entries   Search: [   ]

Vacation Percentage Value	Vacation Percentage No. of Days	Created by	Created Date	Actions
4	10	Administrator	02/12/2020	✏🗑
6	15	Administrator	02/12/2020	✏🗑
8	20	Administrator	02/12/2020	✏🗑

Employee Entitlements

Employee Information

Employee Time-off detail

Department:	Childcare	Manager:	Kelly Peter
Entitlements:	Please choose	Start Date:	mm/dd/yyyy
End Date:	mm/dd/yyyy	Total Days Taken:	
Returning to Work Date:	mm/dd/yyyy	Approval status:	Pending
Pay Period Ending:	mm/dd/yyyy		

Cancel   Submit

Employee Vacation/Time-off request form

Employee Name:	Kelly Peter	Manager:	Angela Edward
Department:	Admin		

Time off Type

Jury Duty

Days available : 10

(please specify reason)

Start Date: 10/19/2020   End Date: 10/21/2020   Total Days Taken: 3

Returning to Work Date: 10/22/2020

Please Note:

I understand that I am not guaranteed to get the day(s) off that Ii have requested. I also understand that the approval or disapproval of my request will be based on the needs of the company and whether or not the shift(s) can be covered.

Acknowledgement & Sign-off

☑ I have read the above clause and understand and agree to its terms and conditions.

Employee Signature: Kelly Peter   Date: 10/14/2020

Approval

Approval status: Pending

Pay Period Ending: mm/dd/yyyy

Comments:

Manager's Signature: Administrator   Date: 10/14/2020

Cancel   Save