Software Requirements & Specifications

LinkToAll

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# Introduction

## Purpose

## The purpose of this document is to illustrate how we are developing Service Provider by showing the user interaction with the system through a list of functions/operations with their definition and pre/post conditions and a general scenario for each one, as well as the operations carried out by the system itself to improve its functionality. This document will be used as a reference for the development of the first version of the software and can also be used to estimate the costs and manpower needed.

## Document Conventions

## This Document was created based on the IEEE template for System Requirement

## 1.3 Intended Audience and Reading Suggestions

This document is written for the researchers, developers, project managers, marketing staff, users, testers, and documentation writers.

## Product Scope

**LinkToAll** is an Internet service provider specifically designed to provide different types of services to customers. It allows users to upload their market’s information that could then be accessed over the internet by the customers of the website to connect to this market. **Benefits:** Markets can get more popular so get more profitable through being introduced to customers on the website . **Our objective** is to be the biggest Service Provider website in the middle east and the world.

# Overall Description

## Product Perspective.

Link to all is a self-contained service. It is a web-based system implementing client-server model

This software

product is eventually intended for the software developers. Product will be

deployed to web site and all users of the product will access by use of the website. Website will be

main user interface where users can operate all the provided functionality.

. There will be cloud server where all the user data is kept and all

the execution is done. Website will only be the interface for the user data and the execution of

provided functionalities

.

To use product, users are required to register through the web interface. Whenever a new

user registered, all the required data will be created in the database and a predefined workspace will

be assigned for the user. Later, user will be able to login and logout the system anytime he wants.

Since every operation that user perform reflected to our database, user will find his workspace

however, he leaves last time.

From the user point of view, user will have to functionality to create and edit files in his own workspace.

All the file’s users created will be kept in cloud server and all the CPU requiring work such

as compiling and running the programs will be executed on cloud server so that user will be able to

access his own integrated development

environment

with his specific setting anywhere, he wants.

## Product Functions

### Join Us

Every one the has a business and want to share its information will be free to join us anytime, anywhere.

### Search

Customers can search for different services and markets .

## User Classes & Classifications

Typical customers, such as students, homeowners who want to use LinkToAll for Searching for different services and markets

Users, such as service providers or market’s owners, who want to use

LinkToAll for more entering their market information

## Design and Implementation Constraints

LinkToAll is developed in Java, it uses OpenGL for its visualization engine and has been

built on top of the NetBeans Platform. It uses a specific design where every feature

is wrapped into a separate module and the modules depend on each other through

well-written APIs. There are several APIs available to make plugin development

easy.

## Operating Environment

Any user that have browser on his/her operating system can access our website and use it smoothly.

## Assumptions and Dependencies

In the future, our website is going to be more social and open that you can access by other accounts on other websites like Facebook, Twitter, etc. you can join us through you business social page.

# External Interface Requirements

**3.1User Interface**

**3.2 Hardware Interfaces**

The minimum hardware requirements of LinkToAll are a 300 Megahertz CPU and 128

megabytes of RAM. Also, because LinkToAll uses an OpenGL 3D engine to speed up graph

visualization, a compatible graphics card is required. A system with these specifications

can handle a Network of approximately 1000 edges and nodes

**3.3 Software Interface**

LinkToAll requires Java to be installed on the system, more specifically Java version 7 or 8

for its latest release.

LinkToAll can be connected with a MySQL, SQLite or PostgreSQL database to import a

graph edge list.

**3.4 Communication Interface**

LinkToAll requires an internet connection to install new plugins, update already installed

ones and update some of its components (APIs, modules etc.).

# System Features “Functional Requirements”

This section demonstrates LinkToAll’s most prominent features and explains how they can

be used and the results they will give back to the user.

## Join Us

Everyone the has a business and want to share its information will be free to join us anytime, anywhere.

## Search

Customers can search for different services and markets that has been uploaded before by others users on the website.

# System Requirements

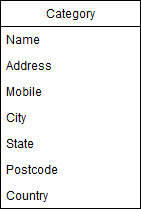
We will use Red Hat Linux as our operating system, and for server and http service we will use apache tom cat. To provide the best service we will use in hardware, servers with large capacity.to secure our user data we will have backup drives to backup all the data of the user.

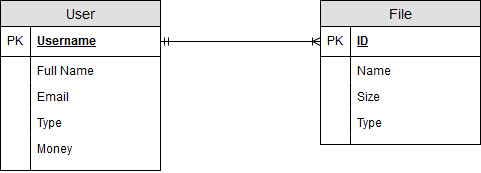
# Data Requirements

This section describes various aspects of the data that LinkToAll will consume as inputs,

process in some fashion, or create as outputs.

## Logical Data Model

 ERD:



## Data Dictionary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data Element | Description | Data Type | Length | Values |
| Market Place Request | Request for a near market place | Request ID + requester |  |  |
| Enter Market Information Request | Request for entering new market private information | Request ID + Information | 5 | Default value is 1 |
| Requester Name | Name of the Market’s owner who submitted the request | Alphabetic characters | 20 | May contain blanks. hyphens, periods, apostrophes |

## Data Acquisition, Integrity, Retention, and Disposal

LinkToAll uses different types of backups process so no data could get lose on the long run of the website. Also, Data Accuracy verification is applied in LinkToAll when users are entering their private information so for others users they could find exactly the right information about any market or service they want through our website.

# Other Nonfunctional Requirements

## Performance Requirements

We provide fast response time that when the user asks for any function on the website, he will get a fast and right response for his needs. Since we provide a world-wide service we designed our systems to maintain its stability with millions of users using it in the same time. And all of that depends on our good hardware specs of server that will provide us a lot of number of requests per second.

## Safety Requirements

The most damageable parts of the hardware system are hard drives so we have backup hard drives.

And regulations that if any data loss happen we will pay the user for this.

## Security Requirements

We are using well firewall to protect our website and server from penetration and editing data of the user’s business .and we provide copyrights for the business so no one can take the data of business and enter it again in our website like it yours

## Software Quality Attributes

We considered many attributes in designing our website like adaptability: our website can be used by any device or operating system it maintains its functions on any case. Maintainability: to keep our systems updateable and not to affect our systems while maintaining it we kept it maintainable as we can. portability: the user can access our website from any device that has access to the internet.

Testability: to not be faced with any unexpected behaviors our website put under many tests before uploading it or making any changes.

5.5 **Business Rules**

Our Web-Site Administrator can use usability principles to make our website friendlier to the users and customers under specific circumstances.

Responsiveness is achieved through all our developers as we reply fast to all our users and different customers

# 12.Other Requirements

|  |  |
| --- | --- |
| Term | Description |
| Functional requirement | The main operation that the user can perform. |
| Non-functional requirement | Quality attributes to improve the functionality of the system |
| Server | is a computer program or a device that provides functionality for other programs or devices, called "clients". |
| Linux OS | Linux is a family of free and open-source software operating systems built around the Linux kernel. |
| Bandwidth | the rate of data transfer. |

**Appendix A: Glossary**

Appendix C: Users of The System

|  |  |
| --- | --- |
| Term | Description |
| User | The user is a general term that includes everyone using the mobile applications such as the downloader, uploader and the admin. |
| Actor | Anyone who can perform operations on the system (downloader/uploader/programmer/admin/) |