E-Healthcare – Online Consultation and Medical Subscription

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It might have happened so many times that you or someone yours need doctors help immediately, but they are not available due to some reason. The Health Prediction system is an end user support and *online consultation* project. Here we propose a system that allows users to *get instant guidance* on their health issues through an intelligent health care system online. The system is fed with various symptoms and the disease/illness associated with those systems. The system allows user to *share their symptoms and issues*. It then processes users symptoms to check for various illness that could be associated with it. Here we use some *intelligent data mining techniques* to guess the most accurate illness that could be associated with patient's symptoms. If the system is not able to provide suitable results, it urges users to go for blood test, x-ray, Citi scan or whichever report it feels user's symptoms are associated with, so next time user may be able to login and upload an image of those reports. The system also has a doctor login, these uploaded images are now sent

Software Requirements:

- Windows Xp, Windows 7
- Sql 2008
- Visual studio 2010

Hardware Components:
- Processor – Dual Core
- Hard Disk – 50 GB
- Memory – 1GB RAM

Advantages:

- User can search for doctor's help at any point of time.
- User can talk about their illness and get the required medicine's prescription.
- Doctors can handle emergency situation by providing primary help, till the patient can be taken to the hospital.

Disadvantages:

- One or the other doctor has to be online to help the patient.

Application:

This system can be used by all patients or their family members who need help in emergency.

Employee Attendance System by Barcode Scan

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The proposed project is a system that keeps a track of employees' attendance using barcode. This is an interesting concept set forth to automate the traditional attendance system of taking signature by using authentication technique. The traditional system requires a register maintained for manually signing the attendance by the employees which is time consuming. Hence this proposed project eliminates the need of maintaining attendance sheet.

The proposed system uses barcode method for authenticating employees with a unique barcode that represents their unique ID. Every employee is provided with a card that contains the barcode. They just have to scan their cards using barcode reader and the system notes down their attendance as per date and time. System then stores all the employees' attendance records and generates a brief reports for admin as required. Such kind of application is very useful in organizations or corporations for taking daily attendance.

Features:

- **Admin login:** Admin is provided with a login from where he monitors and administers all the employees' information and records.
- **Barcode Reading:** Employees have to scan their card through barcode reader and the id thus read by the system is stored for that particular day and time.
- **Report generation:** At the end of attendance process system automatically generates overall report of each employees attendance in excel sheet.
- **Search option:** Admin can even search for particular employee attendance records using search option in the system.

Software Requirements:

- Windows Xp, Windows 7(ultimate, enterprise)
- Sql 2008
- Visual studio 2010

Hardware Components:

- Processor – i3
- Hard Disk – 5 GB
- Memory – 1GB RAM
- Barcode Reader

Advantages of proposed project:
- Employees will be more regular as the system notes down the time along with the attendance.
- Since now no attendance sheet signature is required, so no other person can make an attendance on behalf of others as barcodes are unique for every employee.

- No need to maintain attendance sheet as the attendance are electronically stored in database.
- The system helps the admin to easily find out latecomers.
- Admin can easily get attendance history of a particular employee.
- It saves time, cost, efforts and organization resources.

Disadvantages:
- The only disadvantage is that it requires a barcode reader to access the system.

Applications:

- The system can be used for commercial businesses, corporations and organizations taking down employees' attendance.

E-Commerce Product Rating Based On Customer Review Mining
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Background

There are many users who purchase products through E-commerce websites. Through online shopping many E-commerce enterprises were *unable to know whether the customers are satisfied* by the services provided by the firm. This boosts us to develop a system where various *customers give reviews* about the product and online shopping services, which in turn help the E-commerce enterprises and manufacturers to *get customer opinion to improve service and merchandise through mining customer reviews.*

An algorithm could be used to track and manage customer reviews, through mining topics and sentiment orientation from online customer reviews. In this system user will view various products and can purchase products online. Customer gives review about the merchandise and online shopping services. Certain keywords mentioned in the customer review will be mined and will be matched with the keywords which are already exist in the database based on the comparison, system will rate the product and services provided by the enterprise.

This system will use text mining algorithm in order to mine keywords. The System takes review of various users, based on the review, system will specify whether the products and services provided by the E-commerce enterprise is good, bad, or worst. We use a database of sentiment based keywords along with positivity or negativity weight in database and then based on these sentiment keywords mined in user review is ranked.

This system is a *web application* where user will view various products and purchase products online and can give review about the merchandise and online shopping services. This system will help many E-commerce enterprises to improve or maintain their services based on the customer review as well as to improve the merchandise based on the customer review.

Features

- System will take review of the customer about the merchandise and online shopping service and will rate the merchandise and online shopping services.
- This system will help E-commerce enterprise to know about their customer services as well as about the merchandise.
- The system takes review of various users, based on the review; system will specify whether the products and services provided by the E-Commerce enterprise are good, bad or worst.
- We use text based analysis along with positivity or negativity weight in database and then based on these sentiment keywords mined in customer review, product and services provided by the E-commerce enterprise is ranked.
- This system will help many E-commerce enterprises to know about their customers.
- Text data mining used in this system to derive high quality information from text. High-quality information is typically derived through the devising of patterns and trends.
- This system scans a set of text written in natural language.

Feasibility Study

System will extract keywords from the review of various customers and will mine the keyword in database and will rate the E-commerce merchandise and online shopping services based on the review provided by the customers. We use a database of sentiment based keywords along with positivity or negativity weight in database and then based on these sentiment keywords mined in customer review is ranked.

- **Economic Feasibility**

This system can be used by the users who often purchase products online. This system will be helpful for the E-commerce enterprise to maintain their customer service and the merchandise which will increase the productivity and profitability of the E-commerce enterprise. This will provide economic benefits. It includes quantification and identification of all the benefits expected

- **Operational Feasibility**
  This system is more reliable, maintainable, affordable and producible. These are the parameters which are considered during design and development of this project. During design and development phase of this project there was appropriate and timely application of engineering and management efforts to meet the previously mentioned parameters.

- **Technical Feasibility**
  The back end of this project is SQL server which stores details which are related to this project. There are basic requirement of hardware to run this application. This system is developed in .Net Framework using C#. This application will be online so this application can be accessed by using any device like (Personal Computers, Laptop and with some hand held devices).
  Advantages
- This system will be useful for those users who often purchase products online.
- This system will help the E-commerce enterprise to know about their services and merchandise.
- Since system ranks the feedback based on the weight age of the keywords in database, so the result is appropriate.
  Disadvantages:
- System will match the review with those keywords which are in database rest of the words are not considered by the system.
  Future Scope
- System will match phrases rather than keywords so this will include those words which are not considered by the system.

Software Requirements:

- Windows Xp, Windows 7(ultimate, enterprise)
- Sql 2008
- Notepad ++
- Wamp Serve

Hardware Components:
- Processor – Dual Core
- Hard Disk – 50 GB
- Memory – 1GB RAM
- Internet Connection
  Application:
- This system will be useful for many E-commerce enterprises.
- This system will be useful for many users who purchase products online.
- The system is useful for those who like to give review.

- User can decide which hotel to accommodate before they reach the place.
  Disadvantages:
- System will match the opinion with those keywords which are in database rest of the words are ignored by the system.
  Future Scope
- There will be a module where user can book rooms of desired hotel through online.
- There will be another module which will show users, facilities provided by the hotel.
  Software Requirements:
- Windows
- Sql
- Visual studio 2010

  Hardware Components:
- Processor – Dual Core
- Hard Disk – 50 GB
- Memory – 1GB RAM
- Internet Connection
  Application:
- This application also works as an advertisement which makes many people aware about the hotel.
- This application is also useful for the users who travel around the country.
- This system helps to find out good hotel with good facilities.
- The system is also useful for those who like to comment.
  Reference
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Xây Dựng Hệ Thống Nhận Dạng Con Người Qua Giọng Nói Tiếng Việt (Nguyễn Đăng Q. Huy)

Xây Dựng Hệ Thống Nhận Dạng Khách Hàng Qua Camera (Nguyễn Đăng Q. Huy)

Nghiên cứu và đề xuất giải pháp mô hình hóa việc hóa tích hợp dữ liệu
Ths. Trương Đình Huy (huy.truongdinh@gmail.com)

(Mô tả: Sử dụng UML đề xuất mô hình để tích hợp dữ liệu từ Internet. Nghiên cứu và đưa ra giải pháp về việc tích hợp dữ liệu từ nhiều nguồn dữ liệu khác nhau để thu thập vào kho dữ liệu, hỗ trợ xây dựng hệ hỗ trợ ra quyết định...)

Amber, P. Chao (chaopj1030@gmail.com)

Topic 1: Runway on cloud
Description:
The concept is that the user enables sell, rent, and exchange the outfits and accessories through this platform. By uploading the photos of themselves in the clothes, the user ranks and leaves reviews about the fit, and they can sort by people who have similar body types. This project is also to develop technology utilizing artificial intelligence (AI), application platform interfaces (APIs), and other technologies to create new channels for service and customer communication.

Topic 2: Face reader in infants
Description:
Using facial recognition to detect and measure the infant's facial expressions and analyze their behaviors in order to help the novice parents to know their baby well. Furthermore, this system also helps detect the risks for developmental disorders, such as autism, ADHD, and so on.

Title: Medical Report Management & Distribution System on Blockchain

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Basic Description:

Secure handling and distribution of documents/information via Blockchain technology.
The product's end-to-end encryption ensures that patient data is shared safely and efficiently. The platform enables users to access, store and transfer all important information via blockchain. It helps the healthcare organization/ company to move more quickly, increase efficiency, by housing all patient information under "one roof".

Documents: Can be for example; Medical reports, Medical journal and lab test results

Administrator: Manage documents and Users through a Web-interface

Users: Can be for example; Doctors, Nurses, Patients and administrative personal
Users can have different levels of general access and also each document can have unique access rights, like only some specific users can view it.
Users can access the documents through a mobile phone app and a web interface
Actions by a User; can be for example; Create, View, Update, Store, Search, LogIn, LogOut, Register etc.

As this product is a completely distributed (decentralized) system/solution it can be implemented for one or more hospitals residing in one or more places.

Additional features can be:
- Subscribe to a document, meaning when any change is done the user will be notified
- Sending notification to other users

Detailed description of purpose and usage with focus on the Blockchain technology:

Security is a major issue in the healthcare industry. Between 2009 and 2017, more than 176 million patient records were exposed in data breaches. The perpetrators stole credit card and banking information, as well as health and genomic testing records.

Blockchain's ability to keep an incorruptible, decentralized and transparent log of all patient data makes it a technology rife for security applications. Additionally, while blockchain is transparent it is also private, concealing the identity of any individual with complex and secure codes that can protect the sensitivity of medical data. The decentralized nature of the technology also allows patients, doctors and healthcare providers to share the same information quickly and safely.

Hospital operations usually involve a lot of medical reports which are an integral part of operations. Hospitals these days have increased their business by integrating pathology and other test labs within the hospital for efficient and fast reports along with increased business. Hospital operations include a variety of processes from patient admission, management, to hospital expense management. This coupled with added services like pathology and pharmacy management increases operational complexity and also makes it difficult to track. Thus, we use blockchain technology to keep track of every single transaction with a 100% authenticity through the Hyperledger concept. We use blockchain tech to management the medical reports of all patients along with transaction details to demonstrate how this leads to safe, efficient and secure management of the entire system. All transactions are secured by an encryption and stored as blocks to authenticate within a network of computers rather than a centralized server. Moreover, we use hyper-ledger concept to associate and store all the associated medical documents associated with each transaction with date-stamp. This allows to verify the authenticity of each report which will be detected if modified by any individual. Thus, we bring forward a secure, safe, efficient and authentic medical report management system using blockchain technology.

Ths. Đặng Ngọc Cường – Topics cho ngành NE

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#1) Tìm hiểu và triển khai Kubernetes cho doanh nghiệp
#2) Tìm hiểu và triển khai VXLAN cho các nhà cung cấp dịch vụ

#3) Tìm hiểu và triển khai SD-WAN cho các hệ thống mạng doanh nghiệp

#1) Tìm hiểu và triển khai Kubernetes cho doanh nghiệp

Kubernetes là một mã nguồn mở được dùng để tự động triển khai hệ thống, scaling, quản lý các container. Nó thực sự là một hệ thống mạnh mẽ, được phát triển bởi Google. Google sử dụng Kubernetes để quản lý hàng tỉ docker container mà họ đang quản lý.

Ai cần Kubernetes?

+ Các doanh nghiệp lớn, có nhu cầu thực sự phải scaling hệ thống nhanh chóng, và đã sử dụng container (Docker).

+ Các dự án cần chạy >= 5 container CÙNG LOẠI cho 1 dịch vụ. (Ví dụ dùng >=5 máy cùng để chạy code website XYZ). Còn nhỏ hơn thì tốt nhất không dùng.

+ Các startup hiện đại, chịu đầu tư vào công nghệ, để nhỡ về sau có to ra, thì to rất dễ.

+ Các sysadmin/DevOps muốn tăng lương, nhảy việc, vọc công nghệ mới.

Tham khảo:

https://viblo.asia/p/phan-1-gioi-thieu-ve-kubernetes-924lJO6m5PM
https://topdev.vn/blog/kubernetes-la-gi/

https://www.server-world.info/en/note?os=CentOS_7&p=kubernetes&f=1

#2) Tìm hiểu và triển khai VXLAN cho các nhà cung cấp dịch vụ

Giới thiệu:

VXLAN được các nhà cung cấp dịch vụ điện toán đám mây sử dụng rất nhiều vì khối lượng khách hàng tăng rất nhanh. Nếu như trước đây, các helpdesk như chúng ta dùng VLAN để tách dữ liệu lớp 2 thì các bạn cũng biết các thiết bị hỗ trợ VLAN thêm 4 bytes của VLAN tagging protocol vào framesite, cho phép chúng ta hỗ trợ 4096 VLAN ID. 4096 quá ít, không phù hợp với hiện thực nên VXLAN ra đời. VXLAN sẽ thêm vào 24 bit trường VNI trong VXLAN header bên cạnh 8 bit flag, 32 bit reserved. 24 bit của VNI cho phép các bạn tạo ra 16 triệu VNI để map các VLAN vào đó. Tổng cộng các bạn có thể sử dụng 16 triệu VLAN. Khi sử dụng VXLAN, tổng cộng VTEP (sẽ nói sau) sẽ thêm vào 50 bytes packet size nên MTU

sẽ vượt quá 1500.

Các nhà cung cấp dịch vụ điện toán đám mây có rất nhiều DC (Data Center) nhằm nâng cao chất lượng dịch vụ, cân bằng tải và sao lưu dự phòng. Các khách hàng cũng có yêu cầu như vậy, họ muốn các dịch vụ của họ phải được dự phòng nhiều hơn 2 DCs, các yêu cầu dịch vụ phải được đáp ứng nhanh với độ trễ thấp nhất. Vì vậy, VXLAN cho phép nhà cung cấp dịch vụ truyền dữ liệu của khách hàng (VNI độc lập và duy nhất) trên toàn hạ tầng IP network của họ và liên vùng giữa các DC, nâng cao chất lượng đáp ứng và dự phòng. VXLAN làm được điều này nhờ vào tính năng Overlay của nó. VXLAN hoạt động dựa trên overlay network là Layer 3 IP network nên nó không cần Trunking, cũng không cần STP hoặc VTP. Điều này có nghĩa các bạn sẽ không phải lo lắng và Layer 2 switching loop, các bạn cũng phải lo về STP block các đường dự phòng của bạn. Mọi thứ đã có Layer 3 IP network làm hết. Các bạn để ý sau này các NIC của server đều hỗ trợ VXLAN và dĩ nhiên là VLAN tagging offload, đóng vai trò như một VTEP. Để hình dung về VXLAN và multiple DCs, các bạn hãy nghĩ đến một công ty Global Helpdesk thuê dịch vụ điện toán đám mây về lưu trữ của bạn. Họ muốn xây dựng 2 servers ở 2 DCs khác nhau nhưng PHẢI THUỘC CÙNG 1 SUBNET để làm cluster. Họ không muốn bạn để 2 servers của họ TRÊN CÙNG 1 DC Ở CÙNG MỘT ĐỊA ĐIỂM. VXLAN sẽ giúp bạn làm điều đó bằng cách truyền dữ liệu giữa 2 servers này trên 2 DCs khác nhau nhưng cùng một VLAN mà cụ thể là cùng một VNI.

Tham khảo:

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http://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/white-paper-c11-729383.html
https://blogs.vmware.com/vsphere/2013/04/vxlan-series-different-components-part-1.html
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==#3) Tìm hiểu và triển khai SD-WAN cho các hệ thống mạng doanh nghiệp==
Giới thiệu:
Mạng được điều khiển bởi phần mềm WAN (hay còn gọi là SD-WAN) là một phương pháp để triển khai mạng diện rộng sử dụng mạng điều khiển bởi phần mềm (SDN) để đạt được độ linh hoạt cao hơn. Hiện nay, SD-WAN đang chiếm dưới 5% thị phần, nhưng Gartner ước tính rằng sẽ có tới 25% người dùng quản lý mạng WAN của họ thông qua phần mềm trong vòng 2 năm tới. Doanh thu từ các nhà cung cấp SD-WAN sẽ tăng lên 59% mỗi năm và đến năm 2020 dự kiến sẽ trở thành thị trường trị giá 1,3 tỷ USD.

Một trong những đặc điểm chính của SD-WAN là khả năng quản lý nhiều loại kết nối - từ MPLS đến các băng thông rộng LTE. Điều đó cực kì hữu ích với công ty Redmond (một công ty có nhiều chi nhánh cần sử dụng mạng nhiều kết nối để phản hồi đến trụ sở chính).

Tham khảo:
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Một số topics khác có thể thực hiện (liên hệ thầy Mận)

- Xây dựng ứng dụng mobile app nhận thông tin sự kiện, đăng ký tham gia, check in, post minh chứng tham gia các sự kiện trong và ngoài trường mà có ích -có giá trị và tích điểm nhằm phục vụ cho xét điểm rèn luyện.

- Xây dựng ứng dụng mobile app/ gửi feedback cho trường ĐH Duy Tân/ Cho khoa
- Xây dựng kênh thông tin cung cấp thông tin thực tập, CV mẫu, và kết nối nhà tuyển dụng, quản lý sinh viên thực tập cho khoa Đào tạo QUốc tế
- Nghiên cứu và xây dựng công cụ xác định tin giả trên FB
-