A Survey on Lightweight Chatting Using Bluetooth

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ABSTRACT: Bluetooth Chat is an Android Application, used as a messenger to send short messages over short distances, communication doesn't result in any charges on service, messages are sent directly between devices, range depends on the device and obstacles, sending can sometimes take little longer if program have difficulties, observe status icon next to recipient name.By connecting two Android devices using Bluetooth to establish communication directly between two devices equipped with Bluetooth Chat application. Devices must be within communication rangeand should be paired and Bluetooth adapter must be enabled.Using Bluetooth Chat Android Application user can connect their Android smartphone via Bluetooth which should be in range to connect and communicate with each other. The user has to first send the request to connect with each other and a Bluetooth network between two Android devices, later on by using this application, users can chat with each other.

I. INTRODUCTION

This systemis an integrated package of software used in warehouse operations, and elsewhere, to monitor the quantity, location and status of inventory as well as the related shipping, receiving, picking, packaging and putaway processes in common usage, the term may also refer to just the software components.

ORGANIZATION PROFILE:

Software Solutions is an IT solution provider for a dynamic environment where business and technology strategies converge. Their approach focuses on new ways of business combining IT innovation and adoption while also leveraging an organization's current IT assets. Their work with large global corporations and new products or services and to implement prudent business and technology strategies in today's environment.

RANGE OF EXPERTISE INCLUDES:
- Software Development Services
- Engineering Services
- Systems Integration
- Customer Relationship Management
- Product Development
- Electronic Commerce
- Consulting
- IT Outsourcing

We apply technology with innovation and responsibility to achieve two broad objectives:
- Effectively address the business issues our customers face today.
- Generate new opportunities that will help them stay ahead in the future.

THIS APPROACH RESTS ON:
- A strategy where we architect, integrate and manage technology services and solutions - we call it AIM for success.
- A robust offshore development methodology and reduced demand on customer resources.
- A focus on the use of reusable frameworks to provide cost and times benefits.

They combine the best people, processes and technology to achieve excellent results - consistency. We offer customers the advantages of:

SPEED:
They understand the importance of timing, of getting there before the competition. A rich portfolio of reusable, modular frameworks helps jump-start projects. Tried and tested methodology ensures that we follow a predictable, low - risk path to achieve results. Our track record is testimony to complex projects delivered within and evens before schedule.

EXPERTISE:
Our teams combine cutting edge technology skills with rich domain expertise. What's equally important - they share a strong customer orientation that means they actually start by listening to the customer. They're focused on coming up with solutions that serve customer requirements today and anticipate future needs.

A FULL SERVICE PORTFOLIO:
They offer customers the advantage of being able to Architect, integrate and manage technology services. This means that they can rely on one, fully accountable source instead of trying to integrate disparate multi-vendor solutions.

SERVICES:
Project is providing its services to companies which are in the field of production, quality control etcwith their rich expertise and experience and information technology they are in best position to provide software solutions to distinct business requirements.

II. SYSTEM ANALYSIS

After analysing the requirements of the task to be performed, the next step is to analyse the problem and understand its context. The first activity in the phase is studying the existing system and other is to understand the requirements and domain of the new system. Both the activities are equally important, but the first activity serves as a basis of giving the functional specifications and then successful design of the proposed system. Understanding the properties and requirements of a new system is more difficult and requires creative
thinking and understanding of existing running system is also difficult, improper understanding of present system can lead diversion from solution.

III. ANALYSIS MODEL

SDLC METHDOLOGIES:
This document plays a vital role in the development of life cycle (SDLC) as it describes the complete requirement of the system. It means for use by developers and will be the basic during testing phase. Any changes made to the requirements in the future will have to go through formal change approval process.

SPIRAL MODEL was defined by Barry Boehm in his 1988 article, "A spiral Model of Software Development and Enhancement. This model was not the first model to discuss iterative development, but it was the first model to explain why the iteration models.

As originally envisioned, the iterations were typically 6 months to 2 years long. Each phase starts with a design goal and ends with a client reviewing the progress thus far. Analysis and engineering efforts are applied at each phase of the project, with an eye toward the end goal of the project.

The steps for Spiral Model can be generalized as follows:

- The new system requirements are defined in as much details as possible. This usually involves interviewing a number of usersrepresenting all the external or internal users and other aspects of the existing system.
- A preliminary design is created for the new system.
- A first prototype of the new system is constructed from the preliminary design. This is usually a scaled-down system, and represents an approximation of the characteristics of the final product.
- A second prototype is evolved by a fourfold procedure:
  1. Evaluating the first prototype in terms of its strengths, weakness, and risks.
  2. Defining the requirements of the second prototype.
  3. Planning an designing the second prototype.
  4. Constructing and testing the second prototype.
- At the customer option, the entire project can be aborted if the risk is deemed too great. Risk factors might involve development cost overruns, operating-cost miscalculation, or any other factor that could, in the customer's judgment, result in a less-than-satisfactory final product.
- The existing prototype is evaluated in the same manner as was the previous prototype, and if necessary, another prototype is developed from it according to the fourfold procedure outlined above.
- The preceding steps are iterated until the customer is satisfied that the refined prototype represents the final product desired.
- The final system is constructed, based on the refined prototype.
- The final system is thoroughly evaluated and tested. Routine maintenance is carried on a continuing basis to prevent large scale failures and to minimize down time.
  The following diagram shows how a spiral model acts like:

IV. PROPOSED SYSTEM

To debug the existing system, remove procedures those cause data redundancy, make navigational sequence proper. To provide information about users on different level and also to reflect the current work status depending on organization. To build strong password mechanism.

NEED FOR COMPUTERIZATION

We all know the importance of computerization. The world is moving ahead at lightning speed and everyone is running short of time. One always wants to get the information and perform a task he/she/they desire(s) within a short period of time and too with amount of efficiency and accuracy. The application areas for the computerization have been selected on the basis of following factors:

- Minimizing the manual records kept at different locations.
- There will be more data integrity.
- Facilitating desired information display, very quickly, by retrieving information from users.
- Facilitating various statistical information which helps in decision-making?
- To reduce manual efforts in activities that involved repetitive work.
  Updating and deletion of such a huge amount of data will become easier.

FUNCTIONAL FEATURES OF THE MODEL

As far as the project is developed the functionality is simple, the objective of the proposal is to strengthen the functioning of Audit Status Monitoring and make them effective and better. The entire scope has been classified into five streams knows as Coordinator Level, management Level, Auditor Level, User Level and State Web Coordinator Level. The proposed software will cover the information needs with respect to each request of the user group viz. accepting the request, providing vulnerability document report and the current status of the audit.

V. IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus, it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective. The implementation stage involves careful planning, investigation of the existing system and it is constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

MODULES

The system after careful analysis has been identified to be presented with the following modules:

1. User Signup and Login
2. Scan for Bluetooth devices
3. UI for entire application
4. Pair with the devices
5. Sending
6. Receiving

Modules Description

User Signup and Login:

In every real time system User login is much needed to give the security to the user. This feature making the thing to be private and specific to a particular user which is not be steal by other. With the own credentials only that particular is privileged to access their account.

Scan for Bluetooth devices:

To use Bluetooth Chat application, the basic requirement is to establish connection between two Android devices. For this, firstly user has to activate Bluetooth in Smart phone, after that scan for the other devices that are in range of Bluetooth. From the scanned list of available devices in range select the device to which user is intended to chat.

Pair with the devices:

After the selection of device to which user wants to chat, user has to send a request to that device to establish connection with that device. After sending request for establishing connection, another user should accept the request. If in case the user denied the request it will not be possible to establish connection. In this case, user has to resend request and keep on sending until another user accept the request. Likewise, both the devices will get paired with each other, and will be able to send and receive message from and to the user, by using Bluetooth Chat App.

Sending:

After the connection is established between two android devices having Bluetooth Chat Application installed on their devices, user can create message and it to another android device which is already connected with it using Bluetooth. This process will start chatting.

Receiving:

When the other user will receive chat message, one has to put some text to reply and this text message will be received by user, who sends message. Similarly, users can send and receive messages.

VI. SYSTEM SECURITY

The protection of computer based resources that includes hardware, software, data, procedures and people against unauthorized use or natural
Disaster is known as System Security.

System Security can be divided into four related issues:
- Security
- Integrity
- Privacy
- Confidentiality

SYSTEM SECURITY refers to the technical innovations and procedures applied to the hardware and operation systems to protect against deliberate or accidental damage from a defined threat.

DATA SECURITY is the protection of data from loss, disclosure, modification and destruction.

SYSTEM INTEGRITY refers to the power functioning of hardware and programs, appropriate physical security and safety against external threats such as eavesdropping and wiretapping.

PRIVACY defines the rights of the user or organizations to determine what information they are willing to share with or accept from others and how the organization can be protected against unwelcome, unfair or excessive dissemination of information about it.

CONFIDENTIALITY is a special status given to sensitive information in a database to minimize the possible invasion of privacy. It is an attribute of information that characterizes its need for protection.

SECURITY SOFTWARE

System security refers to various validations on data in form of checks and controls to avoid the system from failing. It is always important to ensure that only valid data is entered and only valid operations are performed on the system. The system employees two types of checks and controls:

CLIENT-SIDE VALIDATION

Various client-side validations are used to ensure on the client side that only valid data is entered. Client-side validation saves server time and load to handle invalid data. Some checks imposed are:

- VBScript in used to ensure those required fields are filled with suitable data only. Maximum lengths of the fields of the forms are appropriately defined.
- Forms cannot be submitted without filling up the mandatory data so that manual mistakes of submitting empty fields that are mandatory can be sorted out at the client side to save the server time and load.
- Tab-indexes are set according to the need and taking into account the ease of user while working with the system.

SERVER-SIDE VALIDATION

Some checks cannot be applied at client side. Server-side checks are necessary to save the system from failing and intimating the user that some invalid operation has been performed or the performed operation is restricted. Some of the server-side checks imposed is:

- Server-side constraint has been imposed to check for the validity of primary key and foreign key. A primary key value cannot be duplicated. Any attempt to duplicate the primary value results into a message intimating the user about those values through the forms using foreign key can be updated only of the existing foreign key values.

- User is intimating through appropriate messages about the successful operations or exceptions occurring at server side.

- Various Access Control Mechanisms have been built so that one user may not agitate upon another. Access permissions to various types of users are controlled according to the organizational structure. Only permitted users can log on to the system and can have access according to their category. User- name, passwords and permissions are controlled o the server side.

- Using server-side validation, constraints on several restricted operations are imposed.

VII. CONCLUSION AND FUTURE WORK

This System being web-based and an undertaking of Cyber Security Division, needs to be thoroughly tested to find out any security gaps. A console for the data centre may be made available to allow the personnel to monitor on the sites which were cleared for hosting during a particular period.Moreover, it is just a beginning; further the system may be utilizedin various other types of auditing operation viz. Network auditing or similar process/workflow based applications.It has been a great pleasure for me to work on this exciting and challenging project. This project proved good for me as it provided practical knowledge of not only programming in Java, but also about all handling procedure related with **"Bluetooth Chat App".** It also provides knowledge about the latest technology used in developing web enabled application and client server technology that will be great demand in future. This will provide better opportunities and guidance in future in developing projects independently.

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