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Virtual City

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ABSTRACT

In this era we are dealing with palmtops and iPhones which is making use of the network to get most of the services within a short period of time. As an extension of this facility we propose an app "Virtual City" for changing the life style of ordinary people by delivering valuable services.

By using this app people can get to know about all the services in a city through the smartphone. It include services like power failure notifications, restaurants, shops and their products, tourist places, event notification etc.

All information available in the smartphone is in user customized manner. Vendors can register into the app using the Web Interface. There is provision for users to rate the services they use.

Keywords— Services, virtual city

I. INTRODUCTION

Smart cities are poised to provide innovative public services to citizens, communities, corporations, and governmental bodies. Realization and management of these services is assumed to take place centrally, and according to well-defined policies established by city authorities. However, the proliferation of connected devices and crowd-sensing made it possible for ad hoc services to emerge before strict policies and architectures were enforced, and with little provision of interoperability. Furthermore, many existing services in today's cities use networks of privately-owned smart devices, which confine such services to local domains because of ownership and corporate governance. Our approach aims at maximizing the utility of city-wide services while maintaining local governance and minimizing performance degradation of service provisioning within local domains. The approach will also facilitate the composition of new smart city services from existing heterogeneous resources, thus minimizing the need to deploy dedicated service infrastructures.

II. LITERATURE SURVEY

1. Orchestrating access to smart city services

Increasing urbanization is creating larger cities with larger population and more complex infrastructure. This creates challenges related to management of city infrastructure and resources to provide public services. Thus came the concept of smart cities. A smart city is a city that "monitors and integrates conditions of all of its critical infrastructures, can better optimize its resources, plan its preventive maintenance activities, and monitor security aspects while maximizing services to its citizens". This paper proposes an approach for orchestrating access to isolated technological silos in a city so as to enable service integration as well as create innovative smart city services. The proposed approach relies on a centralized service orchestration unit that is run and managed by municipal authority responsible for smart city services. This authority will act as a service broker between the stakeholders requesting services and the networking system owners whose systems can provide the services.

The service provided are categorized into governmental, industrial, personal and social. The service orchestration unit consist of many modules for service discovery, service catalog, service clustering, service recruitment and pricing. The approach will also facilitate the composition of novel smart city services from existing heterogeneous resources, thus minimizing the need to deploy a dedicated service infrastructure. To provide a service or a suite of services, a service provider operates and maintains a network of connected devices: sensors, smartphones, vehicles, RFIDs, home appliances, machines, etc. Access to services is facilitated typically via APIs and the Web. The service orchestration unit will house functionalities that support service discovery as well as service announcements, and will maintain a catalog of the available services from service providers across the city. Upon receiving a service request, the service orchestration unit will map the service requirements into multiple micro services. Those micro-services are chosen so as to provide

the best possible coverage of the service requirements while maintaining the service's total cost by matching the budget stipulated by the service requester

2. VEGITO: A Virtual Enterprise Generator

Web services have been used to respond to the new emerging requirements. Web services promise the dynamic creation of loosely coupled information systems and flexible business applications. Nowadays, a growing number of commercial enterprises are redefining their business processes under this technology. The platform and language independence of the web services programming interfaces enable the seamless integration of heterogeneous Web based systems. In this work, we propose a Web service-based virtual enterprise generator for B2C e-commerce. The main contribution of this work consists in a Web-based system namely VEGITO which builds and generates B2C Web portal through a GUI set. Under our proposal, we believe that small organizations can automate many of their business processes for B2C ecommerce without making large investments in software development and deployment.

A Web service is a service that is accessible by means of messages sent using standard web protocols, notations and naming conventions, including the XML Protocol . Web services area is broadly used for Supply Chain Management, Enterprise Application Integration, and B2B and B2C e-commerce. In this context, B2C e-commerce involves electronic retailing or e-tailing. E-tailing involves online retail sales. Etailing makes it easier for a manufacturer to sell directly to a customer, cutting out the need for an intermediary (retailer). With B2C transactions there is no need for retailers and therefore, no need for a physical store from which to distribute products. An electronic or Web storefront refers to a single enterprise Web site where products and services are sold. Customers can browse online catalogs or electronic storefronts when it best suits them. Taking this into account, we have developed a Web system for developing Internet portals for B2C e-commerce named VEGITO (VEGITO stands for Virtual

3. Navigation, way finding, and place experience within a virtual city

The primary objective of this paper has been to examine how participants explore and experience a virtual facsimile of a city. In accordance with this aim, they have identified a number of themes that characterize participants' navigation and way finding activities, as well as place experience. Observation of interaction with the virtual city, coupled with participant comments, suggested a continuous relationship between real and virtual worlds. Participants were seen and heard to attribute real-world properties and expectations to the contents of the virtual world. It seems reasonable to argue that the layout of the Cityscape environment constrained behavior in that some behaviors were afforded while others were not. Finally, they have discussed these findings and their implications

for the construction of virtual environments modeled on real-world forms, such as cities.

The purpose of this paper has been two-fold. They have aimed to establish, by example, the legitimacy and informative nature of the qualitative approach in empirical work on virtual environments. Here, they have attempted to indicate the standalone potential of qualitative methods for researching topics such as way finding, navigation, and place experience within VEs, while giving some indication of the manner in which such work may be combined with more-experimental procedures.

4. WEB data mining applications in e-commerce

Web data mining is a new technology that can find valuable model and information in mass data. With the development of the Internet, e-commerce has a strong trends, application of web based data mining in e-commerce has become a hot topic. In this paper, the Web data mining and e-commerce is combined, it introduces the method and process of Web data mining in ecommerce, and describes the Web data mining applications in e-commerce. In ecommerce activities, it will leave the data on Web when customers browse information or do other acts, these data will be e-commerce Web data mining data source.

Web data mining is a very fast development area. This paper introduces the application of Web data mining in ecommerce data, and related concepts. Web data mining technology will help enterprises to find valuable knowledge in the network information resources. It can predict the consumption trend of customers, help businesses find and retain customers, adjust market strategy, make correct decision, promote the development of electronic commerce. But there are still some problems in the combination of web data mining technology and electronic commerce, these problems remain to be further explored and solved.

The first is the customer information, customer information includes not only the customer's registered personal data, but also includes customer's order information, customer's individual requirements and problems, as well as the customers to browse merchandise records and visited pages and so on behavior information. Such information can help to analyze customer preferences and background, then forecast the future purchase behavior of customers.

5. An Ontological Ubiquitous City Information Platform Provided with Cyber-Physical Social-Systems

This paper is to implement an ubiquitous city platform (Wi -City-Plus) provided with mobile and centralized DSSs(decision support systems) taking advantage of all the data of city interest, including social data. The paper proposes to model such data by a suitable RDF ontology designed to support the main user scenarios in smart cities and to implement both the technical and service interoperability. This paper advanced the proposal

of reusing some existing Ontologies to access all the relevant data independently.

All the urban databases and specific CPSs (Cyber Physical Systems) are required by the DSSs to truly inform mobile users at urban/metropolitan scale. This could be accomplished by converting all the data tables to RFD/XML triples using an agreed city ontology (or by a set on aligned ontologies), thus giving rise to an open and interoperable information platform to help the mobile people decision making process. The main feature of the proposed ontology is that it is a centered on a limited set of basic level concepts related to DSS

III.   SYSTEM ANALYSIS

1. Existing System

The smart city can be thought of as a system of systems, in which different networked systems are owned by different public and private organizations. The smart city constituents come from multiple and different domains, and their capabilities can be used in different domains The city is growing every day and thus the services in the city.

The services available in the city may be isolated and it needs a dedicated service infrastructure. As it is not centralized the clients may find it as overhead to waste a lot of time in finding the service location itself.

Traditional e commerce sites have a dis advantage that it is not providing any functionality of the real world shopping and the customers must have to wait a long to receive the shipped product which may be sometimes damaged. In many cases the quality of the product cannot be assured.

When a new person arrives to city it will be difficult for him to find the best services in the city and to locate it since he has to drive, catch the bus, wait in a long queue or deal with not being able to get the service.

While accessing direct services from service providers the clients cannot always express their reviews to the service providers, there is not a proper way of rating of services used by the client and thus performance evaluation and the analysis of customers reviews are not always available to the service providers.

2. Proposed system

The proposed approach will simplify the solicitation of access to and coordination of existing smart city services through centralized operation. Virtual City app will offer a global view of the smart city's scattered and fragmented services, and will facilitate the selection of the best set of services to satisfy a certain requests optimized in terms of cost, energy consumption, and required bandwidth.

Our approach aims at maximizing the utility of city-wide services while maintaining local governance and minimizing performance degradation of service provisioning within local domains. The approach will also

facilitate the composition of novel smart city services from existing heterogeneous resources, thus minimizing the need to deploy a dedicated service infrastructure.

Service providers can register into the app through the web interface , the admin verifies the service provider so that he can advertise and provide services to the user. notification ,event notification etc. This system make it easier for the service providers to sell and advertise their products and services directly to the user and there is no limitation for the range of service as the network used here is internet. Using the app clients get to know about the services in the city like shops , hotels , markets , railway station , tourist places , power failure
We provide a provision for the users to rate the services they have used. This feature is useful for the new users as well as the service providers. New users can go for the service having high rating and the service providers can analyze the quality of service they provide
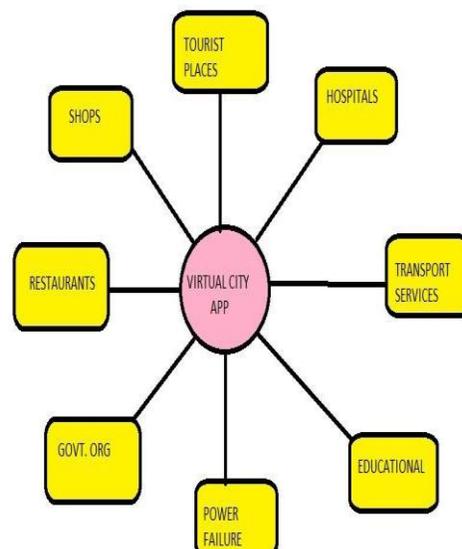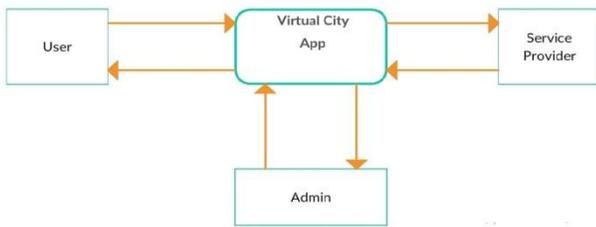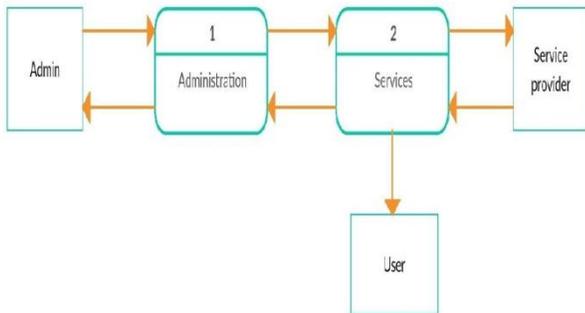

IV.   SYSTEM DESIGN

1. DATA FLOW DIAGRAM

A diagram about the data flow between the external agents (sources/sinks) and the processes and data stores within a system or it illustrate how data is processed by a system in terms of inputs and outputs.
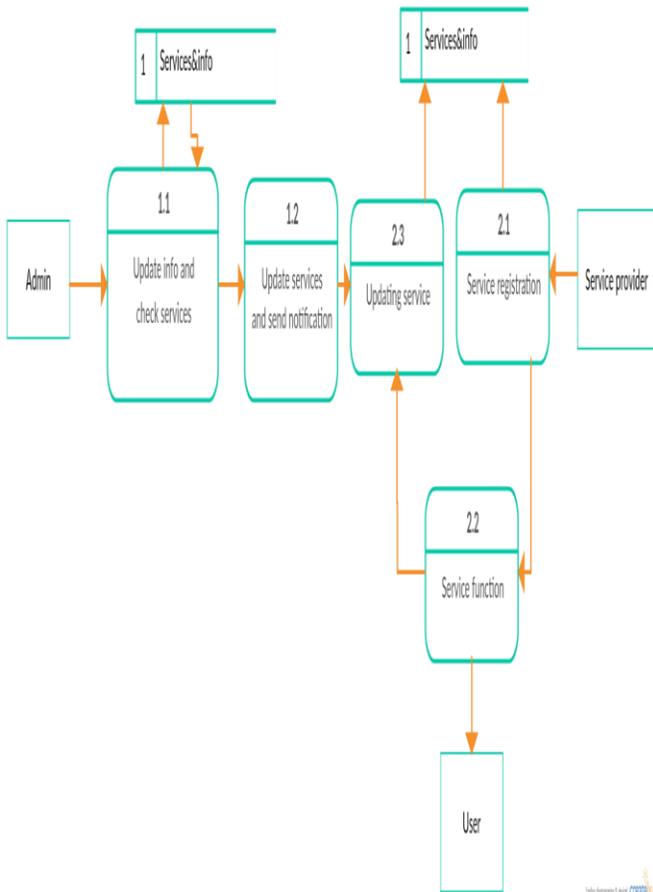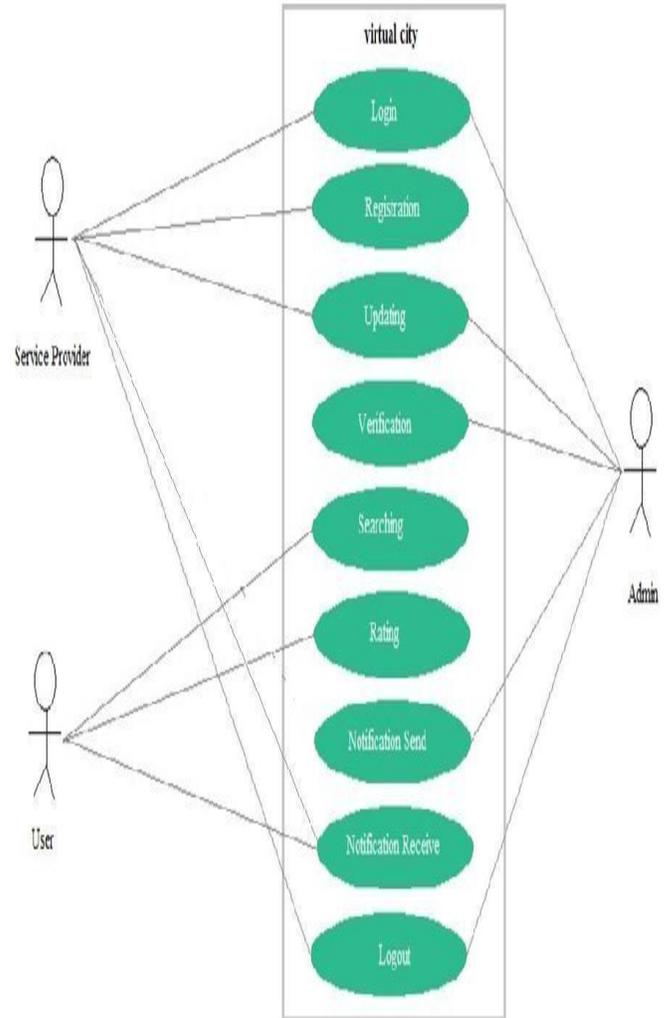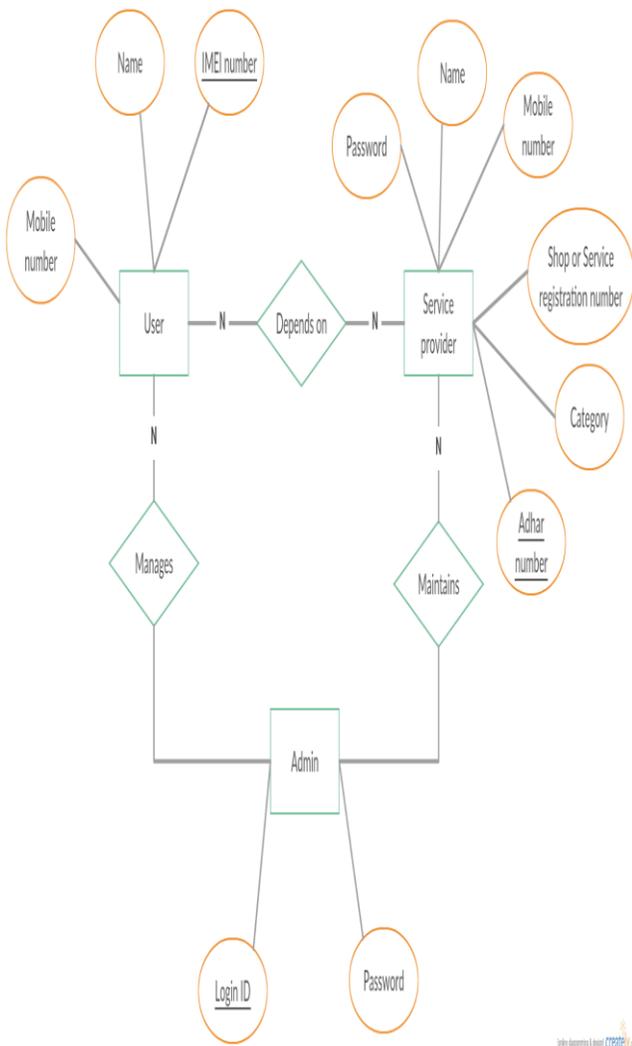
DFD Level 0

DFD Level 1

DFD Level 2

2. USE CASE DIAGRAM

A use case diagram is a representation of a user's interaction with the system that shows the relationship between the user and the different use case in which the user is involved.

3. ENTITY RELATIONSHIP DIAGRAM

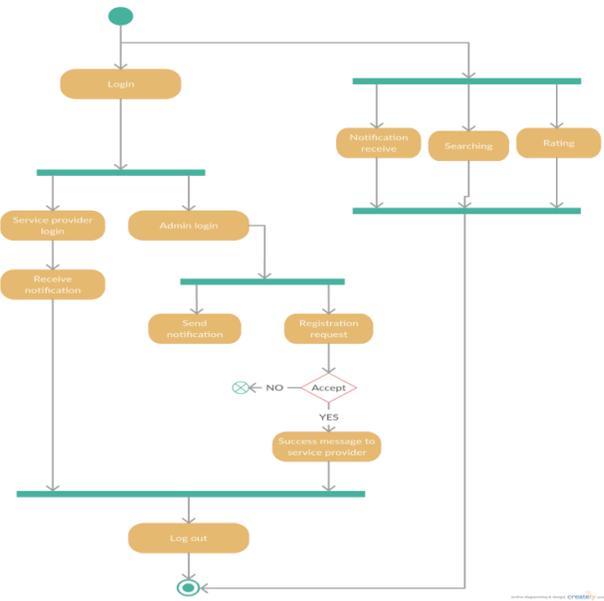Entity Relationship Diagrams (ERDs) illustrate the logical structure of databases

5. SEQUENCE DIAGRAM

Sequence diagram is an interaction diagram that shows how processes operate with one another and in what order. A sequence diagram shows object interaction arranged in time sequence. it depicts the objects and classes involved in the scenario and the sequence of messages exchanged between objects needed to carry out the functionality of the scenario. Sequence diagrams are sometimes called event diagram or event scenarios. A sequence diagram shows, as parallel vertical lines (lifelines), different processes or objects that live simultaneously, and ,as horizontal arrows, the messages exchanged between them, in the order which they occur.

This allows the specification of simple runtime scenarios in graphical manner.

4. ACTIVITY DIAGRAM

Activity diagram is to describe the dynamic aspects of the system. It is basically a flow chart to represent the flow from one activity to another activity. The activity can be described as the operation of the system. The flow can be sequential, branched or concurrent
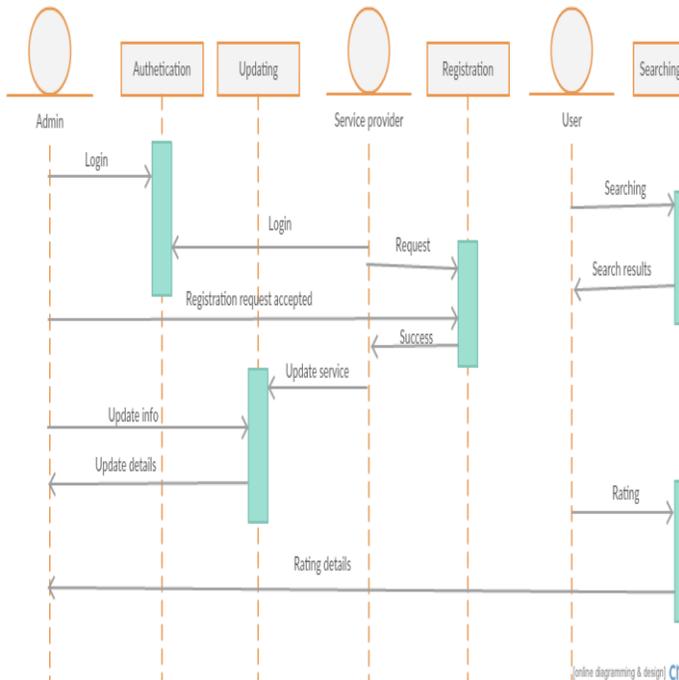
So before drawing an activity diagram the following elements should be identified

- Activities
- Association
- Condition
- Constraints

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V. CONCLUSION

Our app integrates the isolated services in a city so that the users can easily find and get details of the services based on their requirements. Users can also rate the services provided by the service provider. This feature helps new users to evaluate a service before using it. Service providers can easily register into the app with the authentication of the admin and service extension is an easy task. The proposed system is very much user friendly and flexible.

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