

**A report
on**

Offline Data Transmission Service

Submitted in partial fulfilment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

**COMPUTER SCIENCE AND ENGINEERING
(SOFTWARE ENGINEERING)**

Submitted by

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This is to certify that the project work titled "**Offline Data Transmission Service**" is performed by **Venkatachalapathi. (18BTRSE032)**, a bonafide students of Bachelor of Technology at the Faculty of Engineering & Technology, Jain (Deemed-to-be University), Bangalore in partial fulfillment for the award of degree Bachelor of Technology in Computer Science & Engineering (Cloud Technology and Information Security), during the Academic year **2020-2021**.

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I, **Venkatachalapathi (18BTRSE032)**, student of seventh semester B. Tech in **Computer Science & Engineering (Software Engineering)**, at Faculty of Engineering & Technology, **Jain (Deemed-To-Be University)**, hereby declare that the project work titled “**Offline Data Transmission Service**” has been carried out by us and submitted in partial fulfilment for the award of degree in **Bachelor of Technology in Computer Science & Engineering (Software Engineering)** during the academic year **2020-2021**. Further, the matter presented in the project has not been submitted previously by anybody for the award of any degree or any diploma to any other University, to the best of our knowledge and faith.

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Signature of Students

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ABSTRACT

The Data Transmission Industry has undergone many changes and updates since its inception and people are opting in more for the sharing services. After the development of 'Data Transmission Gateway', people are extensively adopting sharing data. This leaves the conventional and traditional methods of software development in a state of void. That said, some beginners and startups face difficulties adopting cloud since with recent upgrades the cloud infrastructure is becoming complex. The Internet provides multiple vague solutions for entirely undirected questions on the same. Developers are confused even more so.

To answer this need, 'Offline Data Transmission Service' introduces a set of guidelines which facilitates development on the sharing of data. This improves productivity and reduces the time consuming and at the same time minimizes the risk of security. The testing of this guide is done by developing an industry standard web-app following the given steps. Discussed app is in the constant development phase as the discussion proceeds.

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Chapter 1

1. Introduction

Well, in today's world it seems people are moving forward to the internet world for all the necessary verification before entering into the physical world. Therefore, all the Engineers who all work in the software field take a responsibility to provide and develop healthy and quality content. *There were 687.6 million internet users in India in January 2020. The number of internet users in India increased by 128 million (+23%) between 2019 and 2020* , So websites to be in the form problem solver not only for content providers.

1.0 Overview

DTS or Offline Data Transmission Service is a service to provide and act as a mediator for users who transfer their data from one part of the world to another part of the world among users. End users can send and receive data from other users via Specialized DTS Software or in-built web browser.

1.1 Hardware and Software Requirement

Should end users need high end softwares and hardwares to use DTS Service, the simple answer is **NO** , you can use basic smartphones it may be any brand but OS version above 6.0 in android 7.0 in IOS and web browser in latest version both smartphones as well as PC and desktop. DTS Service is platform independent so you can use all kinds of devices like smartphones , PC , Desktop.

1.2 Objectives

The main motto of DTS service is to provide Offline data transfer feature to the users who play with data.

Another objective is to provide data security to users who transfer data from DTS Service, so users are not afraid of data security problems.

Another objective is to provide a fast and smooth experience to the user while using DTS Service.

Though this is offline mode service there is some different category for users like Normal service and Enterprise service.

1.3 Problem Definition

So far there are many data transfer and messaging services available. Similar to DTS is SMS service and DTS problem definition is to work on **cloud carrier and SMS carrier, computer network, frequency modulation and tower hardware**. There is another problem definition that is related to SMS like(bts, bsc, mcs) . These are current data carriers to transfer data from one place to another place among users. DTS service working hard to replace current data carriers mode and to provide offline experience without using any internet connection.

1.4 Tools Used

DTS Service used PC, desktop, smartphones to test DTS service in all kinds of devices and Softwares like Visual studio , Android studio , some Database software used to develop DTS service.

Chapter 2

2.Literature Survey

2.1 Researched Work

In cloud computing a carrier cloud is a class of cloud that integrates wide area networks (WAN) and other attributes of communications service providers' carrier grade networks to enable the deployment of highly demanding applications in the cloud. In contrast, classic cloud computing focuses on the data center, and does not address the network connecting data centers and cloud users. This may result in unpredictable response times and security issues when business critical data are transferred over the Internet.

Carrier clouds encompass data centers at different network tiers and wide area networks that connect multiple data centers to each other as well as to the cloud users. Links between data centers are used, for instance, for failover, overflow, backup, and geographic diversity. Carrier clouds can be set up as public, private, or hybrid clouds. The carrier cloud federates these cloud entities, using a single management system to orchestrate, manage, and monitor data center and network resources as a single system.

To enable the deployment of time-sensitive and business critical applications in the cloud, the carrier cloud is designed to match or even exceed the characteristics of on-premises deployments.

Several mobile telephone network operators have true fixed-wire SMS services. These are based on extensions to the European Telecommunications Standards Institute (ETSI) Global System for Mobile Communications (GSM) SMS standards and allow messaging between any mix of fixed and mobile equipment. These use frequency-shift keying to transfer the message between the terminal and the Short Message Service Center (SMSC). Terminals are usually based on Digital Enhanced Cordless Telecommunications (DECT), but wired handsets and wired text-only (no voice) devices exist. Messages are received by the terminal

recognising that the Caller ID is that of the SMSC and going off-hook silently to receive the message.

Regulation

GSM gateway equipment is covered by the Wireless Telegraphy Act in the UK and can legally be used by any business to send SMS to their own customers or prospects when using their own gateway equipment. In Canada, SMS gateway providers are regulated by the Canadian Wireless Telecommunications Association (CWTA/txt.ca). In India it is regulated by the Telecom Regulatory Authority of India (TRAI). In Pakistan it is regulated by the Pakistan Telecommunication Authority (PTA)

2.1 Similar Services

Direct-to-SMSC

A direct-to-short message service center (SMSC) gateway is a software application, or a component within a software application, that connects directly to a mobile operator's SMSC via the Internet or direct leased line connections. The Short Message Peer-to-Peer (SMPP) protocol is typically used to convey SMS between an application and the SMSC. Direct-to-SMSC gateways are used by SMS aggregators to provide SMS services to their clients and large businesses who can justify such use. They are typically employed for high volume messaging and require a contract directly with a mobile operator.

Direct-to-SMS gateway

An SMS gateway typically sits between the end user who needs to send/receive SMS and a mobile network's SMSC. Such gateways provide their customers with a choice of protocols, including HTTP, SMTP, Short Message Peer-to-Peer and Web Services. Providers of SMS gateway services include SMS aggregators and mobile operators. SMS gateways are also available as part of messaging services such as AOL, ICQ and others.

In order to send/receive messages with mobile subscribers, an SMS gateway connects with (i) mobile network SMSCs and/or (ii) other SMS gateways. It is therefore possible that an SMS gateway has a combination of connections with mobile network SMSCs and connections with other SMS gateways in order to provide its services. However, there is the increasing potential for delivery problems with SMS the greater the number of SMS gateways in the delivery chain.

***Nearby Share.**

2.2 Limitation of current work

Already there are a lot of data sending softwares and mobile apps existing but we need an internet connection or two devices nearby to share data.

In the DTS Service users need not have an internet connection to share data, this is an important feature in DTS Service.

One more thing is There is 2 similar services to DTS Services that are **Nearby share** and **SMS** but Nearby share mode we need two devices next to each other and in SMS service we need an SMS balance then only we can share data with each other, so DTS service will break all the existing rules and will be providing new generation environment.

2.3 Methodology

In this modern world Methodology will be rapidly changing based on the requirements. In DTS Service Agile software development methodology will be used to develop and Cloud too. Why DTS Chosen Agile methodology because DTS Service is futuristic technology and long term service LTS. Thus , DTS Services need more interactions with common peoples to use the services and get back feedback to the DTS team. There are more advantages of using agile methodology that is adoption. That is when the customer is asking to add or delete any feature then the DTS team will analyse the needs if it is useful then immediately the developer will change. In this agile methodology Product owners , Product managers , developers, Testers can easily communicate with each other so the Outcome product will be more advanced as well as clean and quality. One more thing about agile methodology is the part of Devops.

Agile software development refers to software development methodologies centered around the idea of iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams. Scrum and Kanban are two of the most widely used Agile methodologies.

Chapter 3

3. Architecture Design

Architecture Design is a stage where we can design top to bottom data flow control and what are process should software pass

3.1 System Design

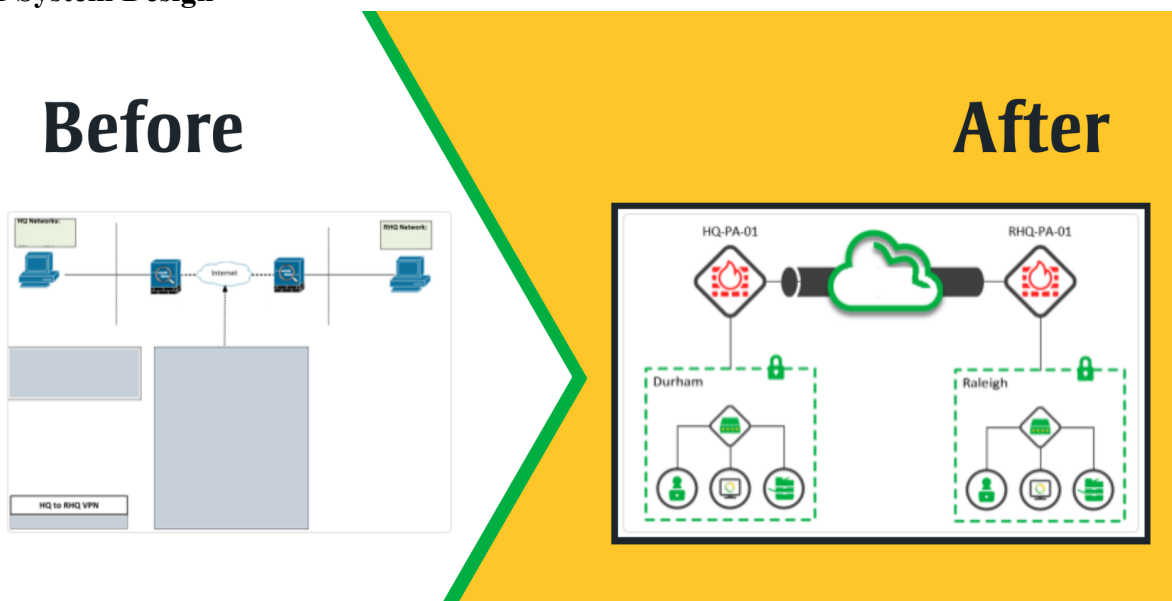


Figure 1 System Design

3.1 Data flow Diagram

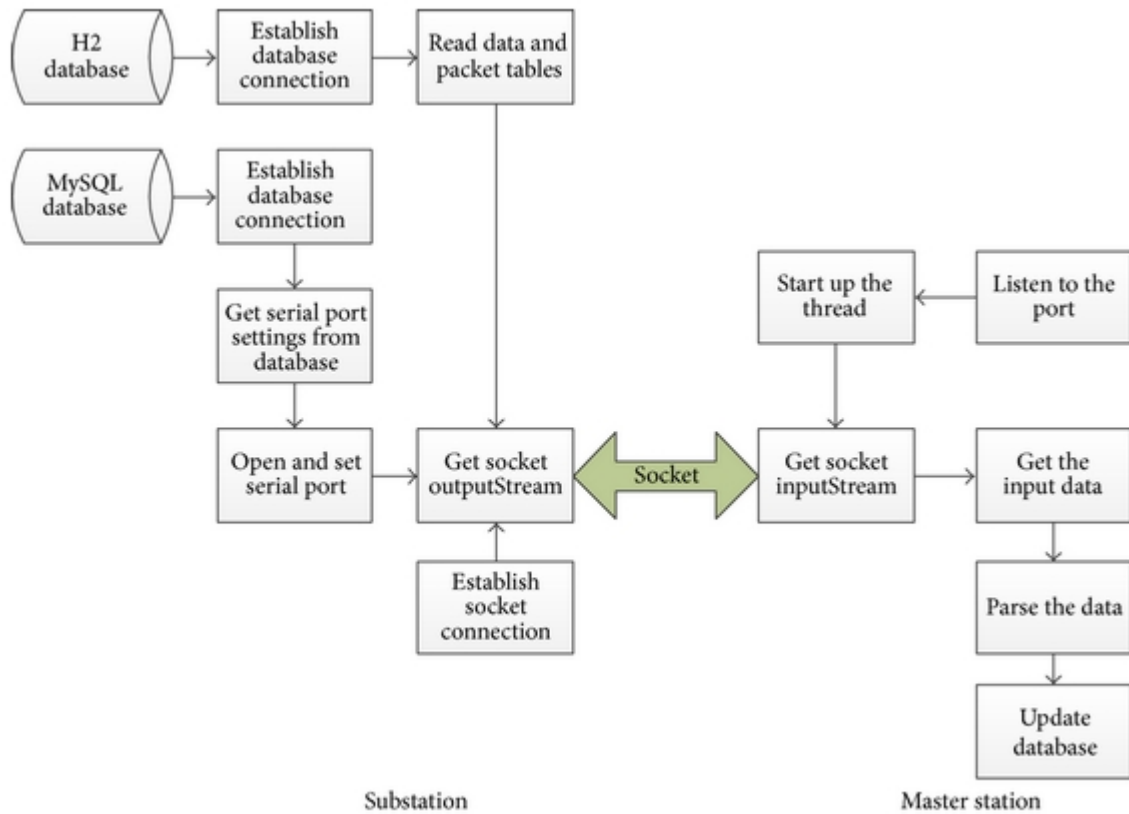
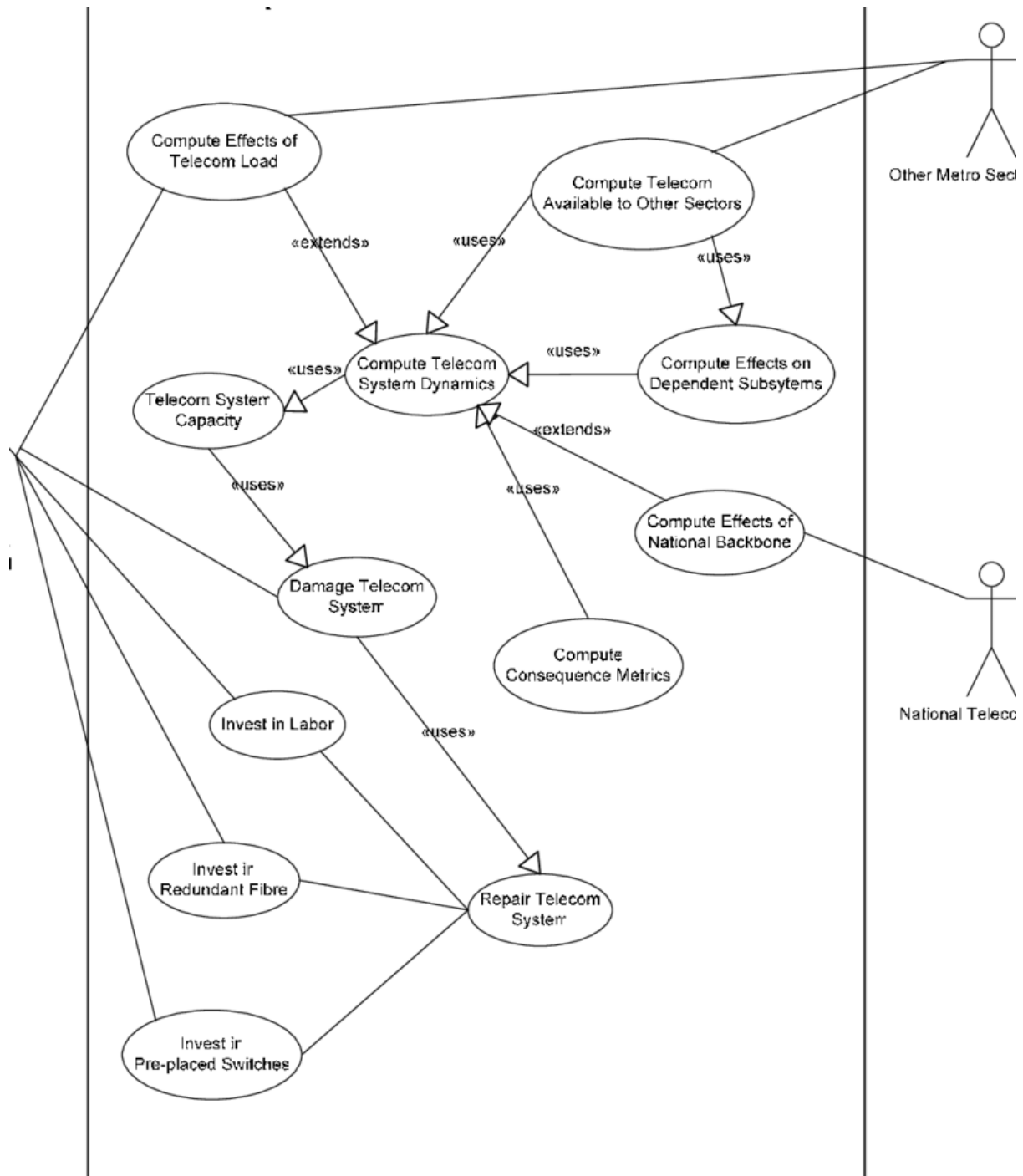


Figure 2 DFD

3.3 Usecase Diagram



Chapter 4

4. Technologies Used

Now, we are discussing what technologies were used to develop the DTS service.

NOTE: As of now DTS Service is still under research and development stage.

Mentioned earlier as of now DTS Service testing going in Websites to develop this website we use

HTML5 ,
CSS3,
JS,
Node JS,
React JS,
MySQL database ,
Sql Language and
Git & GitHub for version control.

Chapter 5

5.Framework

Framework is a useful tool to develop software which has a well predefined structure. We can use a framework to achieve our software fast mode and scalability. DTS Service used two framework's to develop prototype models, listed below.

5.1 Agile software development framework

DTS Service using agile framework to develop software because we can interact with people to get feedback as much as possible we need.

We can release small pieces of features to use and get feedback back. As well we can use this framework for project management purposes too.

5.1 React Framework

DTS Service using React framework in front-end for developing modern UI component webpage purpose. React framework is widely used by all software industries across the world.

Chapter 6

6. Implementation

Implementation is the stage where we can give shape or visual appearance for our imaginary and theory concepts. This stage includes various steps like SDLC, HR, Coding , Testing, maintenance ect..

6.1 Process

Firstly , DTS Service will walk you through some basic steps before transferring data, this includes creating a DTS account to track and give a smooth experience for users. Then, normal users can send limited data and enterprise users can send as per the package purchased with DTS Service.

Users are always tracked by DTS Service for better and smooth UX. DTS Service is always working hard to provide a toxic free environment for end users.

6.2 Expected Prototype Outcomes

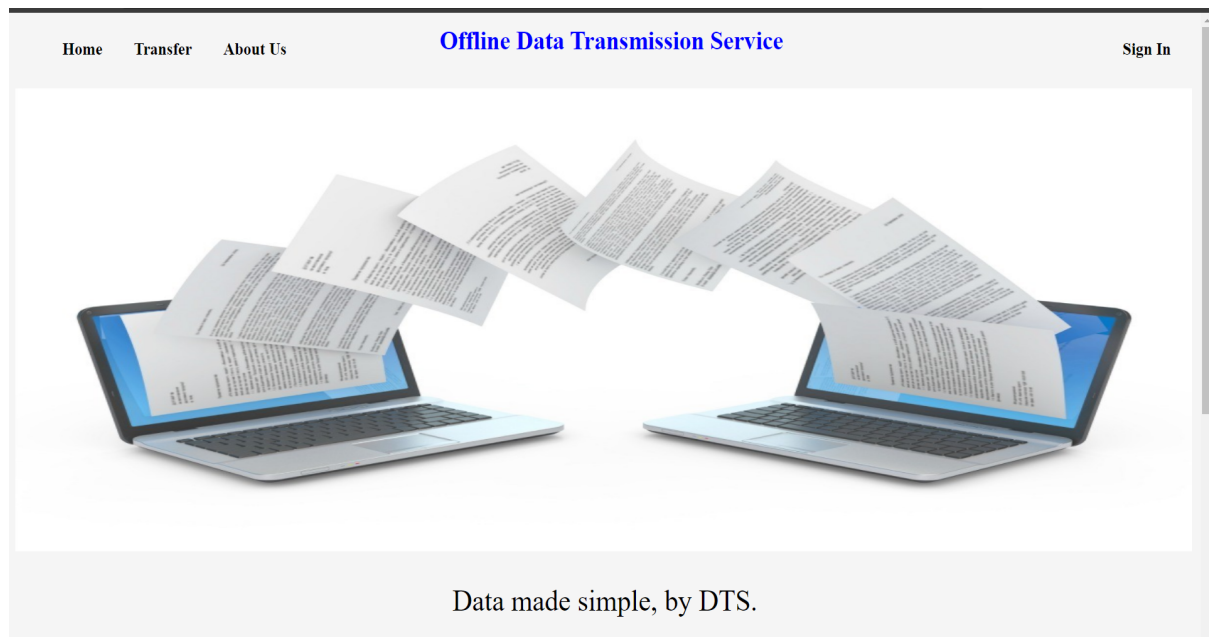


Figure: 1

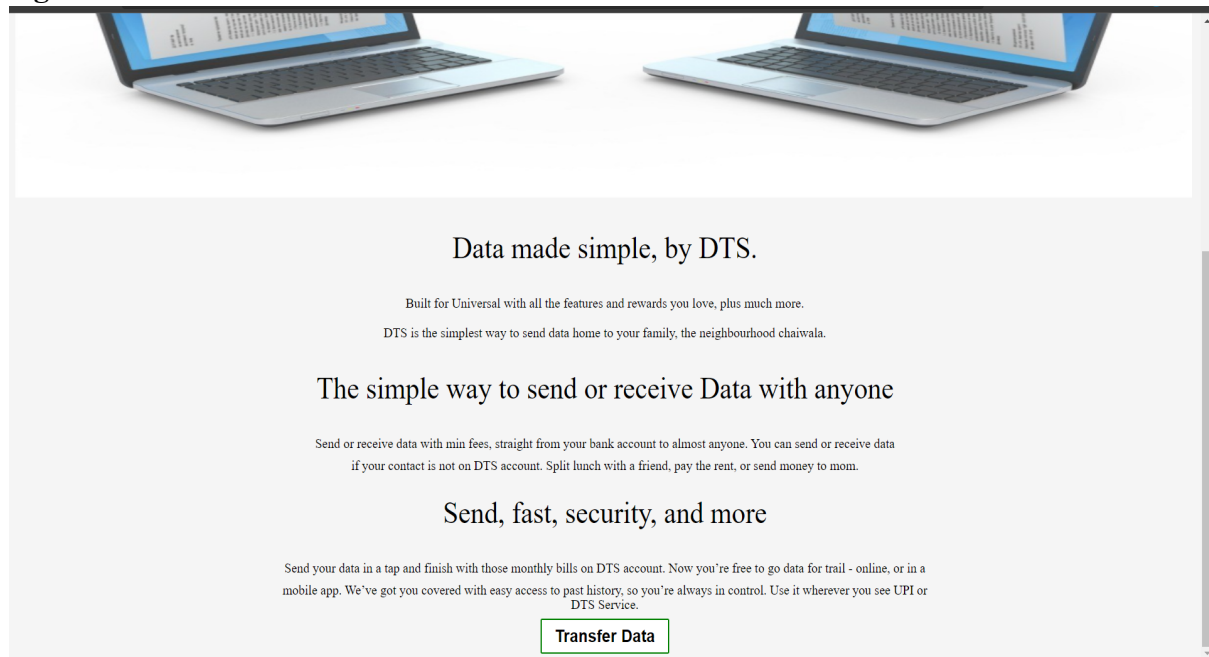


Figure 2 These two web pages are the home page.

When users tap the Transfer Data Button, users will direct to the sign in page, if the user is already created and logged in then the user will directly get into the main page that is where the user can load data and send to diseried users.

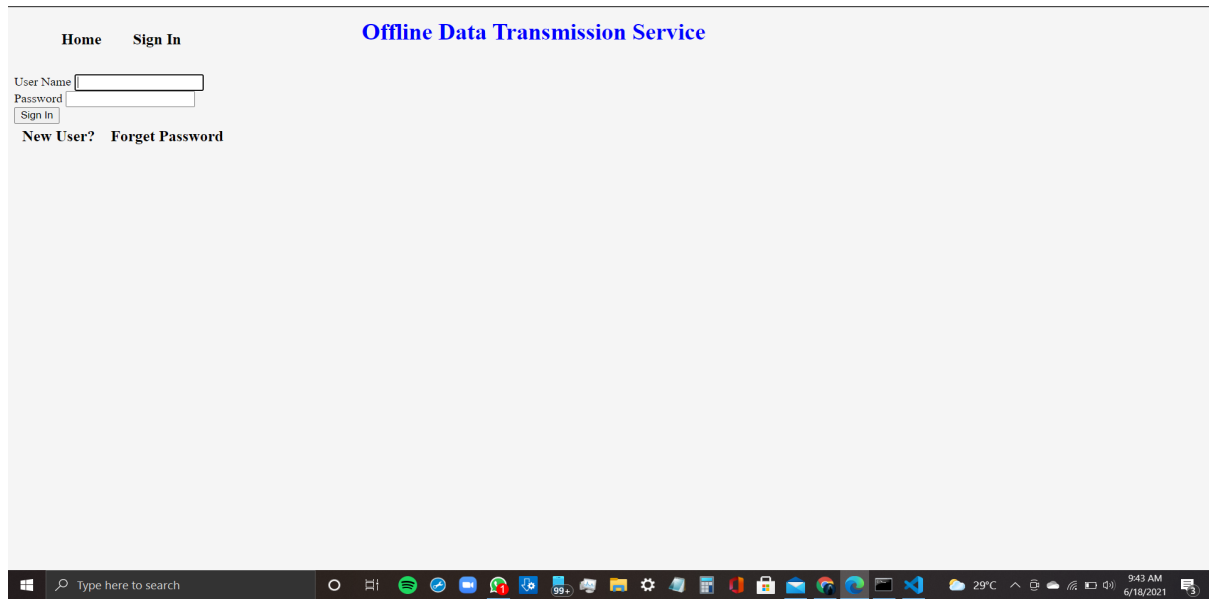


Figure 3 Sign in page

Chapter 7

7. Benefits

In DTS Service there are a lot of benefits for users, first thing, DTS Service is platform independent.

7.1 End user benefits

For end users there are more benefits while using DTS Service. Users who use DTS Service do not have to have internet balance, for normal users they don't have to make any payment for using DTS Service. Users can send their data in DTS mobile app or DTS Web app or in-built web browsers.

7.2 Future update

As of now DTS Service is in the R & D stage, and we will release the first version for mobile phones(Android) so users can send data in mobile phones(Android). Future updates for IOS will be released and may be for web apps too.

7.3 Future Scope

In the future data will play a vital role in this world, how money is transferred from one part of the world to another part of the world in the same way data will roll out in the future, for that DTS Service is the first service to provide this feature for all the users across the world.

Chapter 8

8. Conclusion

Finally, we are in the conclusion section of the report document. In this section we are going to see reference links , credits to the person who helped directly or indirectly to develop the DTS Service.

8.1 Reference

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<https://sci-hub.se/10.1049/el.2016.3120>

APPENDIX-I

PHOTOGRAPHS

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APPENDIX - II

SOURCE CODE

GitHub: (link will be uploaded shortly, after implementing all the censorship and privacy measures.)

Note: This web application is still in development phase and shall be proprietary and may be commercialized if the creators wish to do it