# Bridge Boot Camp - Tech Component

## Software Development Track

## CASE STUDY REPORT– 01

By: - **Roshani Vivekanantham**

E-channeling, which offers an e-commerce service, was launched in 2001, becoming the first ICT service provider in Sri Lanka to provide digital healthcare solutions. The E-Channeling network is being developed by Mobitel (PVT) Ltd, which is a fully owned subsidiary of Sri Lanka Telecom PLC, to provide greater value to end users. “E-Channelling” echannelling.com represents a software application that aggregates hospitals and clinics for patients to make an appointment that is presented under the mobile Application e-Channelling and via their website https://www.echannelling.com/ (collectively called their “App”). The company is a part of e-Channelling PLC, a Sri Lankan company with business registration number PQ205.

## Major Problem Solving

- E-channeling features enable doctors to connect with patients from anywhere, anytime, including internationally. Providing greater convenience, patients can initiate a chat with a doctor two hours before the session commences and 24 hours after the session.
- Users Enable to channel Doctors/Consultants from 260+ private hospitals, clinics, channeling centers, and private ayurvedic hospitals in Sri Lanka.
- It’s the easy, convenient, cost and time-saving way to channel Doctors/Consultants.
- allows doctors and patients to communicate with one another around the world in their native language or any language of their choice.

## Other Problem Solving

- When a patient places an appointment, the doctor will be notified of the appointment through the doctor app and she/he will have the ability to initiate a video call to the patient based on their mutual preference, engaging in consultations at the convenience of both parties.
- To assist the patient, the ability to share medical reports and earlier prescriptions with the doctor is also available.

- At the appointment time, the doctor will initiate a video call to the patient's last logged-in device and the session will continue until the consultation is over.
- Furthermore, the doctor can also share the prescription with the patient after the session and if any further clarifications are necessary, patients can raise them within 24 hours after the session via the chat facility.
- A view of past teleconsultation conversations with the doctor is also available for better outcomes.

## Users of the systems

- Doctors
- Patients (Users)
- Administrator
- Hospitals

## Each User Benefits

- Cost-effective
- Easy to usage
- Time-savings.
- Simple and convenient contacting doctors and specialists from over 150 health institutes in Sri Lanka.
- All health problem-solving.
- platform should be user-friendly and easy to manipulate.
- Ability to view a list of doctors available online in real-time, view sessions for a particular doctor, and place appointments for online doctors.
- Patients can book teleconsultation appointments for registered and scheduled doctors for the teleconsultation service.
- Helping patients secure the benefits of at a remote channeling service, conveniently and uplifting their lifestyle using cutting-edge technologies.

## Major and other alternative systems of E-channeling Application

1. Channel Your Doctor

- Simply enter a doctor's last name, specialization, and or hospital name into the search box.

2. Channeling history and re-booking the same doctor.
    - Users can look over their channeling history to see past appointments.
    - Users can also book directly from your history, avoiding the need to search.

3. Payment options
    - Variety of payment options – Visa / Master / Amex / mCash.

4. Order Medicine
    - Select the user's preferred pharmacy, order their prescription medicine online, and have it delivered straight to the user's home.

5. Claim a Refund
    - Couldn't utilize the service of the professional user channeled? Don't fret, the user's money will be transferred back to them!

6. Health Check-ups/Packages
    - Users can now avail their self of a wide range of health packages through e- channeling's partner hospitals.
7. Lab Tests

    - E-channeling now enables users to complete all their laboratory tests from home and have the reports delivered right to their doorstep!

8. Emergency Services

    - E-channeling is users' trusted partner in case of an emergency! Call an Ambulance 24 hours a day, 7 days a week from a preferred hospital.

9. Appointments Status

- Track users' appointment status and find out the expected arrival time of their doctor or medical consultant.

10. Mobile Lab Services

- Book a range of laboratory services from users' preferred hospital through e-channeling and have a qualified medical professional visit their home or office.

## Process Of Channeling a doctor

- Channeling is a mode for patients to book a pre-paid appointment with doctors. Patients can book the doctors by paying them to the Consultants who work via Channeling. Patients who don't want to stay in queues or waiting rooms can go for this option for decades. But in the beginning, it was not much comfortable because communication was not developed like now. When it comes to channeling doctors in Sri Lanka, it further describes some more challenging times throughout history. But now the situation is different. However, there is a concern about whether it is effective in Sri Lanka.

- When you need the best physician or medical professional in minutes, the Sri Lankan healthcare system offers you several methods to do this. Government hospitals don't offer an appointment method or scheduling system still, so patients should stay in queues whenever they need to see a doctor in government hospitals. Most Sri Lankans satisfy their healthcare requirements from there due to poverty, and sometimes they may think government hospitals are more liable. For another one, it can be just a myth.

- Somehow, people can schedule the same doctors in government hospitals at their private clinics or at island-wide private hospitals. Normally, the process is operated through a telephone system.

- This platform has 3 main sections for each user.
    - Doctor Channeling Part - Channel A Doctor
    - Tele – channeling Part – Video Consultation
    - Driving License Medical Part – Book an Appointment

https://www.echannelling.com/platform focusing on scheduling doctors online and having meetings between doctors and patients through the application can solve the problem to an unbelievable level. Also, the platform should be user-friendly and easy to manipulate.

## Doctor Channeling System and Service

Along with the doctor channeling system and service e-channeling PLC provides following value-added services to hospitals and patients.

- For Hospitals
    - Doctor Notification (SMS notification system, to inform patients about the updated doctor appointment status)
    - D-Doctor notification (SMS notification system to inform doctors about their appointment details)

- For Patients
    - E-channeling Member card (offers discount on e-channeling service charge, and products of 800+ merchants island wide)
    - No shoe refunds (facilitates hassle free refund of all the payment done for the appointment missed by the patient)

## HIS (Hospital Information System)

E-Channeling has developed and implemented an integrated Hospital Information System for one of the largest private hospitals in Sri Lanka.

This system solution with its comprehensive modules is now promoted and marketed to small and medium sized hospitals, medical clinics, retail pharmacies and medical laboratories.

easy way to automate your hospital

easy way to automate your lab

easy way to automate your pharmacy

easy way to automate your clinic

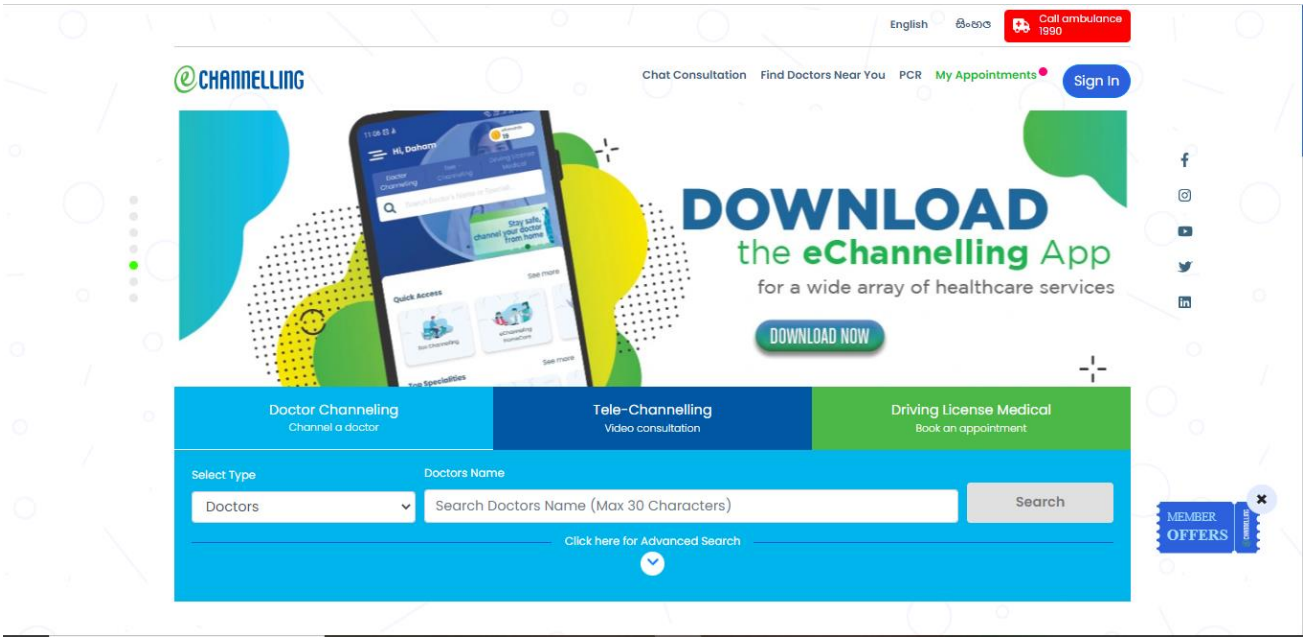
- E- Channeling Services may include links to third-party websites, applications and/or services.
- The web-based application can access by the n-numbers of users across the internet and browsers. When users use web-based software access is everywhere and anywhere they need. At work, at home, at a coffee shop, or even on their mobile phone, data is accessible anywhere with internet access. So, the E-Channeling platform is we based software solution.
- This Mobile Application can be downloaded via Google Play store or App store.

## User Interface (UI) used in the process of channeling the doctor.

→ This is the front page of the e-channeling platform.

→ It is a digital lifestyle & health solution.

→ E-channeling, Sri Lanka's largest channeling network and arm of SLT-MOBITEL, launched its all new one touch tele-channeling service, offering personalized online video consultation solution.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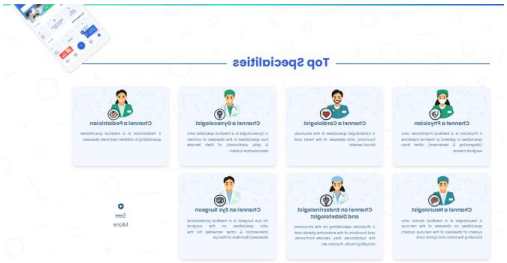
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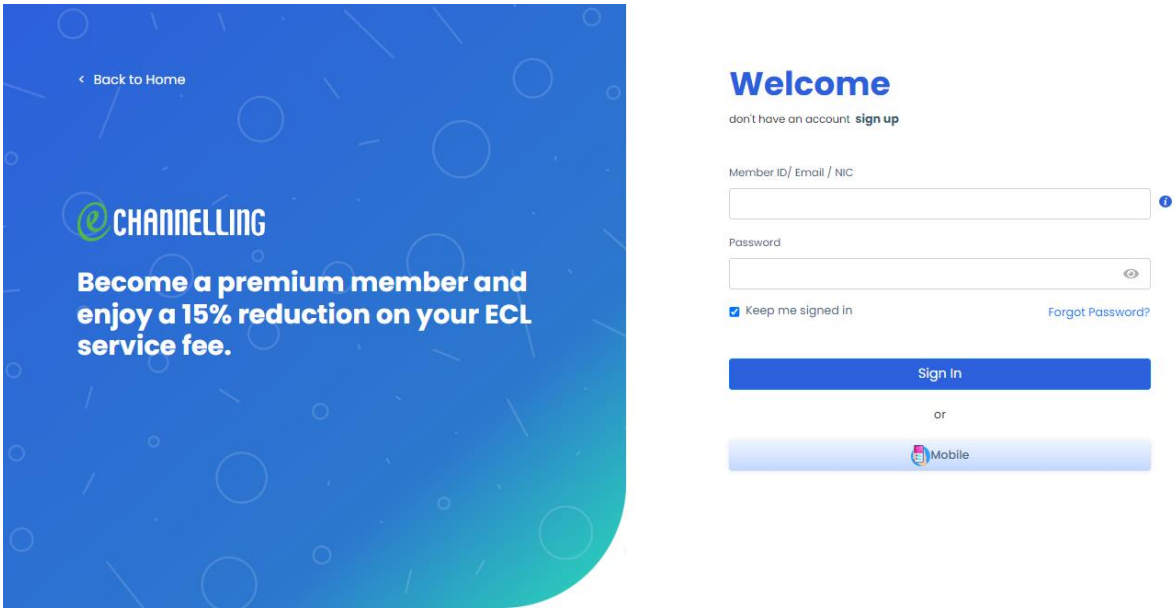
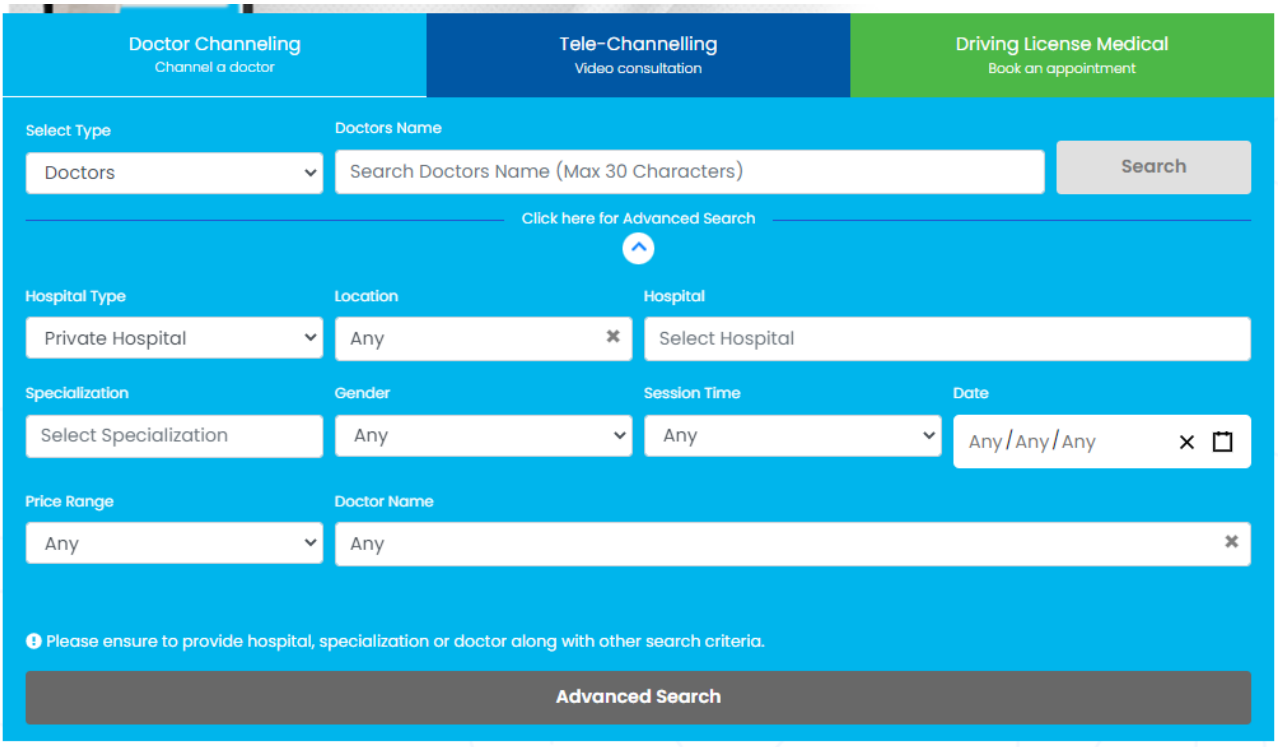



**Pic – 01**

First users should create an account for E-channleing paltform. So firt Singup the website. When a create a suessful account that user Become a premium member and enjoy a 15% reduction on your E-channeling sevice fee. **OR**

Users can signup or login view the mobile Number , then adminstartion wil send you OTP number for your phone. After that you will create the account.

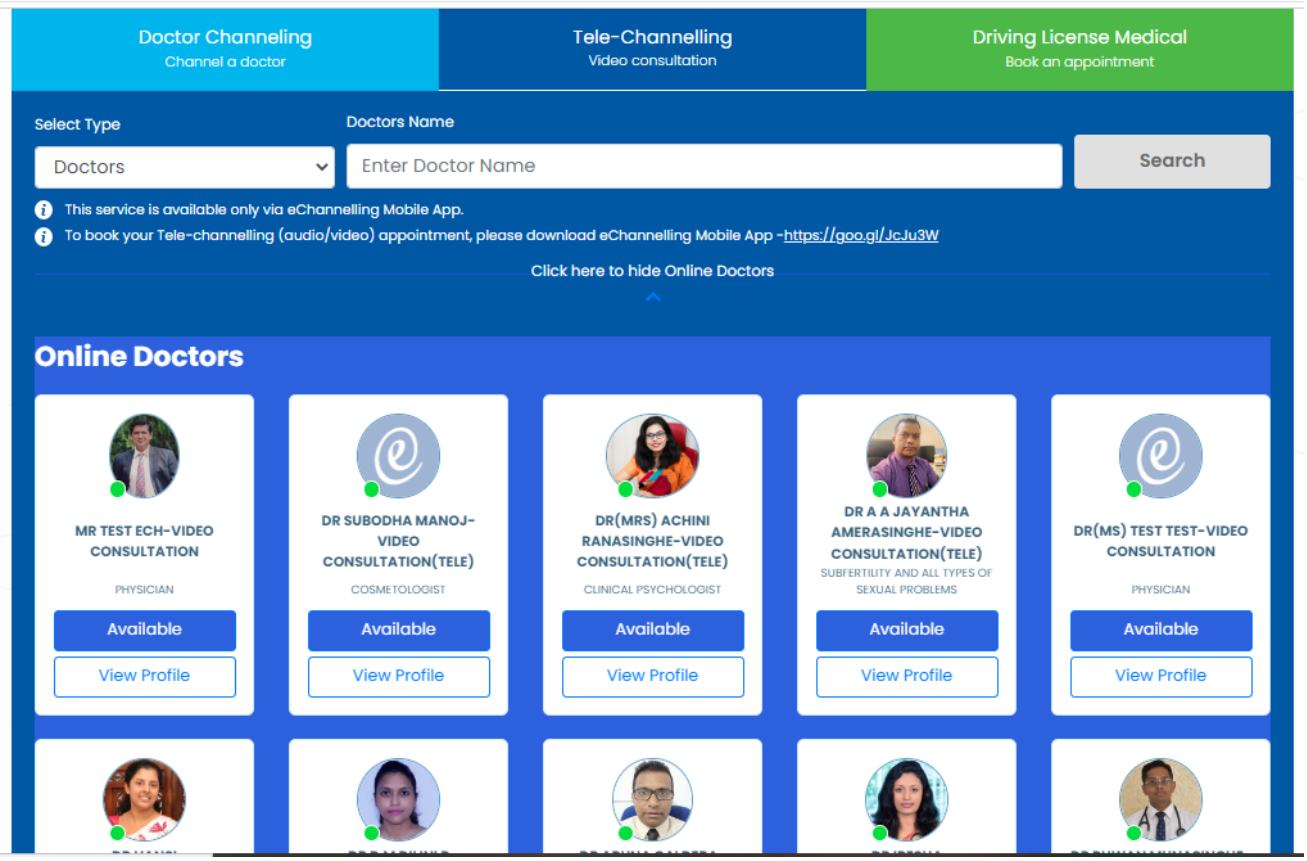


**Pic - 02**

↑ **Above picture shows users can search a doctor using e-channeling.**

Users can use any one option below: -

- Option 01: Type the doctor's first name and Search OR
- Option 02: Select the available hospital and Search OR
- Option 03: Select the doctor specialization and Search.




**Pic - 03**

→ Here This Tele-channeling service is available only via eChannelling Mobile App.

→ To book your Tele-channeling (audio/video) appointment, users should download eChannelling Mobile App.

→ Audio/video consultation is a medical consultancy system which is enabled to echanneling customers to connect – to selected consultant through a live call.

→ It's based on the selected doctor. Similar to a physical visit, the doctors and customers comfortable language will use for the communication.

→ eChannelling users can dial 225, 1225 via SLT Landline, visiting eChannelling website (www.echannelling.com) and eChannelling mobile application connected with Call Centre and make a reservation with the available – consultant by selecting respective doctor session at hospitals then by paying LKR 99 (eChannelling service charge), Hospital fee and Doctor fee (Doctor Fee and Hospital fee may vary according to the hospital and doctor).

→ After each successful reservation the customer will receive an SMS with the time allocated for the audio call with the selected doctors' details and the customer will receive a call from the doctor/hospital to get the audio/video consultancy service at the time the customer selects for the reservation.

→ Patients are required to allow permission to microphone and camera when requested in the mobile browser to enable the video consultation if it's through mobile browser.

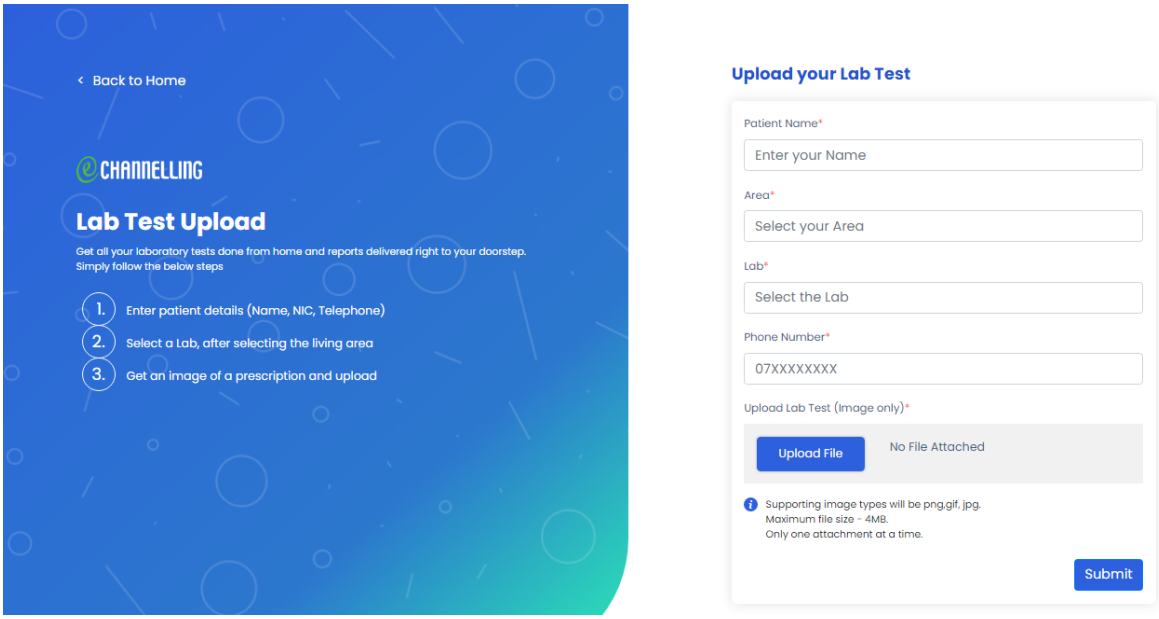
**Pic - 04**

This section shows some e-channeling services. Such as: -

- ✓ Home care service
- ✓ Lab Tests Service

- ✓ ECO channeling service
- ✓ Order Medicine service
- ✓ Claim refund service, etc.

When you clicked the Lab Tests Service Section then users a see a new web page. **(Pic – 05)**




**Pic – 05**

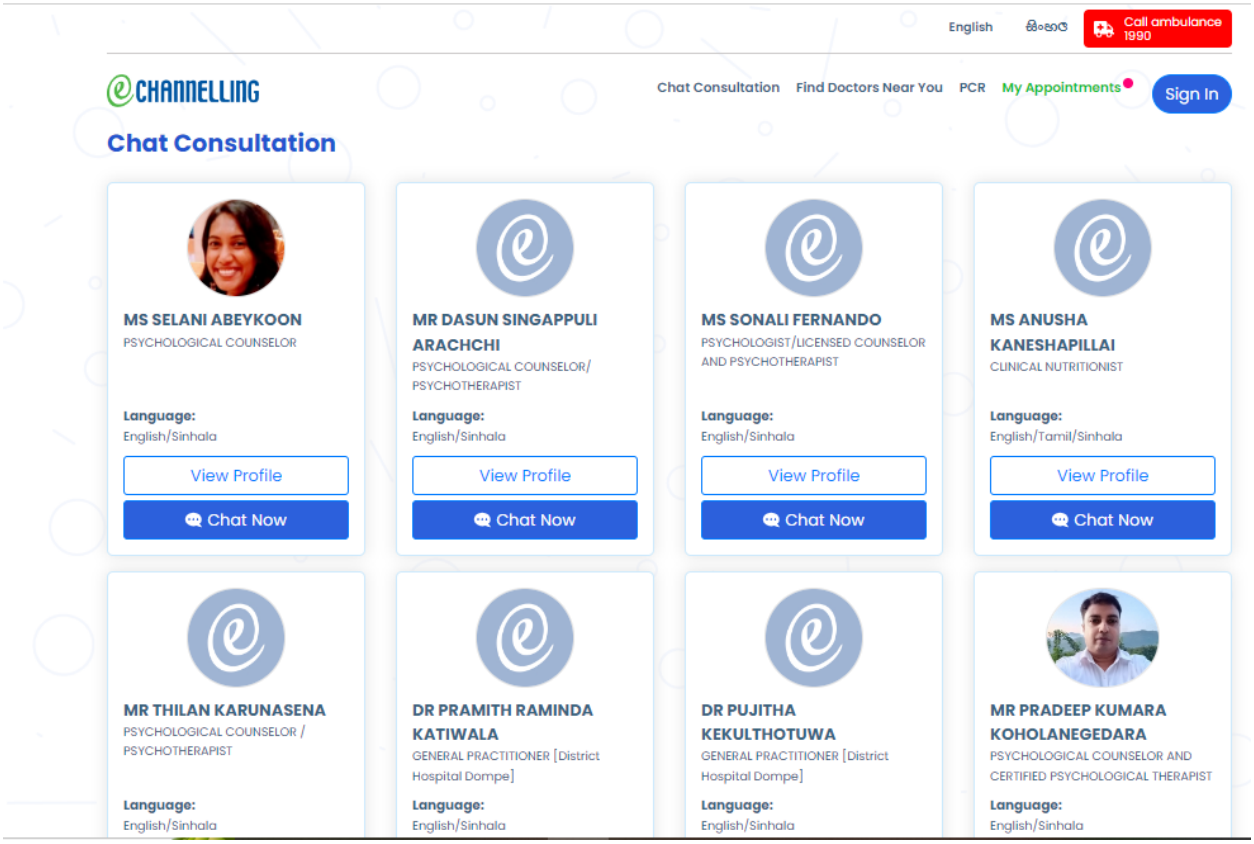
- ✓ Customers can make a reservation for a lab test service via e-channeling through a lab test service center/provider.
- ✓ Users can obtain the service, there are: -

  - **Select the Lab test Prescription upload function in e-Channelling Web/App**
  - **Enter the customer location.**
  - **The Mobile lab service providers details will appear according to the entered location.**
  - **Select the preferable service provider.**
  - **Upload the prescription.**

- **Enter patient details.**
- **The system will alert the selected service provider through, and email and SMS and they will attend to the request based on the uploaded prescription.**

✓ The hospital will contact you regarding the test within 12 hours (This may depend on hospital/laboratories policies, rules, and regulations)

✓ Hospital /laboratory team will keep you informed of the Lab test status. Alternatively, you may check the status of Lab test process by contacting hospital/laboratory.

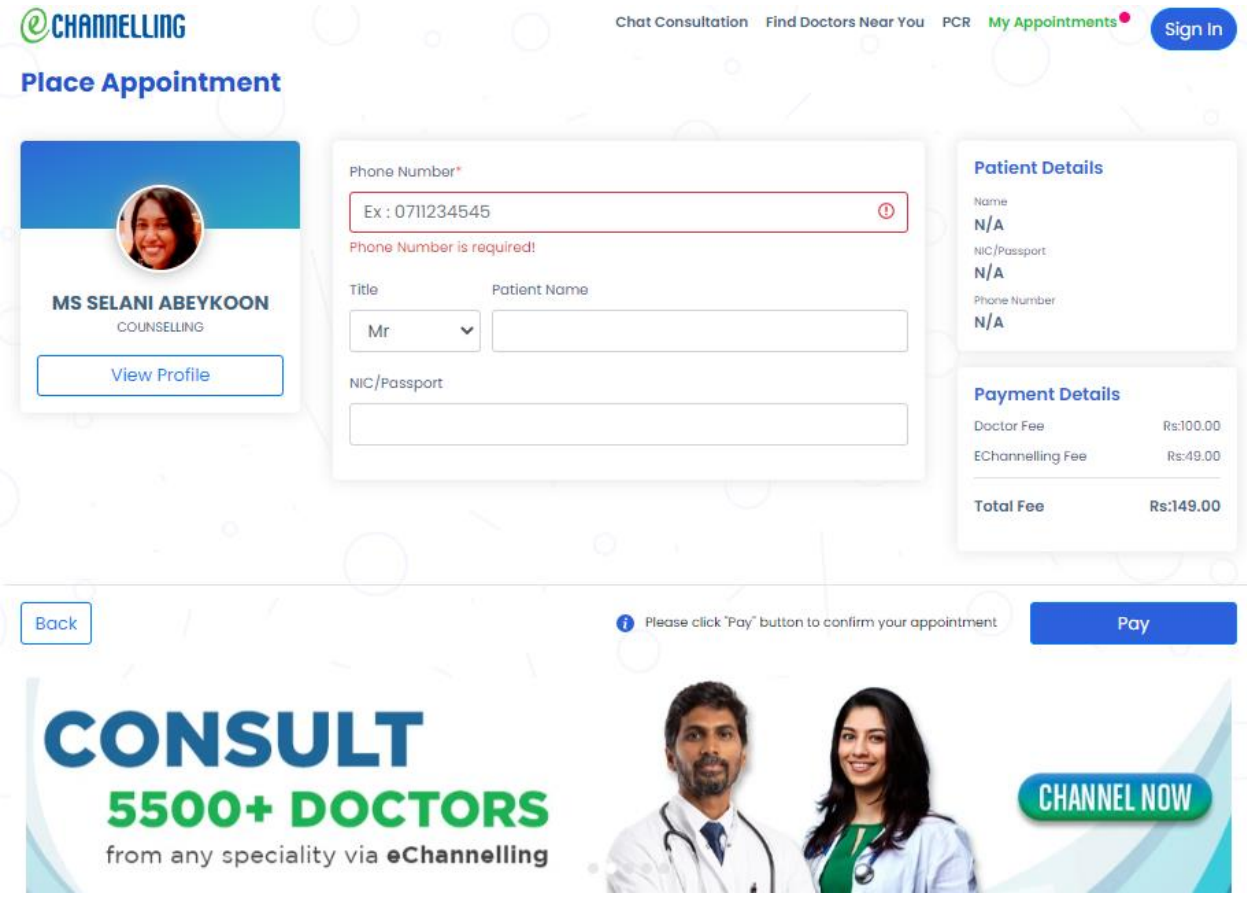



**Pic - 06**

✓ Customers could make reservation with a doctor or counselor and chat with them to obtain service.

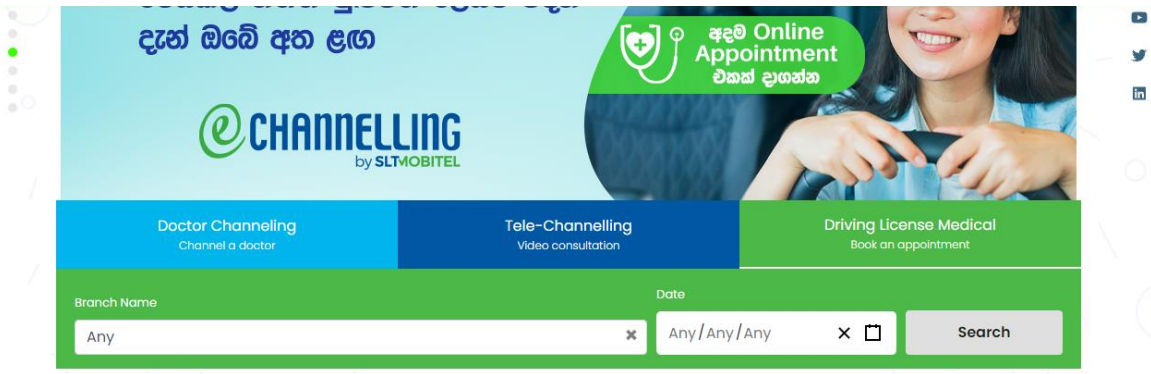
✓ Click the CHAT icon and select the service person (Doctor or Counselor) and proceed with the payment and the service provider will response within 5 minutes. **(Pic – 07)**

- ✓ The qualification and the specialized areas are mentioned on their profile, could select according to your service requirement.




**Pic – 07**

- ✓ Users can see the profile of the service provider the language skill is mentioned.
- ✓ if the service person is online the service person will response within 5 minutes.
- ✓ Medical related services can be obtained through a chat and doctor will provide a prescription; counselor will provide the general service.



**Pic - 08**

Here Get an appointment for users driving license medical test from any of the national Transport Medical Institute centers via e-channeling.

## Data protection and stored in Database.

By using the Services, the Customer consents to E-channeling collecting, processing, storing, and disseminating to third parties such personal data provided by the Customer or generated by E-channeling in the course of making the Services available to the Customer, for the following purposes:

- Provision of Services to the Customer,
- Market research and Customer-profiling based on usage and preferences for the purpose of initiating information, promotions and/or marketing campaigns associated with ECL's Services unless the Customer has explicitly opted out,
- Credit profiling of Customer to ascertain his/her creditworthiness,
- Prevention and detection of fraud, money laundering and terrorist financing.

- Web based application and all the data that you save are stored on the server and the user can access them online.
- The database is the central repository for all of this data. It is used to store user information, session data, and other application data.
- The information they collect on or through e-Channelling Services may include: -
    A. Information that users provide by filling in forms on their App/Site. This includes account and profile information user provide when registering for (or updating) a member account to use any e-Channelling Services, downloading/subscribing for an application, posting material, or requesting further services. Records and copies of user's email, text, and electronic communications if users contact us. Users' responses to surveys that they might ask users to complete for research purposes.

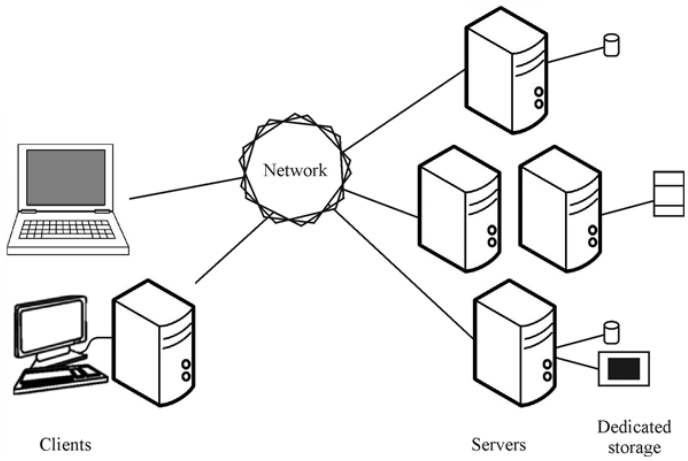
## Technical Diagram drawing with Lucid chart.

Entire user interface including data query, data entry and screen presentation logic. The server is in charge of storing data and provide database management functions and data access.

Client is the entity that sends the request. Server is the one which processes the request of the client. Client and Server are connected to each other through the network.

All the files are stored on the server. Client sends the request to the server. The server then serves the request and sends it back to the client.

https://lucid.app/lucidchart/130bc19f-93dc-402f-81a2-538b4e5300d3/edit?viewport_loc=-76%2C-87%2C1480%2C616%2C0_0&invitationId=inv_419176f4-15b4-4e9b-9c00-bd1eedd57f8c



- ✓ This system has an administrative user. Because of administrator maintains web serve services that allow for internal and external access to web sites. Tasks include managing multiple sites, administrating security, and configuring necessary components and software. Here administrative tasks include answering phone calls, managing email requires, processing and transferring data, scheduling appointments and many other responsibilities that help maintain a productive office workplace.

EX: - 1. Changes from users' profiles to other applications so that as data in profiles is added and updated.

2. Information that user provides by filling in forms on their App/Site. This includes account and profile information user provide when registering for (or updating) a member account to use any e-Channeling Services, downloading/subscribing for an application, posting material, or requesting further services. Records and copies of user's email, text, and electronic communications if users contact them. Here maintains all data keep safe under in administration section.

3. will notify users via e-mail to the e-mail address specified in their account and/or through a notice on the App/Site prior to the change becoming effective.

4. The Claim requests will not be accepted after the session start time and ECL is not liable for any refunds pertaining to Customer's appointment after this time.

No show refund claim can be requested online or by calling ECL call center (Hotline number - 0710 225 225)

So above functions are updated from administration sections.

**processes and activities cannot achieve through the system.**

- This platform doesn't have an emergency service without Ambulance service. It would be helpful for the website to have a navigation section for some emergency services, such as: - Accidents cases.

  Stroke

  Bleeding

Breathing difficulties

Eye trauma, etc.

In other words, these are some of the emergency situations that websites can't handle anywhere and at any time.

- Telephone issues or contact issues.

  Enquires about patients are welcome and can be made by phoning the hospital and website. One person should make the call and then inform other family members and friends. It is important to limit the numbers of calls because the administration is busy and telephone calls take staff away from caring for patients. The use of email is not familiar to everyone, so this method cannot be used by all users.

  **Solution**- There should be some videos on how to use the e-channeling platform. Those non-internet users can benefit from these videos because they are quite helpful to them. When the videos are available, users can easily navigate the website and contact them(company).

- E-channeling platform doesn't have an online health information resources for patients and their families and friends.
  **Solution –** Read about symptoms, causes, treatment and prevention for over 1000 diseases, illnesses, health conditions and wellness issues.
  If these things are in a e-channeling platform, it will be much easier and simpler for the users to first understand their problems and change all the behaviors related to their diseases. Some Health topics: -
  BODY LOCATION/SYSTEMS
    - Blood, Heart, and circulation
    - Bones, joints, and Muscles
    - Female reproductive systems
    - Kidneys and urinary systems
    - Skin, hair, and nails.

  DISORDERS AND CONDITIONS

    - Cancers

- Diabetes Mellitus
- Infection
- Injuries and wounds

DIAGNOSIS AND THERAPHY

- Surgery and rehabilitation
- Drug Therapy
- Symptoms

HEALTH AND WELLNESS

- Disasters
- Food and nutrition
- Personal Health issues
- Social Family issues, etc…….