Whatsapp - software requirement specification srs

Software Engineering (Lovely Professional University)

Software Requirements Specification

For

Whatsapp

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Revision History

Name	Date	Reason For Changes	Version

1.   Introduction

1.1   Purpose

This document describes the software requirements and specification for a messenger app Whatsapp.

1.2   Document Conventions

DB	Data base
DDB	Distributed Data base
ER	Entity relationship

1.3   Intended Audience and Reading Suggestions

The
document is intended for all the stakeholders customer and the developer
(designers, testers, maintainers).
The reader is assumed to have basic knowledge of Mobile operating system, database, cloud data
and user account. Knowledge and understanding of UML

1.4   Definitions, abbreviations

1.4.1   Definitions

• **User Account**
 A user account is a location on a network server used to store a computer username, password, and other information. A user account allows or does not allow a user to connect to a network, another computer, or other share. Any network that has multiple users requires user accounts.

• **Mobile Operating System**
 A mobile operating system, also called a mobile OS, is an operating system that is specifically designed to run on mobile devices such as mobile phones, smartphones, PDAs, tablet computers and other handheld devices.
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• **Database**

A databse is a collection of information that is organized so that itcan easily be accessed, managed, and updated. In one view, database can be classified according to types of content

• **Distributed database**

A distributed database is a database in which storage devices are not all attached to a common processing unit such as the CPU, and which is controlled by a distributed database management system together sometimes called a distributed database system.
network.

• **Entity relationship**

An entity relationship model, also called an entity-relationship (ER) diagram, is a graphical representation of entities and their relationships to each other, typically used in computing in regard to the organization of data within databases or information systems.

• **User case**

In software and systems engineering, a use case is a list of actions or event steps, typically defining the interactions between a role (known in the Unified Modeling Language as an actor) and a system, to achieve a goal. The actor can be a human or other external system.

•**DFD**

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system, modelling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated.

1.5   Project Scope

 WhatsApp is an online instant messaging application that integrates user's contacts from their phonebook with the application and enables exchange of messages free of cost over the internet.

1.6   References

webwhatsapp.com

http://www.uianduxdesign.com/ux-designs/whatsapp-user-interface-and-user-experience-design.html

https://www.whatsapp.com/

https://en.wikipedia.org/wiki/WhatsApp

http://www.slideshare.net/

2.

3.   Overall Description

3.1   Product Perspective

Whatsapp does not work independently. It works together
with the internet and the mobile operating system and its hardware services.

Communication interface
Whatsapp communicate with its database systems via a
communication network.
Software interface
The messages sent via the communication network are specific to
the target other user's same software (whatsapp)on the other side.
Hardware interface
The software will run on the mobile system with the help of its hardware.

User interfaces

User
Once the application is installed, it goes through the user's phone book, and upon consenting, sends
a push invitation to connect and chat on WhatsApp. A user enters his or her phone number, and can
then change the phone name.
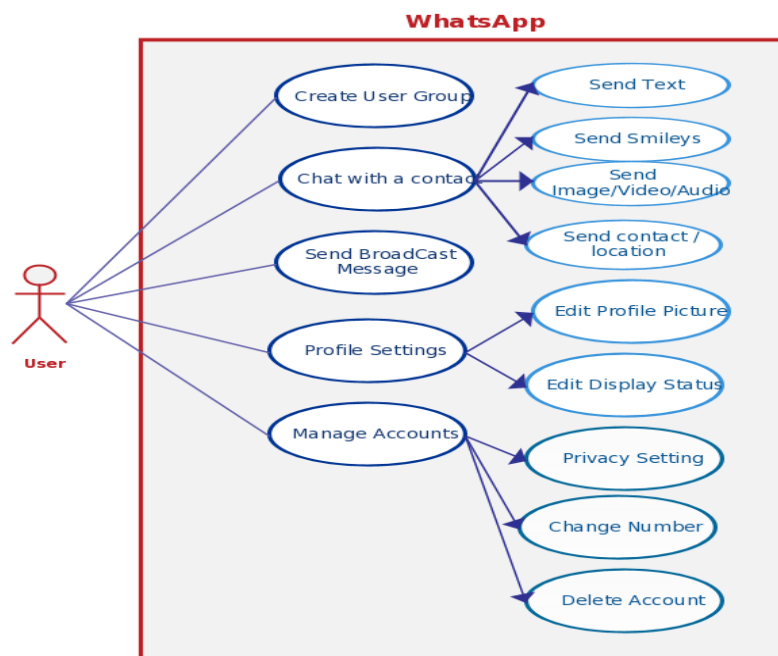
User diagram

3.2 Product Features

The whatsapp identifies a user by a mobile number andby verifying that number. It sends intant messages and data to the other users of whatsapp (e.g., pictures, messages, videoes, documents,audio messages) , user can communicate to the other user of whatsapp by calling them from whatsapp, can seen their last seen detail, user can create groups and can broadcast message in group to the other users of group, can upload their profile picture and can set a status, users can hide their details from other users like their profile picture , status, last seen, users can block users and also can spam other users, users can save their chat, they can star important messages.
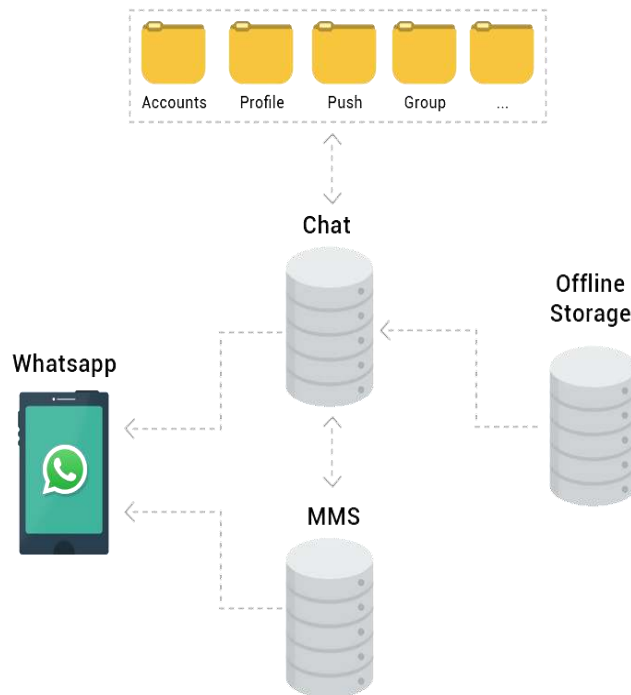
Product features diagram

3.3 User Classes and Characteristics

Enhancement Requests
1. Last Seen

Client has requested that user be able to see the date and time when his/her contact was last using the application.
2. User Profile

User should be able to set their profile picture and a status limited to 150 characters..

3.4   Operating Environment

The hardware, software and technology used should have following specifications:
• Ability to connect to the wifi or mobile network.
• Ability to exchange data over the network
• Touch screen for convenience or Keypad (in case touchpad not available)
• Processor with speed of 500 MHz
• Continuous power supply
• Ability to use camera, gallery, microphone and other services of mobile
• Ability to take input from user
• Device must have 512MB RAM or above

3.5   Design and Implementation Constraints

• Create whatsapp account by entering and verifying mobile number

•**In case of network not available**
• If not able to exchange data over network, prompt error message "Connection not available"
•**In case of not able to access services of mobile hardware**
• If eg.camera is not working, prompt error message, "Can't access camera".
• **Lock Account**
• If user failed to follow policies of whatsapp
• In case of spamming by 10 users
• Maintain Consecutive marked spam Counter
• Increment spam Counter
• For every consecutive spam, increment logic counter by 1.
• Deactivate the account as the spam number reaches 10

3.6   User Documentation

For user manuals and help use help option in the main menu or visit *www.whatsappweb.com* and click on
contact us option.

3.7   Assumptions and Dependencies

• Network and data availivility
• Power supply
• Better connection for exchanging data over network
• Availibility of mobile services

4.   Specific Requirements

4.1   Functional Requirements

Functional requirement 1
 • Description
User Registration
User must be able to register for the application through a valid phone number. On installing the application, user must be prompted to register their phone number. If user skips this step, application should close. The user's phone number will be the unique identifier of his/her account on WhatsApp.

• Input
Mobile number is entered
• Processing
Verify number

• Output
Verified proceed further

Functional requirement 2
 • Description
Adding New Contacts

The application should detect all contacts from the user's phone book. If any of the contacts have user accounts with WhatsApp, those contacts must automatically be added to the user's contact list on WhatsApp. If any of the contacts have not yet registered on WhatsApp, user should be provided with an invite option that sends those contacts a regular text message asking them to join WhatsApp along with a link to the WhatsApp application on Google Playstore.

• Input
Mobile number is entered
• Processing
Saves number to contact list

• Output
Shows in whatsapp contact list

Functional requirement 3
 • Description
Send Message

User should be able to send instant message to any contact on his/her WhatsApp contact list. User should be notified when message is successfully delivered to the recipient by displaying a tick sign next to the message sent.
• Input
Message typed
• Processing
Message send to other user

• Output
Tick on message

Functional requirement 4
 • Description
Send Attachments

User should be able to send audio, video and images as attachments.
Audio formats that the application should support : mp3 wav
Video formats that the application should support : avi mp4 flv gif
Image formats that the application should support: jpg png
File size must not exceed 2MB per message.

• Input
File attached
• Processing
sent to other side user

• Output
Tick on file

Functional requirement 5
 • Description
 Broadcast Message

User should be able to create groups of contacts. User should be able to broadcast messages to these groups.

• Input
Message is entered
• Processing
sent to all contacts of group

• Output
Tick on message

Functional requirement 6
 • Description
Message Status
User must be able to get information on whether the message sent has been read by the intended recipient. If recipient reads the message, 2 ticks must appear next to the message read.

5.   External Interface Requirements

5.1   User Interfaces

The whatsapp user interface should be intuitive, such that 99.9% of all new whatsapp users are able to use whatsapp without any assistance.

5.2   Hardware Interfaces

The hardware should have following specifications:

• Ability to read gallery
• Ability to exchange data over network
• Touch screen for convenience
• Keypad (in case touchpad not available)
• Continuous power supply
• Ability to connect to network
• Ability to take input from user
• Ability to validate user

5.3   Software Interfaces

The software interfaces are specific to the target other user's whatsapp software systems**.**

6.   Other Nonfunctional Requirements

Non Functional Requirements/ Software Attributes
5.1. Scalability

WhatsApp should be able to provide instant messaging services to 1 billion users at any given time.
5.2. Privacy   Messages shared between users should be encrypted to maintain privacy.
5.3. Robustness

In case user's device crashes, a backup of their chat history must be stored on remote database servers to enable recoverability.
5.4. Performance

Application must be lightweight and must send messages instantly.

7.   Other Requirements

Application must work on all mobile and tablet devices. User interface must be consistent on all devices.

Long Term Plans
Future plans include providing inline document viewer that lets users view pdf and word attachments within the application chat window itself. Further optimizations can be made to improve performance especially over the network. This includes making most network specific requests as non-blocking background processes. We also aim to expand our infrastructure to include more database servers so as to take back up of user data more frequently.

Maintenance and Support Costs
Maintenance will be handled by in house team of developers in the first 6 months post application launch. Within this period, we aim to hit our target of 100,000 users. Once this target is achieved, we intend to outsource maintenance and support to a third party who will be trained for 4 months on system maintenance and troubleshooting.

7.1
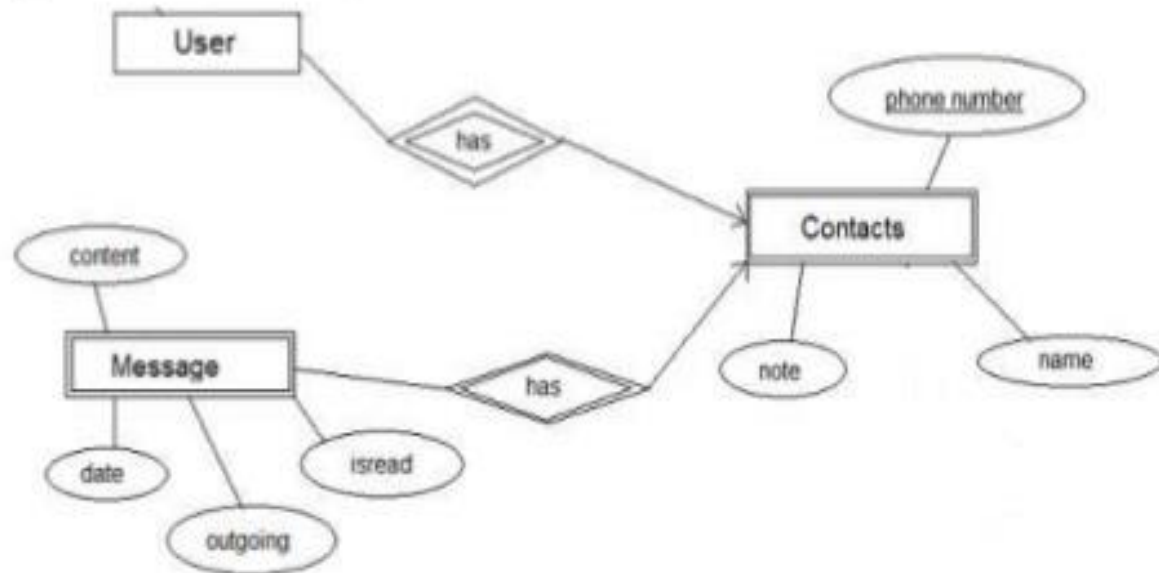
Appendix A: Glossary

DB   Databaase

DFD   Data Flow Diagram

UML   Unified Modeling Language

XMPP   Extensible Messaging and Presence Protocol
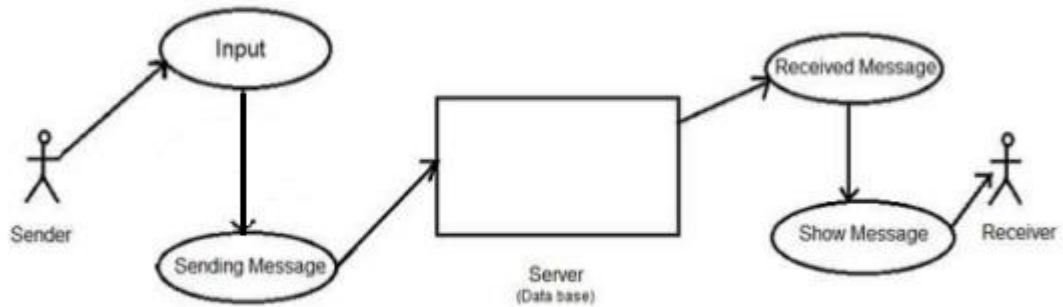
ER   Entity Relationship
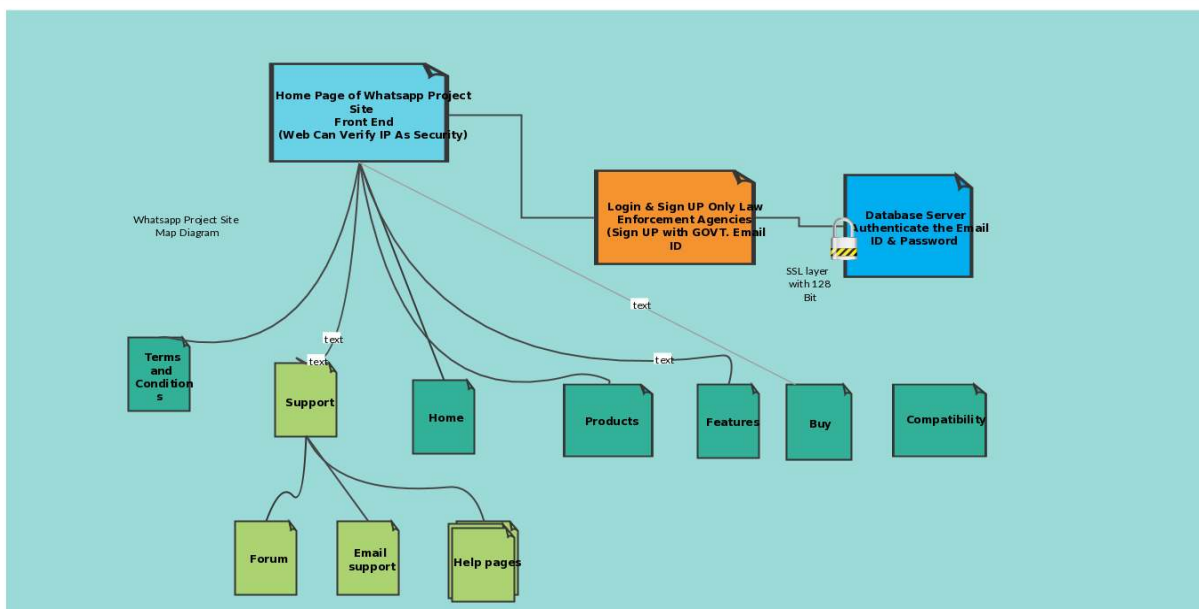
Appendix B: Analysis Models
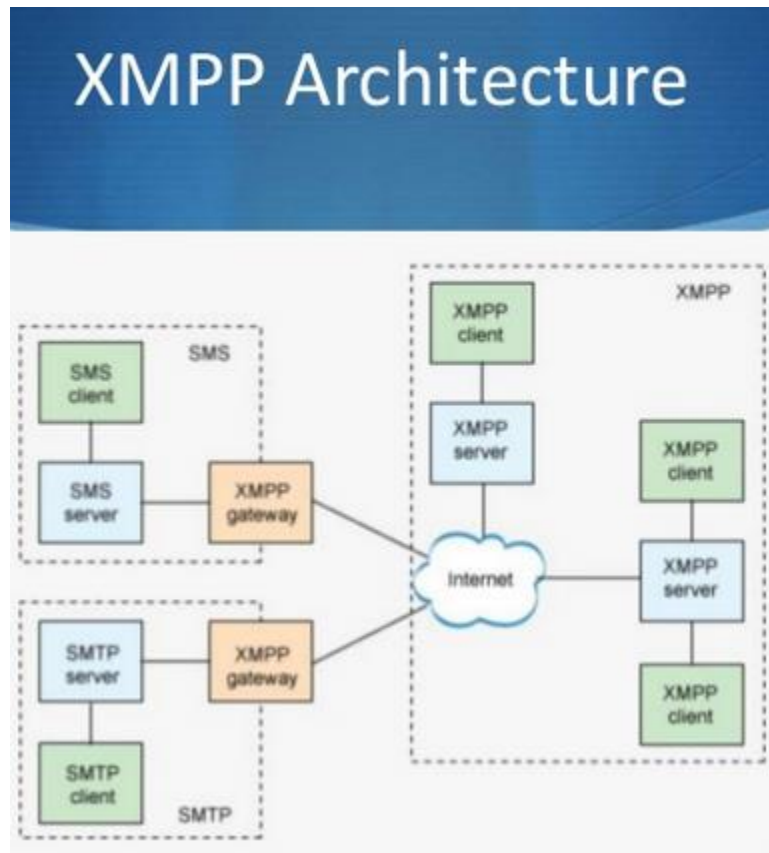
ER DIAGRAM

DFD DIAGRAM

STATE DIAGRAM