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Sales Management Portal

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The Sales Management Portal is a multi-leveled and Synchronized Web Portal. It will be of great importance, because salesman could use this portal for marketing their product, generating interest, keeping logs of their accounts, and planning activities. The log-in process will be both smooth, and user-friendly. Members of any Sales Department Team will be able to search, update, and work on leads, add potential or confirmed customers, as well as track the progress of sales of product or services. This new Sales Management Portal will solve the old problems of “Paid by Commission” like “Every Man/Woman for themselves” routine. It will evoke an attitude of “Team Work” in which sales people will be able to see in the portal, just who is working on what account, and foster respect, to not work accounts that are already being worked on by another teammate. This new application/service of the Sales Management Portal, will replace the existing service of using a Personal Data Calendar to track down leads, input personal data and input contact information for themselves. This new Portal will allow the entire sales team to share the wealth of information, update leads to new clients, and to communicate the needs of their customers, while updating new products, and to expand their products. It will enable a non-profit organization to grow by sharing information amongst their salesmen, by adding new leads and customers to their database, and by listening to their customer needs, and giving them what they want. This could lead to a better management of sales, and a higher customer satisfaction rating.

Key Words: Sales Management, Synchronized Web Portal, Customer Database, and New Leads.
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1. Project Description

This project is about building a Sales Management Portal for a non-profit organization that provides an online accredited education, hands-on training, and license to individuals or companies who plan on operating in a drone in America: “Effective August 29, 2016 all commercial small Unmanned Aircraft Systems (Drone) operators are required by law to be licensed with the FAA. If you plan to operate your drone for commercial reasons (for Business or Work), you must carry a Remote Pilot License issued by the Federal Aviation Administration (FAA). To obtain a Remote Pilot License, you must complete an Aeronautical Knowledge test at an FAA certified testing center, prior to applying for your certification” (Dart Drones, January, 2016). The Sales Management Portal is a multi-leveled and Synchronized Web Portal; whose main objective is to update the sales management portal of a non-profitable organization, that offers Online Drone Education, Testing, and Licensure throughout Illinois. Flying a drone has become a booming business mode of delivering products to customers (near, far, in out of reach places like the mountains, valleys, out to sea, or search and rescue), or for personal enjoyment. This Sales Management Portal will be of great importance to salesman, because they could use this portal to work on leads, add potential or confirmed customers, and track the progress of sales, products, or services (drones, cameras, and drone repairman). Using this system will solve the old problems of “Paid by Commission” aka “Every Man/Woman for themselves” routine. It will evoke an attitude of “Team Work” in which sales people will be able to see in the portal, just who is working on what account. It will also foster respect, to not work on accounts that are already being worked on by another teammate. This new service will replace the existing application of using an E-Calendar (to keep records of their customers, their orders, and appointments), and using a Message-Service (to record leads just for themselves). Our product, The Online Drone License Center will educate, test, and license students to fly Drones. Individuals to Companies will also want to use this online center, because it provides an economical way to save money, and a convenient way to satisfy the legal requirements of operating a drone, and obtaining a Remote Pilot license. Unlike our competitors in all 51-states, they only offer individual drone classes, testing, and a required demonstration of your drone flying skills, but only on site at their schools. Then they require you to pay high enrollment and tuition fees, on top of paying for classes, books, and the license. We accept individuals or companies, and charge them only $199.00 for 1-student; $179.00 each for 2-10 students; and $174.00 each for 11 (+) students, which includes free e-books.
This is all possible thru our Blackboard Collaborate, which allows a classroom to be conducted online—from anywhere! (Blackboard, Inc., 1997-2017). The log-in process will be both smooth, and user-friendly. This portal’s effortless and responsive design will be easy to navigate the log-in features, hyper-link features, study modules, and access to the testing site. This Sales Management Portal can help the salesman to locate and anticipate the needs of their customer’s, by tailoring a package for individuals (needing a Remote Pilot License), or companies (needing to license their drone delivery employees); thus, giving them what they want. This could lead to higher customer satisfaction ratings, and an increase in sales on a national scale. This Sales Management Portal provides a collaborative effort between the salesman, and the system to ensure that every potential lead, and established customer’s information, is up-to-date. The product we are promoting is an Online Drone Testing and License Center, that enables the public or companies to legally register, test for, prove skills, and to operate a drone. Whether for business, or pleasure, having the skills and license to operate a drone can be both rewarding, and fun!

1.1 Competitive Information

There are currently fifty-one (51) American states, that offer Drone classes and testing, with FAA Approved Practice Sites (to prove student’s ability to operate a drone), and that issue a Drone License (Drone Training HQ, 2017). However, they offer smaller discounts, charge college tuition fees, on top of the Drone Classes, Testing, and License fees. We offer Online Courses for students to learn at their own pace, a FAA Approved Practice Site, and a Free copy of their Remote Pilot License upon completion, all at the lowest price anywhere! Here is a hyper-linked list of Drone Schools per state to compare prices:

Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming
1.2 Relationship to Other Applications/Projects

Our Sales Management Portal/Akines Online Drone License Center, is like the Dart Drone License School of Illinois Website. As per their website, “We believe that drones are going to change the world, and we want to help the FAA implement this amazing technology by promoting safety, comprehensive understanding of the equipment, and knowledge of the current regulations. We pride ourselves on our friendly, knowledgeable, and expert flight instructors who offer a variety of experience in the aviation industry. We are an exciting team based in Scranton, PA offering training courses throughout the United States” (Dart Drones, January, 2016). Their program offers both in-person and Online classes, via the internet. Their prices range from $250.00 for one course, to over $1,000.00 total for all classes. A bundle package to receive their Professional Drone License, is $1,450.00 with a $200.00 discount. Our prices start from $199.00 for 1-student, $179.00 for 2-10 students, and $174.00 for 11 or more students, with up to 25% in discounts. Their Sales Management Portal is also multi-leveled and Synchronized like my web portal. It was also built using HTML, and Java Script, but they do not utilize a collaborative effort towards updating and sharing information by their salesmen, nor inspire suggestions from their customers. We are always evolving, because we welcome all feedback, and we continue competing on a high level above our competition. They have on-site instructors & classes, at set times and only in 40-locations, but we use Blackboard Collaborate, which allows the students to learn at their own pace, preferred schedules, and from any location. We instruct students from pre-recorded classes taught by Master-Degreed Licensed Pilots, who teach subjects on operating a drone, and lead students towards obtaining a Remote Pilot License.

1.3 Assumptions and Dependencies

Drones operated by everyday civilians and companies, are in our very near future. Not only is this modern technology ready right now, but Unmanned Aircraft vehicles (UAV’s) are now more affordable, and they have a wide variety of potential uses to business, as well as the private sector. The possibilities are endless, because this is predicted to be a lucrative industry, that creates new jobs, and a steady flow of income possibilities. The FAA was given a deadline by Congress to integrate civilian drone use into the national airspace back in 2015. The demand for people who know how to fly, repair and build UAVs is, and could be more staggering. “Those who have the technical know-how may be able to command top-dollar for their skills, and could start on the ground floor of an industry that has unlimited potential” (Drone Authority, January, 2017).
1.4 Future Enhancements

Per the Association for Unmanned Vehicles Systems International, “commercial drone use will become a $13.6 billion industry by 2018, creating more than 70,000 jobs.” “Camera drones alone are expected to be a $5 billion a year industry, comprising all sorts of fields from real estate, and advertising, to crop dusting and environmental monitoring, to security.” “Currently, the only thing keeping this new industry at bay, is government regulations on just a couple of years ago, commercial use of drones was virtually forbidden. But this situation is changing rapidly.” (AUVSI, March, 2017). Right now, the Online Drone License Center start is with Illinois Clients, but the potential growth of servicing other individuals and companies will expand to other states, because it is done on the Online Blackboard Collaborate. This online service can connect to any state, nationwide via the internet. The possibilities are endless, because the sections of learning modules, pre-tests, and the 2-hour Final Test are on the website. The drone demonstration by the students can be done at any State FAA-approved knowledge testing center for free, once they show proof of passing the aeronautical knowledge test. By partnering with Blackboard Collaborate, The Online Drone Licensing Center can accommodate customers from any state, therefore it is a certainty that it will grow nationwide, and provide countless jobs. Blackboard Collaborate serves as the digital classroom, because digital literacy and collaboration skills are critical for career readiness in the future. In the future, this business can go international. Employer’s in today’s market, expect prospective employees to stay on top of the latest in technology and knowhow. Those who are educated and trained in the latest digital technology, will be in high demand, and paid more for their experience. Their education must be engaging, personalized, and accessible to connect with the global market.

1.5 Definitions and Acronyms

SQL – Structured Language Query
CSS – Cascading Style Sheet
DBMS – Database Management System
ERD – Entity Relationship Diagram
UI – User Interface
ASP – Active Server Pages
2. Technical Description

The Sales Management Portal application is developed using Adobe Dreamweaver with HTML. It helped to give the website search functionality in the Sales Management Portal application. I used bootstrap framework to design the user interface screens in responsive mode. I also used HTML to develop the web forms, User authentication and authorization (Design Pattern, 1995). The master pages helped me to design the layouts for several pages, and form elements through parsley validation. The following are the technologies that were used to develop the application. It has online testing hyperlinks that interact with the user applications as they are clicked on, to navigate the system. The preferred language is Java script, and the Database was built using PLS MySQL for the Login, Customer, Employee, Company, Proposals, Opportunities, and Project Tables.

Below is a screenshot of the Database EER Model, and the tables built on MySQL:

![Database EER Model screenshot](image)

The EER Model show the 7 tables, and their relationship to each other. The model starts with the Log-in which both the employee and customer can access; The employee table is in relation to the proposals, opportunities, and the projects tables; The customer and companies determine if the employee’s proposals can land them an opportunity to become project tables; Employee tables can be in relation with companies and their multiple employees, or individually by customers seeking a drone license on their own.
The Login Table is the security measure to guarantee that only authorized users can access the system. This protects the database from hackers trying to compromise the sales management portal personal information like their name, address, phone number, email address and social security number, not meant for the public’s use. The login table is in relation to the employee (Administrator- Primary Key), and in relation to the customer (User-Foreign Key). These are the only ones who can access the system. The Administrator can make changes like delete a file, put a file back in, apply bonuses, or change prices. The User can create a file, add personal information, order, pay, update personal information.
Below is a screen shot of the Administrator Dashboard from MySQL:

The Administrator Dashboard shows the Network Status, the MySQL Status, and the InnoDB Status. The Network Status show case the Statistics for network traffic sent and received by the MySQL Server over client connections. The MySQL Status, shows the primary MySQL server activity and performance statistics. The InnoDB Status, shows an overview of the InnoDB buffer pool, and disk activity generated by the InnoDB storage engine.
Below is a screen shot of the Employee Table built on MySQL:

The Employee Table shows the EmployeeID, name, address, city, state, zip code, and email. On the left hand section, it shows the Employee (Administrator-PK) Navigator which displays the schemas and queries for each section of their information. They contain all the protected employee information in the tables, and their relation to the customer table, the company table, the company table, the proposal table, and the project table.
The Customer Table shows the Customer_ID, Customer_fName, Customer_lName, with their address, city, state, zip code, email, CompanyID, and their phone number. On the left-hand section, it shows the Customer Navigator (User-FK), which displays all the schemas (columns, index’s, foreign keys, and triggers) the queries, stored procedures, and functions for each section per their personal information. They contain all the protected employee information in the tables, and their relation to the employee table, the company table, and the opportunities table.
The Customer Table shows the Company_ID, Company_Name, Company_Address with their, city, state, zip code, phone number, and email address. On the left-hand section, it shows the Company Navigator for the Administrator (Employee), and the User (Customer), which displays all the schemas (columns, index’s, foreign keys, and triggers) the queries, stored procedures, and functions for each section per their personal information. They contain the protected company information in the tables, and their relation to the employee table, the customer table, and the opportunities table. The company grants the employee the opportunity to present a proposal, which can become a project if approved.
Below are the MSQL screen shots of the Opportunities Table:

The Proposal Table:

and, The Project Table:
2.1 Project/Application Architecture

The Akines Online Drone License Center Website, has main Applications like the Employee’s and Customers Log-In page, a Search button for Company and Home, and a Navigation button for Home, Company, and Content.

Below is a screen shot of the Main Page of the website showing prices and discounts with contact button:

Below is the screen shot from the website of the Log-in, located on bottom of Main page:
Below is a screen shot from the website, of the Search Application: (Company and Home)

The Search Application of the Akines Online Drone License Center allows Employees (or Customer (User), to look up the company name and names of the employees that are customers. This will help the employees to view which other salesman is working on what account, and what account is free.
Below is a screen shot from the website of the Navigation Application (Home, Company, and Content).

The Navigation Application helps the Employee (Administrator) and the Customer (User), to find the Home Page, Companies listed, and the Contact information on the them. The Administrator can add, delete, and update information on the employee, customers, and companies listed. The User can view it, but not change information on the database or server.
2.2 Application Information Flows

Application Information Flows describes how the information flows through the application. Other information flows include a user information flow, in which a user can sign up for their account, then they can log-In using their personal information. Another Information Flow called Client Information Flow, includes the adding of client information, the adding of one or more contacts to the same client, and the adding of more than one notes, prospect to the client information, and projects to the same client. The Information flow is per user required (Google: Application Flow Charts, April 2017), and they will be able to add a course to each of their accounts. The user will be able to create their account and take their Drone License Courses online. The back-up of the database is on a certain interval base, and the user will be able to monitor the application performance over a certain period.

Here is a sample of an Application Flowchart:
2.3 Interactions with other projects (if any)

The Sales Management Portal, is not interacted with any other sales management systems yet, but maybe soon, as the business grows- hopefully on a national level.

2.4 Interactions with other Applications

The Sales Management Portal application is likely to have interactions with other applications, as the database increases with customers, information, and services. However, there currently no interactions with other applications.

2.5 Capabilities

The Sales Management Portal provides the salesman (Employee/Administrator) with the capabilities to add, delete, locate, and update, the different entities information. The system also provides the capabilities for the salesman to monitor, and maintain their client information. It will also allow fellow salesman to view which project is available to work on by viewing the Opportunities table. They can update information about new prospects, contacts, in hopes of future projects. The sales management system also has security features like Log-in, that can validate the users, and secure their information.

2.6 Risk Assessment and Management

The Akines Online Drone Center product within the Sales Management Portal, is subject to risks. These risks include database break downs, (due to incorrect information put in the data tables), and power failures (which would require reverting data system to a previous state with secure locking concepts).
3 Project Requirements

3.1 Identification of Requirement

The Sales Management Portal should have the following features:

a. Search buttons, so the user can easily find clients by names (completely, or partially),
b. A filter for browsing, to be able to separate perspective clients from current ones,
c. A sign-In form,
d. A Manager Console, so they can create user accounts, make or view entries or corrections, leave comments to staff,
e. and run various reports.

Features should include, but not be limited to, HTML programming, and CSS Styling, Responsive design, User authenticate and authoritarian, Oracle Cloud, MySQL Database, and programing (in JavaScript and C++), site navigation, Application of state and cookies, validation controls, AP and Web Service Programming (needs to be hosted online), plus Test and debug (to show that the program works).

1. To design a Sales Management Portal, I installed the Adobe Dreamweaver Software, to design the website using their templates, and master pages written in HTML.

2. To design a company’s sales pipeline database portal, I had to select and download the PLS MySQL Database. This enables management to view the tables of each department, and track the progress of the sales staff, and offer guidance to the sales staff regularly.

3. To design the server-side Web Development, I had to select and download the Scripting Language, which should be PHP, because it is a general-purpose scripting language that is especially suited to server-side web development.
(1) Project Installation; Steps to download Dream Weaver:

Step 1. Type the URL into the internet browser, or click on the link for the Adobe Dreamweaver, for the program to download.

Step 2. Locate and click on the “Download now” button at the bottom of the screen.

Step 3. A new window will prompt you to choose to run or cancel the Adobe program. Click “Run” to continue.

Step 4. Once the Adobe Download Assistant has installed, it will prompt you to save the program to a specific computer file or to your desktop. Select the desired location and click “Continue.”
Step 5. Read the Adobe Personal Computer Software License Agreement and click “I Agree” to initiate Adobe Dreamweaver program.

Step 6. Once the Adobe Download Assistant has completely downloaded, the Welcome screen will open. Read and accept the Terms and Conditions by clicking the “Accept” icon.

Step 7. Click on the “Create an Adobe ID” to log into the application and type all required Information to create an Adobe ID.

Step 8. Locate the “Select product” icon on the button left of the Welcome screen and click to access the scroll down menu.

Step 9. Select “Web from the scroll down menu.

Step 10. Adobe Dreamweaver CS6 should be at the bottom left corner of the Welcome screen. Select the appropriate language from the scroll down menu, and click the “Download” button.

Step 11. Select the “Try” icon.
Step 12. Review and accept the Adobe Software License Agreement to continue.

Step 13. Type the Adobe ID and password you created in Step 7 and click the “Sign-in” icon at the bottom right corner of the screen.

Step 14. From the Options screen, select Adobe Dreamweaver CS6 in the menu and click the “Install” icon at the bottom right corner of the screen.
Note: As in Step 5, your computer may request your permission to begin running the program. Next, click “Yes” to continue.

COMPLETED DOWNLOADING: Now, Start Web Designing!

(2) The project must contain a database. So I downloaded and installed PLS MySQL Database:

I selected and download the PLS MySQL Database, to design my company’s sales pipeline database portal, in which the sales staff can enter clients’ information into the pipeline, keep logs of contacts and activities, sales opportunities, proposals and eventually projects to secure customers. The portal should have a responsive design, to adjust to diverse resolutions, so that it will be easy to navigate for users on their own devises. It should have illustrations so that at first glance, the portals concept can be known right away.
(3) The project must allow server-side web-development, so I must also install PHP for Windows:

I had to select and download the Scripting Language, which should be **PHP**, because it is a general-purpose scripting language that is especially suited for server-side Web Development, and it generally runs on a web server. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content or dynamic images used on websites or elsewhere in the program.

**Step 1. Choose PHP 7.1(7.1.4)**
Step 2. Install it onto your laptop in Windows (C:):

(Final Step) After the php 7.1.4 has been installed, zip file it to the desktop to run later.

3.2 Operations, Administration, Maintenance and Provisioning (OAM&P)

This involves the Back-End Functions to be done by the Database Administration. The website’s operations will be performed on a regular basis by the salesmen/employees, to keep the website up to date. This provisioning will be good for maintenance and business success.

3.3 Security and Fraud Prevention

The system will be using password encryption to prove user authorization, which is a good security measure, to prevent the site from being hacked by fraudulent users. It will ensure access can be restricted by unauthorized users.

3.4 Release and Transition Plan

First I built and deployed the solution in a local file system (Microsoft Visual Studio, 2017). Then, I publish the solution in a client requested server, and I used the Dream Weaver Software to maintain the version of the source code.
4 Project Design Description

The Sales Management Portal is client server architecture application, and it performs several functionalities. A good practice is to keep the Sales Management Portal design as simple as possible.

The Entity Relationship diagram is given below:

The user interface screens, were designed using HTML programming,

The Design Pattern used is the Adobe Dream Weaver.

Name of the Pattern: Container Pattern

Intent of the pattern: To create, hold, and manage objects.

Problem: The project approval module must hold the information about the project, user and prospect.

Solution: Instantly merge the project approval class with the instances for Project, User, and Prospect classes.

Participants and Collaborators: Users, Projects, and Prospects.

Consequences: Users can’t see the project approval details containing project and user information.

Implementation: Using the container pattern I created the instance for the Project class which contains the instances for the User, Project, and Prospect classes. So, the class can store the information about the User, Project, and Prospect information.
Interfaces are the main parts of the Sales Management Portal System. This application contains two modules based on the access level specifications. The user module and Manager module both contain the interfaces per their functionality. The user module also contains the interface to create the account, to log in to the account (using the specific credentials to add and view the client information), create the contacts, notes, prospects, and projects to the existing client. There is an option to export client information, adding the multiple contacts, notes, prospects, and projects to the existing client.

Below is a screen shot of the Data Export screen:

On the Data Export Screen, the left-hand side shows what is contained in the Navigator. It lists Management, Instance, the Performance, the Schemas, and the Information sections that are included in MySQL. It outlines in each list, what are their performance capabilities.
6 Design Units Impacts

In this module, the user can view the information of the website and the user can also add the client’s information, can add the multiple contacts, notes, prospects, and projects. The user must login into the system for the adding the client information. The user can only view their client information of the web site. This part contains sub modules like the registration module, the prospect module, and the project module.

The purpose of this screen is to add/search for the client information:
6.1 Functional Area /Design Unit A

The user tables should match up to the user details in PLS MySQL.

If the user tables are valid, the user will be able to enter the system quite smoothly based on the user type.

The user can also login/change their password from here:
6.1.1 Functional Overview

For the website to be fully functional, the PHP and web server must be installed on the laptop. The script must be written to blend in to the HTML from the Dreamweaver download, where the website was built from. The Database must be included (PLS MySQL). The driver application must be downloaded to tie all the parts together to work. The Code must also be saved to Note Pad, so it can be applied to an application to run for success or errors.

Below is a screen shot of the Code on Note Pad:
6.1.2 Impacts

The impact part of the module is a very important part of the Sales Management Portal System.

This module contains all the information that allows the user to register, login, and manage their client information part of the portal. In this module, the Administrator/Employee can add the contacts, the notes, the prospects, and the project information pertaining to the clients.
6.1.3 Requirements

1. User Requirements: The user must be able to create a client, add contacts, notes, prospects, and projects for the sales management portal.

Screen shot for User Requirements:

2. Access/Security requirements: The data of the client should always be in private, so that it cannot be accessed by other users. The user must be authenticated by the system software first by using the OAuth method, to gain access, and to satisfy the security portion of the system.

3. Interface requirements: The user interface provides a way to create client, view clients, search for the clients, and filter the clients among the list of clients. The user should be able to edit the existing clients and update client details easily.

Below is a screen shot of the Interface Requirements showing User create, view, and search for clients:
4. Scalability requirements: The system software must be able to handle numerous user requests. A size amount of data should be stored easily, retrieved and processed by the system software.

5. Integration requirements: The sales management portal, and the client information module, must both be integrated, so they can be deployed in the system software.

6. Quality and Performance requirements: Data storage and retrieval in the system, should be as quick as possible. The maintenance of events and payment details should have been maintained with highest level of security as well.

Screen Shots of Links for Drone License Center Requirements, and Links to courses:

7. Open Issues

Currently, there are no open issues to report now.
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References


