SRM University AP, Amaravathi

CSE 205 OBJECT ORIENTED PROGRAMMING

PROJECT REPORT ON

GOVERNMENT HELP PLATFORM WITH ONLINE C19 PHARMACEUTICAL SUPPLY

'HALLITUS'

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1. ABSTRACT

In light of recent incidents of the COVID19, the world has faced grave repercussions and is in a threatening situation. India has taken many steps to prevent the loss of lives including the commencement of a nationwide 21-day coronavirus lockdown that has been extended multiple times. In this time of a worldwide health crisis, reliable information is required to flow throughout the country in order to avoid widespread panic. A lot of donations from the citizen's side are required to run the country. The lockdown has also made it difficult for a large number of hospitals to buy testing kits and for citizens who pay their bills offline. Indian hospitals are in dire need of these emergency testing kits.

The purpose of my project, HALLITUS, which means government in Finnish, is to provide a comprehensive, accurate, reliable and one-stop source of information about India's current and latest situation and its various facets in addition to a system that facilitates basic government services such as donating money towards coronavirus, enrolling in events, paying bills and allowing hospitals to buy necessary emergency kits for the treatment of the enormously increasing number of COVID patients. A transparent quick solution for them to get access to these kits that the government can provide. This initiative also contributes to the Digital India campaign launched in 2015 that allows digital and easy access to services to every citizen of the country. Digital infrastructure and technological advancements have become a tool for transparency and critical tool to curb corruption.

It is an interactive swing GUI application using NetBeans IDE(Integrated Development Environment) 8.2 for the user interface and the RDBMS(Relational database management system) APACHE DERBY that has been developed by the Apache Software Foundation.

2. INTRODUCTION

People are facing unexpected difficulties during the coronavirus outbreak. But how can they help the government? On top of the list is to stay informed. There are websites like the combatting coronavirus fraud page that keeps a tab(myth busters) on fraudsters who spread false news about the disease for personal reasons. All they do is create unnecessary anxiety. While the government of India has been working in spite of the lockdown, to provide medical kits, coronavirus contact tracing, creating isolation wards, their efforts should not go in vain due to people believing and spreading these false facts.

There has been strict patrolling but the condition is still getting worse. The government of India needs strong trust and confidence from its citizens to fight this pandemic. While the communication between the citizens and the government has been minimal, a medium for establishing this communication through dedicated transparency portals would help them achieve the same.

HALLITUS PROVIDES THE FOLLOWING SERVICES:

1. India's current covid19 situation- Details about what the pandemic is all about, the symptoms, helpline number, link to the official website of Government of India, precautions to prevent the disease and case statistics et cetera updated by the Government of India employees.

2. Login/Signup page section for citizens of India to access the website's donation section towards coronavirus and the Bill Payment Section. This time of crisis is an opportunity for these citizens to trust e-government tools than other private applications to pay their bills. A website (.gov) hosted and sponsored by the Government will help gain more trust. There is also an Event Section for the

citizens to register themselves into or volunteer for events organised by the Government of India.

3. Hospitals can buy emergency medical kits(masks, isolations coveralls et cetera) after logging up with unique hospital codes provided by the Government of India. They can also register themselves and verify to buy the kits. This can be done through online pharmaceutical supply which has advantages such as a limited range of essential medicines, simplified budgeting, lower indirect costs and a reliable source of supply. This also provides a lot of transparency, accountability and decrease in corruption. The best way the government can gain trust through a digital agenda is transparency while also protecting critical and sensitive data.

3. RELATED WORKS/LITERATURE SURVEY

There have been many websites that came in support of coronavirus in the past few weeks that the public could access. The Government of India has also made an application, Aarogya Setu, to notify users when a covid19 suspect is in close proximity. The urgency of the situation is such that the battle will not be solved unless they all come together to expedite this disease. There are also online transaction and billing facilities available. Though very few, e-commerce online pharmacies like netmeds.com have become more available in India. But there are no applications that include all of them to make it a one-stop platform.

1. The official website of India, (india.gov.in) and (mygov.in) and www.covid19india.org highlights the details about COVID19 including live statistics, travel advisories, the statewide status of cases, helpdesks, awareness material amongst many others.

2. Private applications like Paytm, PhonePe, Google Pay, FreeCharge provide citizens to access portals to pay their bills online. However, there are still many citizens who do not yet happen to trust them. However, the BHIM application is also a digital payments application developed by the National Payments Corporation of India that allows online transactions.

3. Aarogya Setu is one more such application that accesses the GPS of the users and warns them if they are in the vicinity of a potential coronavirus suspect and advises them on the preventive measures they could take.

4. The PM CARES Fund “The Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund” allows and encourages the PM’s citizens to donate (Domestic and Foreign(wire transfer/SWIFT, credit/debit card))

5. MyGov Events is a citizen-centric platform that allows them to avail the events organised by the government of India. The events not only include exhibitions but also include yoga day celebrations, rangoli competitions et cetera.

6. The **IndiaMART,** (my.indiamart.com/) an Indian e-commerce site provides COVID-19 supplies that include a wide range of products ranging from sanitisers and disposable gloves to ventilators, patient monitors and hospital beds.

7. **Narang Medical Limited** is a secure medical equipment supplier that also includes covid19 supplies which can be bought by users after registering.

8. The online application GENESIG allows the purchase of coronavirus medical kits amongst many other kits. They even deliver these medical kits to India. However, the website is not secure and hence not reliable.

4. OBJECTIVE-

PROBLEM STATEMENT:

1. The ongoing pandemic has been eating away people's lives and livelihoods. Since the whole country has been in lockdown, updates about this unprecedented challenge are necessary to be aware of our current situation. The media has flooded the news with many myths that have already spread a lot of panic amongst the citizens of the country. A citizen has the right to prompt and accurate information about this dreadful situation.

2. There are also a lot of citizens who pay their bills offline. This is mostly due to no digital readiness, lack of education or lack of trust towards other leading private online transaction applications like Paytm, PhonePe and Google Pay.

3. Many celebrities and industrialists have donated a huge sum of money to help India fight against the crisis. However, India is still in need of massive funds to support people's health, hospitals and the economy.

4. The Government of India organises many events such as the Smart India Hackathon, blood donation camps, exhibitions et cetera that people can be a part of. However, many are not aware of this.

5. Hospitals are presently understaffed and without a lot medical testing kits left for diagnosis. Amidst the lockdown, special cargo planes are being used to ship essential medical kits to hospitals across our country. But the requirements are different in every state and very well understood by the respective hospitals only. Many doctors have publicly expressed concern on whether the Government of India can provide an adequate number of kits and also, during a crisis, corruption risks should not be underestimated. Overcrowded medical facilities also make it difficult to guarantee that the hospitals can get the necessary medical kits.

5. PROPOSED SYSTEM

In the proposed system, we have a one-stop solution solving the above-mentioned problems by various subsystems. A few of these subsystems are:

1. **An Inbuilt Public Announcement System:** Here, the citizens can access accurate, reliable and verified information regarding the coronavirus that left the whole world in a state of a catastrophe. There have been over 31.8 lakh confirmed cases and a total of 2.2 lakhs deaths worldwide. Even after the lockdown, India has confirmed cases of over 33 thousand and more than 1 thousand deaths. Many people are still not aware of the seriousness of the situation. People have been pelting stones on the cops for during their duties. There have also been racial attacks of harassment against the people of northeastern India due to their resemblance to the Chinese citizens who are also being blamed to have started the pandemic. We blame when we know no facts. We are already in one of the greatest economic crisis we have ever faced. It is important to unite to avoid spreading hatred of this magnitude.

2. **PM Care Fund Direct Donation Mechanism:** India is a developing and poverty struck country. Prime Minister Narendra Modi has also decided to accept funds from foreign countries to fight the pandemic. However, we must accept that the whole world is facing the same circumstance. Receiving funds from foreign countries might not be enough to support the system and hence it is fundamental for the country fighting for themselves, united but not amongst themselves. Individuals who are in favourable conditions could donate money to the PM relief to do their part of the job by helping their nation and their government provide basic necessities to many unemployed daily wage workers and freelancers. It must be a relief that the fund was set up due to requests from individuals from India as well as abroad to make generous contributions to help the second-largest country in the world fight off the disease.

3. **Event Schedule and Management Portal:** The government of India has organised various events for supporting and encouraging people into healthier activities like yoga, encouraging women to come out and participate and also concentrates on developing the nation technologically through events such as the SMART INDIA HACKATHON that has encouraged many young minds to come forward to help

create innovative and feasible solutions that could change the lifestyle and customs of the nation and help progress DIGITAL INDIA. Online event management is said to increase attendance. The outreach on any online platform is higher and it automates the planning process reducing work hours and offering a better-organised outlook.

4. **A completely Personalised Dashboard for each user to donate money and pay bills with their information**: A database is used to store and verify the details of citizens who register themselves through the dashboard. The database helps establish a secure network. The GUI has been built using NetBeans IDE 8.2 to create the user interface(Front End Application Software) of the dashboard, while a backend database, Apache Derby or the Java Derby database (Embedded JDBC driver: helps us embed derby in the java application) runs in the backend to process the citizens' credentials. Since everything that runs in Java in the JVM is converted to byte code which is not easy to exploit or modify makes the language safer.

a. A **Database Server** and its **Client Software** need to communicate with each other and they do this by establishing a database connection. While the client can send commands using the database connection, the server can reply to the client by sending the information asked. This database is stored on the secondary storage device or on magnetic or optical disks as single or multiple files. The information that is stored in these files can be used to retrieve records.

b. A **Graphical User Interface (GUI)** is a more interactive user interface that helps establish a user-friendly environment, unlike the command line operating system. The user interface is made to be visually appealing through colourful icons, buttons, images, scroll bars et cetera known as visual indicators.

c. **NetBeans** is a FOSS(free and open-source) integrated development environment widely used for java known for its powerful and easy to use GUI builder with drag and drop facility. NetBeans also supports other scripting languages such as javascript, groovy and PHP. An additional advantage to NetBeans is that it is cross-platform. It follows WORA(Write once, run anywhere). Any Operating system can have this platform installed. NetBeans can be installed only if the java development kit is available. I have used JDK 1.8 for installing NetBeans IDE 8.2.

d. **APACHE DERBY** is an **RDBMS** (Relational database Management system) created by the Apache Software Foundation. It is open-source and it can be embedded in Java applications. It can also be used with Apache TOMCAT to create java web applications. It is lightweight and is also portable.

4. **Emergency Medical Supply Trading and Distribution System:** An online Pharmaceutical Supply after verifying hospital details, Procuring medical supplies hasn't been a pleasing site supported by the health sector during this current worldwide health emergency. Even during this situation, there is bribery in medical-related services and counterfeit medical products marketing. This would not only increase the spread of risks of this disease but also show us truly how people's values have deteriorated. Leveraging technologies and treating it as an ally to increase responsibility and answerability would assist the government in this long battle. It is an opportunity for young minds to create digital transformations towards public services and help establish a safer environment for citizens from cybersecurity attacks especially since many people are working remotely and millions of students are receiving education through online platforms that could risk their privacy.

SYSTEM REQUIREMENTS:

NetBeans: NetBeans being cross-platform can run on any operating system in which the Java Virtual Machine (JVM) is supported. The minimum hardware configuration-

FOR WINDOWS- Windows 7 version OS, 800MHz Intel Pentium III or equivalent processor, 512MB memory and 750 MB of free disk space

FOR UBUNTU- 9.10 version, 800MHz Intel Pentium III or equivalent processor, 512 MB memory and 650 MB of free disk space

FOR MAC OS- 10.7 Intel version, Dual-Core Intel processor, 2 GB memory and 650 MB of free disk space.

APACHE DERBY- The apache derby database can run if there is a JVM supported.

Pseudo Code:

We access the derby database using an Embedded Derby JDBC Driver that runs the database in the JVM same as that of the application. We can ensure a connection between the Java application and the derby database using:

After importing java.sql.DriverManager;

```
java.sql.Connection con =
DriverManager.getConnection("jdbc:derby:C:\\netbeans\\Derby-10.14\\Databasename","DB
username","DBpassword");
```

Where ROOT is the name of the database and CITIZEN is a table

We can pass a SQL statement using:

```
java.sql.Statement stmt=con.createStatement();
String DBQuery="Select * from ROOT.CITIZENS";
```

Many such SQL statements can be passed to insert, update, delete et cetera into the database.

We can insert a direct link to a website on button press using-

```
Desktop.getDesktop().browse(new
URL("https://www.youtube.com/watch?v=eup3_i_5uaw").toURI());
```

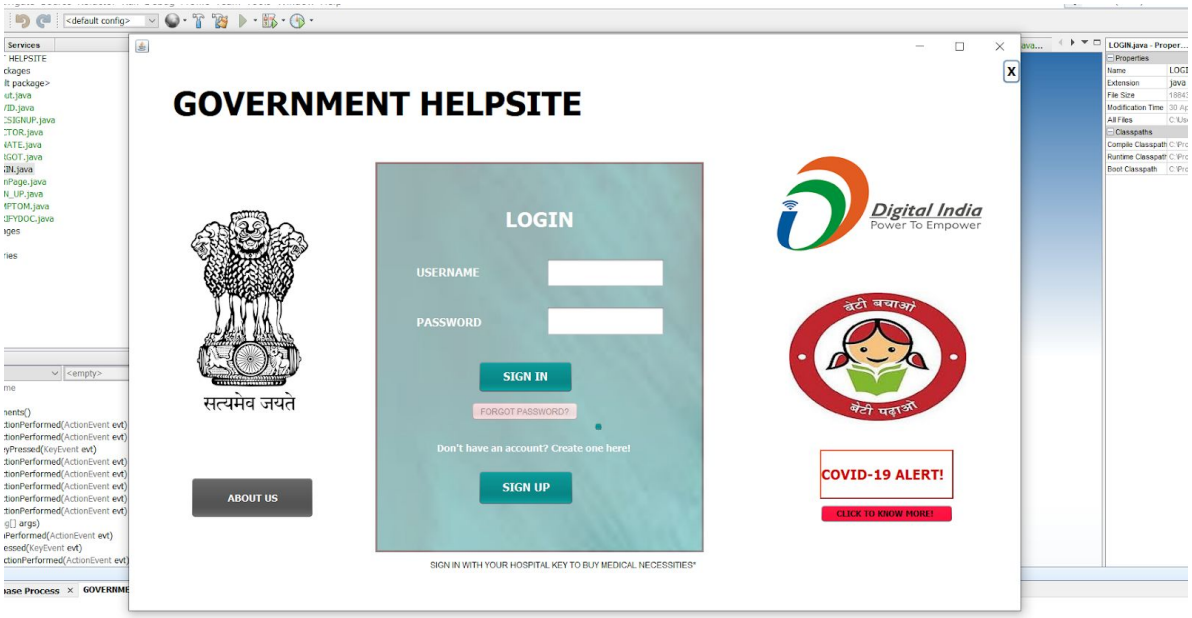
We also have to catch a few exceptions such as

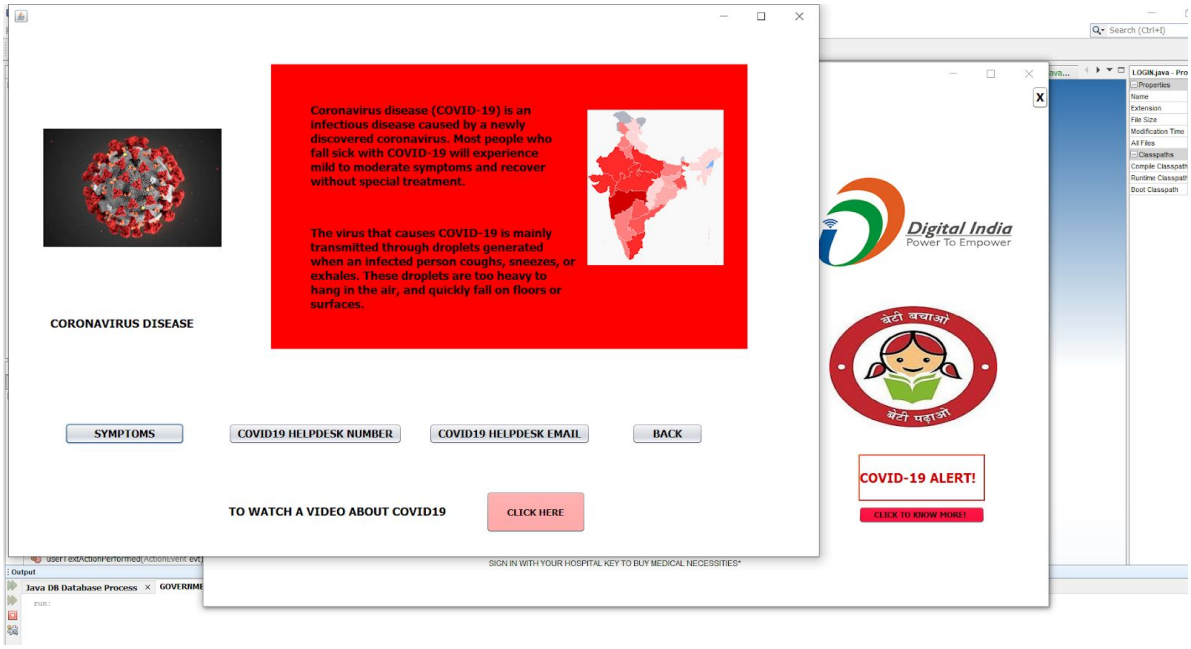
```
import java.io.IOException;
import java.sql.SQLException;
import java.net.URISyntaxException;
```

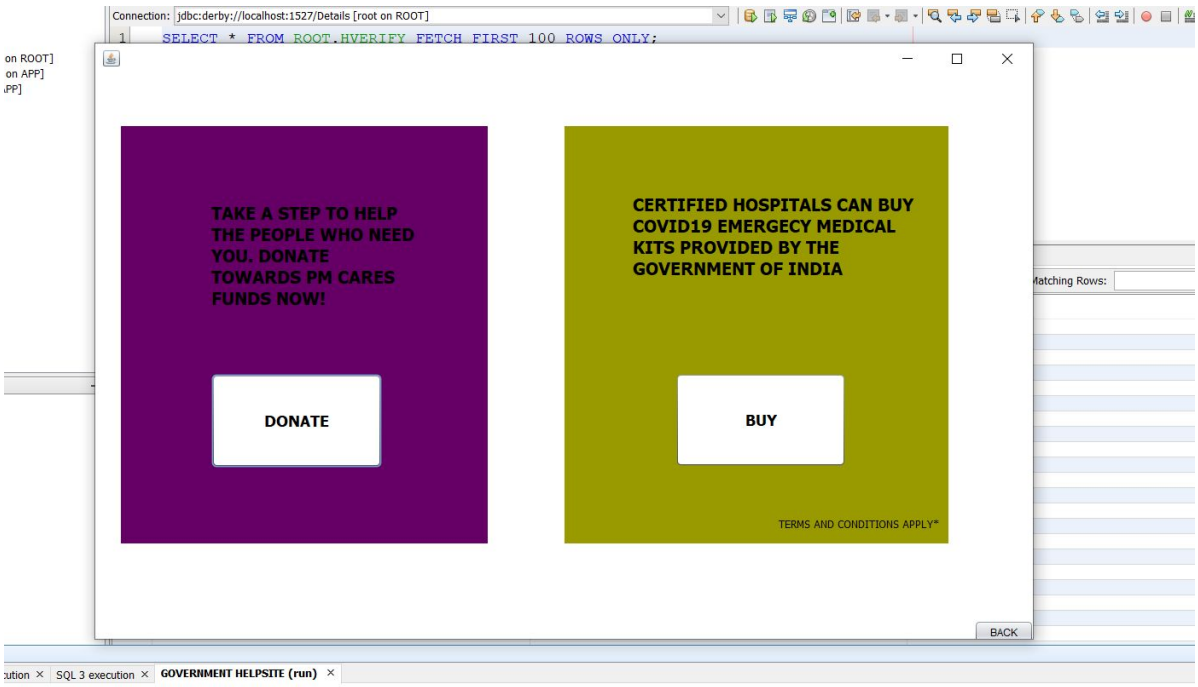
for the running of the code.

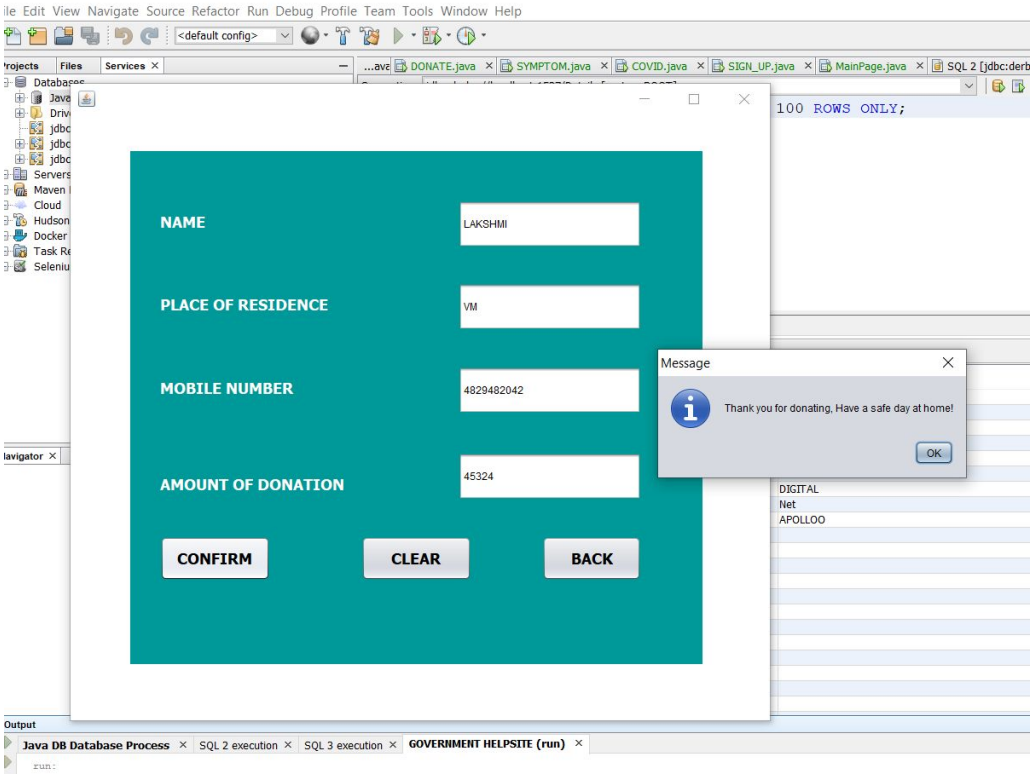
6. RESULTS/PERFORMANCE ANALYSIS

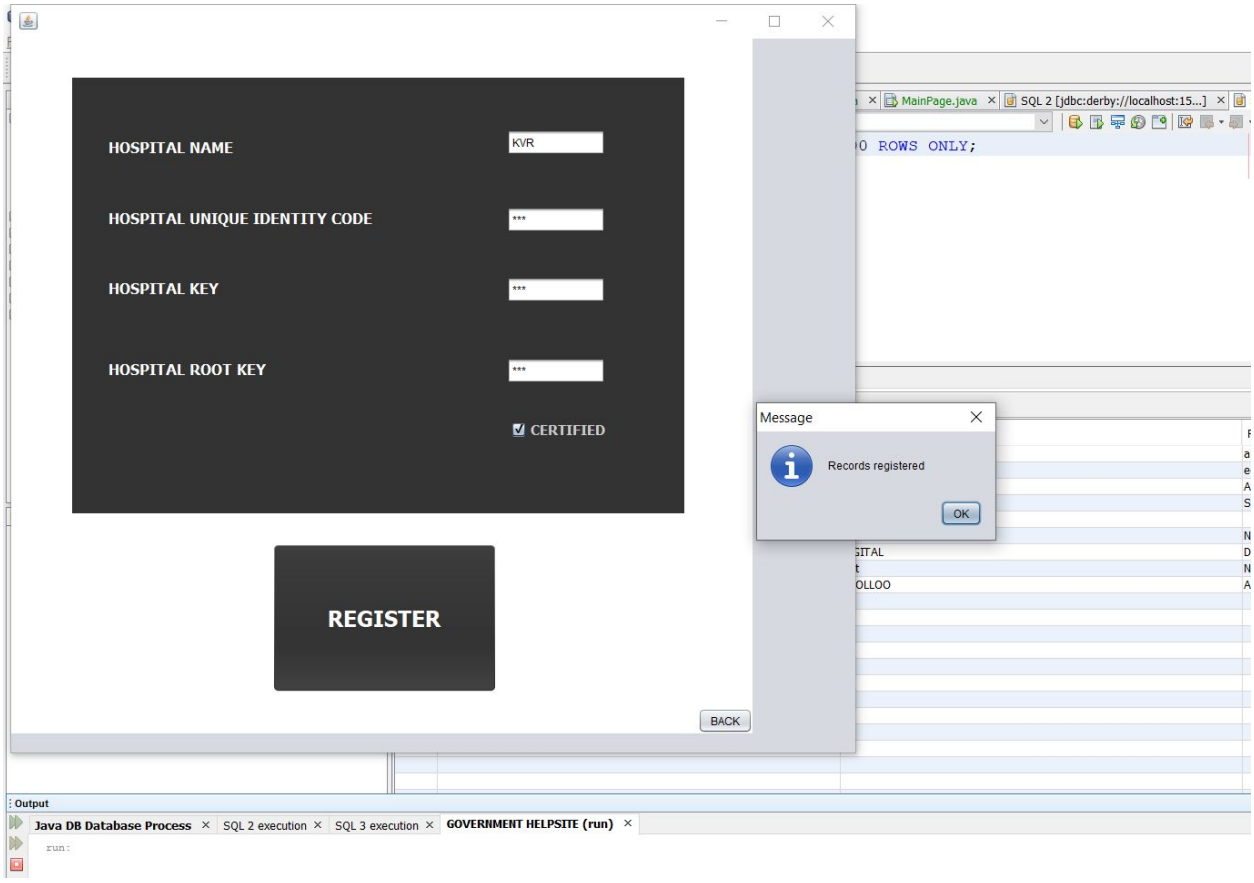
An individual who logs into the platform can successfully access the necessary resources to view events, view pandemic information, donate, pay bills, and verify again with unique hospital codes if they have to buy medical kits. Java NetBeans has helped create a user-friendly platform that does all of this very smoothly. An executable file jar file can be accessed on any machine with a JVM to run the application.

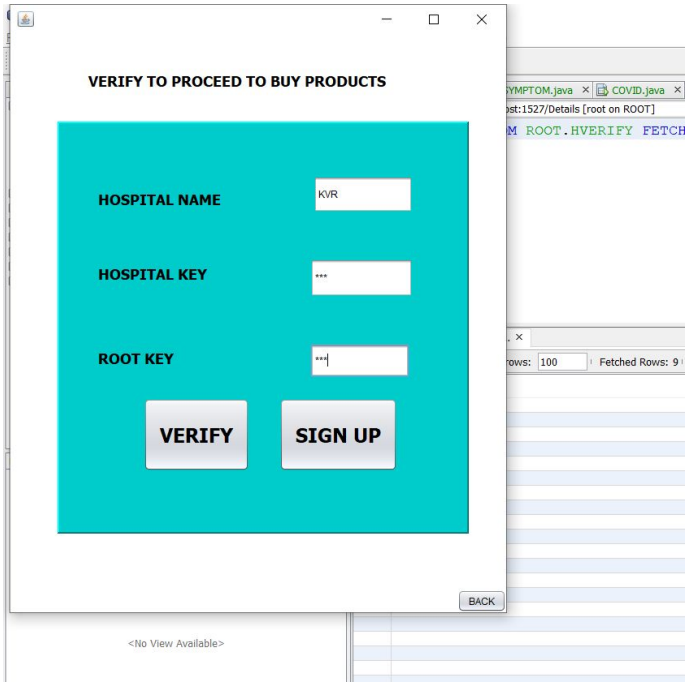


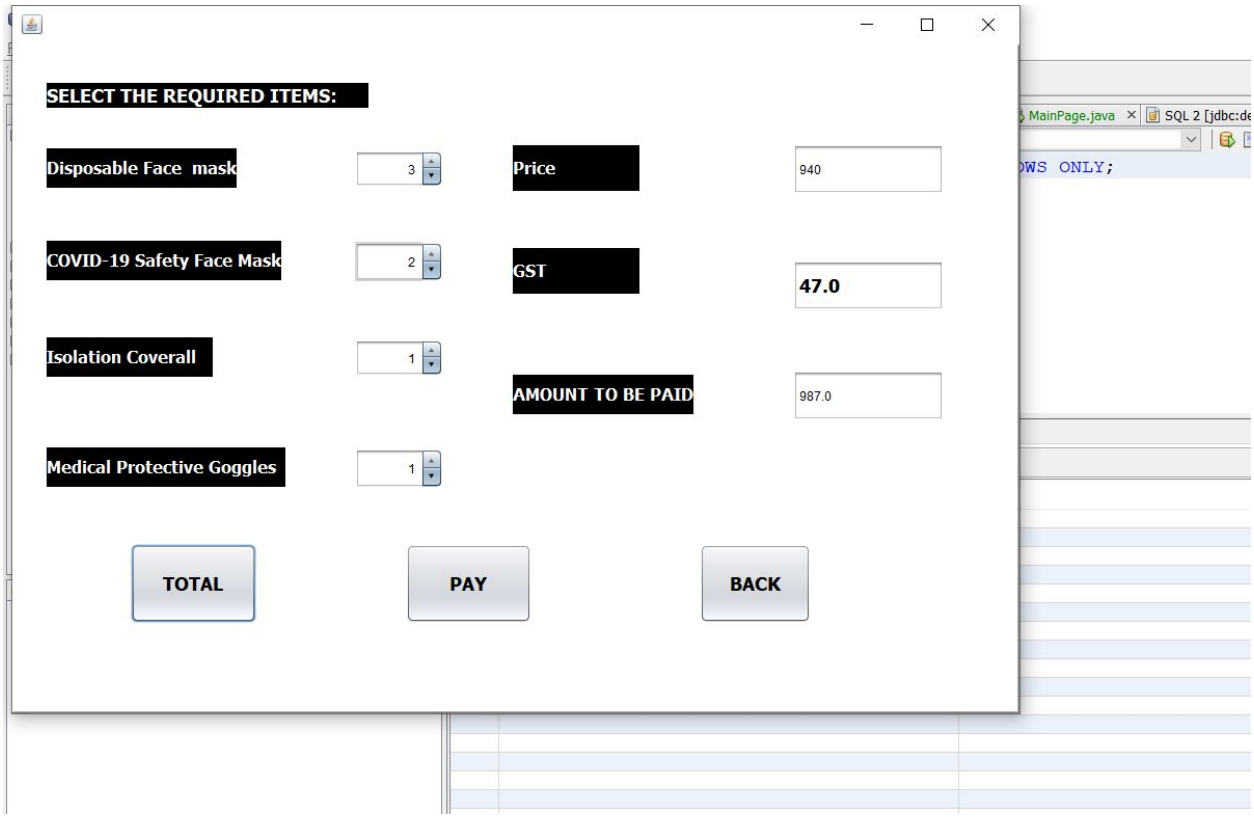



Connection: jdbc:derby://localhost:1527/Details [root on ROOT]
SELECT * FROM ROOT.HVERIFY FETCH FIRST 100 ROWS ONLY;
TAKE A STEP TO HELP THE PEOPLE WHO NEED YOU. DONATE TOWARDS PM CARES FUNDS NOW!
DONATE
CERTIFIED HOSPITALS CAN BUY COVID19 EMERGECY MEDICAL KITS PROVIDED BY THE GOVERNMENT OF INDIA
BUY
TERMS AND CONDITIONS APPLY*
BACK
SQL 3 execution
GOVERNMENT HELPSITE (run)


NAME
LAKSHMI
PLACE OF RESIDENCE
VM
MOBILE NUMBER
4829482042
AMOUNT OF DONATION
45324
CONFIRM
CLEAR
BACK
Message
Thank you for donating, Have a safe day at home!
OK
Java DB Database Process
SQL 2 execution
SQL 3 execution
GOVERNMENT HELPSITE (run)


HOSPITAL NAME
KVR
HOSPITAL UNIQUE IDENTITY CODE
***
HOSPITAL KEY
***
HOSPITAL ROOT KEY
***
CERTIFIED
REGISTER
BACK
Message
Records registered
OK
MainPage.java
SQL 2 [jdbc:derby://localhost:15...]
0 ROWS ONLY;
Output
Java DB Database Process
SQL 2 execution
SQL 3 execution
GOVERNMENT HELPSITE (run)
run:


VERIFY TO PROCEED TO BUY PRODUCTS
HOSPITAL NAME
KVR
HOSPITAL KEY
***
ROOT KEY
***
VERIFY
SIGN UP
BACK
<No View Available>
YMPTOM.java
COVID.java
st:1527/Details [root on ROOT]
M ROOT.HVERIFY FETCH
ows: 100
Fetched Rows: 9


SELECT THE REQUIRED ITEMS:
Disposable Face mask
3
COVID-19 Safety Face Mask
2
Isolation Coverall
1
Medical Protective Goggles
1
Price
940
GST
47.0
AMOUNT TO BE PAID
987.0
TOTAL
PAY
BACK
MainPage.java
SQL 2 [jdbc:de
WS ONLY;

7. CONCLUSION

While people still try hard every day, working remotely, students receiving their education through online video conferencing platforms such as Zoom, we have truly understood how technological advancements have taken a leap in the way we think. A guiding principle between the individuals of a country and its government is transparency. It should be used to accelerate this fight towards the disease and to expedite it and rebuild a society everyone can trust. India is a federal parliamentary democratic republic and is defined and represented by its people. Like we all know, India is a democracy by the people, of the people and for the people. This is a testing time for the whole nation to leave behind religious, communal hatred to unify, collaborate and work at home while being aware of their situation to get rid of this illness. There have been religious outrages in recent times where the media has led people to create assumptions. In fact, the only way to get past this pandemic is when people realise their responsibility of staying home and treat it with utmost sincerity. It is important to reduce stigma to reduce COVID stress that has been prevailing among people. The poor have come out saying that 'Hunger will kill them before the disease.' In a hunger emergency like this, people must open handedly make generous contributions if they can to help many unemployed daily wage workers and the poor who have no food to eat. The Government is on its duty to help them by providing as much help as possible but they need more extended help.

//3d password authentication chat application

'HALLITUS' tries to do its part too. Dynamic web scrapers can be inbuilt in the future to allow live statistics. Apache Derby embedded with java has been known for online transactions. Since the derby database has already been used, integrating secure and password protected online transactions (payment gateways) to make the system stronger and more user-friendly. A system to allow COVID patients to interact with counsellors can allow online treatment since mental health coping during covid19 is extremely difficult to pull through. I hope that my project could help individuals protect themselves and their community.

8. REFERENCES

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