Software Test Document

(IEEE 1016-2009)

V1.0

NoNET

Prepared by FixIT

Gulsah SABIRSIZ
Gulnaz SHAIDOLDA
Ceyda TOSUN

METU - Department of Computer Engineering
CENG 492 Senior Design Project
Fall 2015-2016

Table of Contents

1.Introduction

This document is Software Test Document of NoNET - an Emergency Communication System.

1.1 Problem Definition

In emergency situations such as earthquake, communication plays a significant role. For instance, people may need to communicate with others to appeal for help. Or they may want to be informed about the situation of their relatives. However, in such situations it is very likely to collapse infrastructure of the Internet and GSM because network encounter trouble if there is a great amount of mobile phone calls or the Internet data usage. This project will deal with this problem and it will allow communicating with others without using the Internet connection and GSM. As a result of this, after an emergency situation people will be able to continue communicating.

1.2 Purpose and Scope

The purpose of this document is to provide the test cases of the NoNET project. It defines the objective, scenario and expected outcomes for each test case.

1.3 References

FixIT- Software Requirement Specification Document
FixIT- Software Design Description Document

2. Details for System Test Plan

This section describes the specific items to be tested, and general test approach is described with the pass/fail criteria, and test deliverables.

3. Interface Testing

3.1. Register page:

Test Case Identifier	Register page test
Inputs	• User runs the application • Register page is displayed • User enters phone number • User clicks “Tamam” button
Outcome	• Register is successful • User registration is recorded in the database • Application directs to main page • Register page is shown only first run of the application.
Requirement	• User must enter a number as his/her phone number

3.2. Main page:

Test Case Identifier	Contact list button test
Inputs	• User clicks contact list button • User selects a contact from his/her contact list
Outcome	• Application directs to the contact list of the user • Application directs to main page and selected contact's phone number will be automatically written in the recipient button

Test Case Identifier	Location button test
Inputs	• User clicks location button • User clicks send button
Outcome	• World coordinates will be automatically written into the text message field • Location will be sent
Requirement	• GPS has to be active • GPS has to be available

Test Case Identifier	Quick message button test
Inputs	• User clicks quick message buttons such as “Yardim edin” • User clicks send button
Outcome	• Quick message will be automatic ally written into the text message field • Quick message will be sent

Test Case Identifier	Selection button test: “Tick”
Inputs	• User clicks tick button next to broadcast or available neighbor list
Outcome	• Green tick will be shown next to broadcast or available neighbor list

Test Case Identifier	Visibility/Invisibility button test
Inputs	• User clicks menu button • User clicks “Gorunur ol” button • User clicks “Gorunurlugu kapat”
Outcome	• The visible invisible buttons will be shown • User will be online so that neighbors can see them in their available user list • User will be offline

Test Case Identifier	Battery save mode button test
Inputs	• User clicks “Dusuk guc modunu ac”
Outcome	• User will receive messages • However user will not forward the received message because of the battery save mode • User will not attend to the Ad hoc network

Test Case Identifier	Inbox/Outbox button test
Inputs	• User clicks Inbox/Outbox button
Outcome	• Application directs to the Inbox/Outbox page

3.3. Inbox page:

Test Case Identifier	Inbox page test
Inputs	• User clicks inbox button
Outcome	• Message sent date and time will be shown • If the sender is in the contact list of user, name of the sender is shown • If not, phone number will be shown • If the message is broadcasted, (broadcast) text will be shown • If not, nothing will be written. • If the inbox is empty, “Gelen kutusu bos” text will be shown • User can click the received message and reply to it

3.4.Outbox page:

Test Case Identifier	Outbox page test
Inputs	• User clicks outbox button
Outcome	• Text message is shown with sent date and time • If the message is broadcasted , (broadcast) text will be shown • If not, the receiver's phone number is written • If the outbox is empty, “Giden kutusu bos” text will be shown • If the message is not reached to its final destination, timeout notification (red cross) will be given. • If message is reached to its destination, ACK (Green tick) will be given • If the message is timed out, user can click the message and resend it

4. Functional Testing

4.1 Scenario 1

Test Case Identifier	Peer to peer messaging test
Inputs	• User selects a receiver • User clicks text field • User writes a message • User clicks send button
Outcome	• Only receiver will take the message • If message is reached to its destination, an ACK message will be sent • If not reached, timeout notification will be given to the sender • Sent message will be displayed in the outbox of sender • The same message will be displayed in the inbox of the receiver
Requirement	• Bluetooth is active

4.2 Scenario 2

Test Case Identifier	Broadcast messaging test
Inputs	• User clicks broadcast tick • User writes a message • User clicks send button
Outcome	• All neighbors will get the message • The devices which get the message will flood it recursively to its neighbors • So all devices in the ad hoc network will get the message • Sent message will be displayed in the outbox of sender • The same message will be displayed in the inbox of the receiver
Requirement	• Bluetooth is active

4.3 Scenario 3

Test Case Identifier	Distant Specific Peer messaging test
Inputs	• User selects a receiver • User clicks text field • User writes a message • User clicks send button
Outcome	• Only receiver will take the message • Neighbor devices forward the message but they could not see the message. • If message is reached to its destination, an ACK message will be sent • If not reached, timeout notification will be given to the sender • Sent message will be displayed in the outbox of sender • The same message will be displayed in the inbox of the receiver
Requirement	• The sender and the receiver are not in the same coverage area • Bluetooth is active

5. Performance Testing

- The distance between devices to send a peer to peer message - 30-40m
- The distance between devices to send a broadcast message – the distance between neighbors should be 30-40 m because of the Bluetooth technology restriction
- A device can send a message to maximum 7 devices simultaneously
- If the devices are not paired discovery process takes : 60-120 second
- If the devices are already paired message is delivered faster.