A Website for Blood Test at Home (Cean Care)

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Abstract – *Most people may find it difficult to leave their houses for blood tests during this epidemic. Others, on the other hand, may find it dangerous. Even if there is a COVID-19 outbreak, we at Cean Care recognize that health must come first. With the Cean Care home collection service, you may have blood tests at home at a low cost without sacrificing your safety. The home visit service is especially beneficial for persons with weakened immune systems and those who are at a higher risk of serious COVID-19 problems. Here, we introduce a website that collects blood samples and delivers reports to your door, which is really useful in our daily lives. This website is simple to use since it eliminates the need for individual human effort. The goal of this website is to make people's lives easier by having their blood samples tested and reports sent right to their door, so they don't have to jeopardize their health by going outdoors during the pandemic. It can also be employed on a big scale by implementing individualized user logins that keep all of their reports in the cloud in one area.*

***Key Words*: dangerous, epidemic, blood test, safety, beneficial, immune systems, delivers, collects**

1.INTRODUCTION

Some medications need to be monitored on a regular basis to ensure optimum dosage and limit the chance of side effects. Disease-modifying antirheumatic drugs (DMARDs), such as methotrexate and sulfasalazine, have a long list of potentially dangerous side effects and should only be used with caution.

In our current pandemic situation, we are not allowed to go outside, and doing so is also dangerous. You must test your blood every two weeks as a diabetic or cardiac patient and pick up the findings yourself. Instead, we bring the pathology lab to you at your convenience, allowing you to stay safe without having to leave the house.

You can also have the testers at home in a convenient and safe environment where you can run your RT-PCR test[3] or Normal Fungus check with a single click, rather than visiting clinics and pathology facilities where you can't be sure they're appropriately sterilised and clean.

1.1 ABOUT CEAN- CARE

Book a blood test or expert health check-up packages online with Cean Care - one of the leading diagnostic service providers in India. Get quality reports trusted by leading doctors and hospitals from all NABL and CAP certified labs.

You can opt for blood collection at home service, so that you can get all the benefits of diagnostic centres and pathology labs in the comfort of your home.

The website provides diagnostic services for men, women, senior citizens, youth, and corporations, ranging from regular to semi-specialty tests such as cancer, neurology, gynaecology, and nephrology to complete health check-up packages.[1][2]

1.2 Wide Range of Tests:

CEAN Care offers over 4000 clinical laboratory tests and profiles that are utilised for disease prediction, early detection, diagnostic screening, confirmation, and/or monitoring. You can schedule a CBC, blood sugar test, thyroid test, allergy test, pregnancy test, heart profile, diabetes profile, liver profile, Vitamin B12 or Vitamin D3 test, and many other blood tests.

1.3 Expert and Painless Blood collection at Home:

A team of highly qualified blood collection technicians from CEAN Care will come to your home on your specified date and time to collect your blood sample. At our modern labs, your blood sample will be processed using the 8-state MET Protocol. Your reports will be sent to you through email.

1.4 Obtain Reports over the Internet:

All of your blood test results will be delivered to your mailbox, along with thorough analysis and safe storage so you can view your records whenever you choose. If required it can also be delivered at your WhatsApp Number or through normal SMS

1.5 Expert Health Examinations:

Expert Health Check-ups such as Men's Health Packages, Women's Health Packages, Senior Citizens' Health Packages, Corporate Health Packages, Diabetes Packages, and more will reveal your inner health state. On our website , you can find complete descriptions of all the tests available in the CEAN Care Health Checkup.
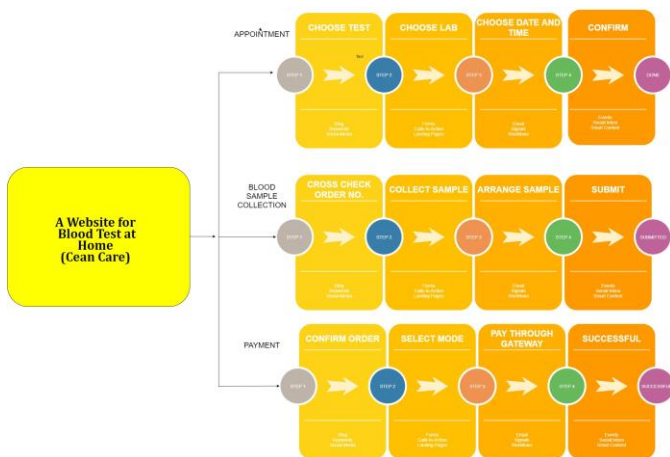
Fig 1: Incremental Model

2. METHODOLOGY

2.1 Laboratory:

i. Accept an appointment: When the Laboratory receives an appointment request from an end-user, they have the option to accept or decline the request.

ii. Send a tester: After accepting the appointment request, the pathology lab will dispatch one of their experts to take blood samples from the user and store them in a vial labelled with the user's unique ID for further identification.

iii. Update order: After receiving the blood samples from the user, laboratory technicians will update the order status on the website and transfer the sample to the tester for the appropriate tests.

iv. Test Result to be delivered (payment successful): The Lab workers will send the encrypted results to the user through email/WhatsApp after obtaining the results from the tester. To see the paper, the user will need a password, which he or she will get after making the payment.

2.2 Tester:

i. Accept Blood sample: The lab employees will hand over the blood vial to the Tester, which they had previously obtained from the user.

ii. Test: The Tester will then execute the tests specified by the user as soon as feasible on the blood sample.

iii. Report generate: Following the completion of the requested tests, the tester must generate a report based on the results and send it to the lab workers.

Within 6 hours of receiving the blood sample, the entire process must be completed.

2.3 End- User:

i. Appointment related to specific disease: The user can schedule a blood test appointment at their preferred pathology lab.

ii. Blood test submission: After their preferred lab confirms the appointment, a lab professional will come to them to collect blood samples for testing.

iii. Blood report within 6 hours: After the user's blood has been collected, their blood will be tested and reports will be delivered to them within 6 hours.

iv. Payment: The report you will receive will be password-protected. The user will receive the password for the document from the lab workers via WhatsApp/SMS after making the payment.

v. Cancel: If the user desires, they can cancel their appointment for free within 30 minutes of obtaining confirmation from the lab; beyond that, a cancellation fee will be levied.

vi. Reschedule: If the user desires, they can reschedule their appointment for free within 30 minutes of obtaining confirmation from the lab; beyond that, a modest cost will be applied.
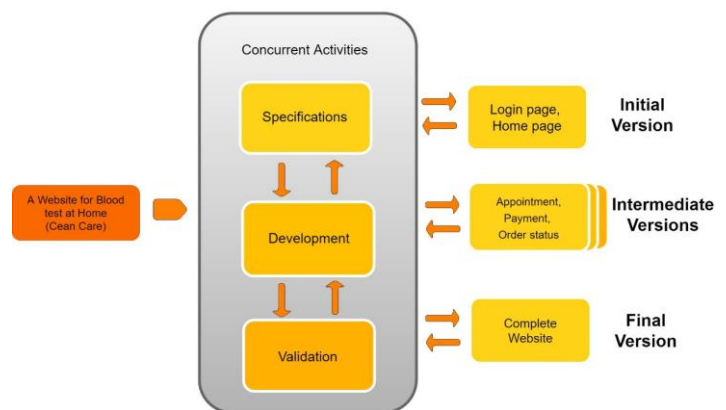
2.4 Admin:

Fig 2: Evolutionary Model

i. Update Laboratory Data: The Admin must ensure that all lab data is current and make modifications as needed if the Lab so requests.

4. LITERATURE SURVEY

The following table 1 contains study of 4 most important papers on how blood tests help prevent severe harm to human health if done on time. It also includes the overview

of each paper with their positive aspects. Publishers and   publication year are also included in the table

Table -1: Literature Survey

SR. NO	TITLE	REFERENCE TOOK	ADVANTAGES	DISADVANTAGES
1.	Yongrui Duan and Jin Yang, "A production and pricing decision for deteriorating items with time-varying and price dependent demand rate," 2011 2nd International Conference on Artificial Intelligence, Management Science and Electronic Commerce (AIMSEC), 2011, pp. 4524-4527, doi: 10.1109/AIMSEC.2011.6011185.	**PRICES COMPARISON AND BUDGETING** The production rate is finite in this production system, and shortages can be backlogged in the same cycle. Over a finite planning horizon, the demand rate is linearly dependent on time and price. The average cost is minimized using a nonlinear model.	Compares a large number of prices and calculates an average budget.	Cannot compare with respective of the attributes and important points
2.	C. Hidayat, M. R. Ramadhan, A. Rilamsyah, F. Abdillah and S. Hamali, "The Role of Supply Chain Integration on Information Sharing and its impact on the Supply Chain Performance (The Study on Beverage Distribution Company)," 2019 International Conference on Information Management and Technology (ICIMTech), 2019, pp. 395-399, doi: 10.1109/ICIMTech.2019.8843813.	**THE COMPANY'S INTEGRATION** The goal of this research is to determine the impact of supplier, internal, and customer integration on supply chain performance through information sharing at PT.	Could figure out which companies to approach and collaborate with.	It is unable to confirm online and schedule meetings within a certain area.
3.	Q. Yang, Z. Cheng and P. Song, "Research on Online Payment Mode Based On Internet Banking Payment Gateway," 2007 International Conference on Convergence Information Technology (ICCIT 2007), 2007, pp. 2043-2048, doi: 10.1109/ICCIT.2007.122.	**GATEWAYS FOR PAYMENT** There are essential actual meanings to study its business process, security authentication, interface standard, and technical realisation in order to make online payment mode based on Internet Banking Payment Gateway (IBPG) serve the e-business better.	Understand the various methods of online payment and how they function.	If a payment fails, the process of locating and resolving the problem is arduous and time-consuming.
4.	H. A. Abdallah Dafallah, "Design and implementation of an accurate real time GPS tracking system," The Third International Conference on e-Technologies and Networks for Development (ICeND2014), 2014, pp. 183-188, doi: 10.1109/ICeND.2014.6991376.	**TRACKING IN REAL TIME VIA GPS** This paper describes a real-time tracking system that was built and deployed utilising GPS (global positioning system) and GSM (global system for mobile communication) services.	Could track a single person's whereabouts in real time	If the person does not have Internet access or has Network Issues, there is no other option.
5.	E. J. Kim and J. Dae Park, "A study on a new method of sending an E-mail with an attachment using a wireless terminal," 2014 9th International Symposium on Communication Systems, Networks & Digital Sign (CSNDSP), 2014, pp. 23-27, doi:	**SUBMISSION OF REPORTS VIA E-MAIL** This paper describes a method for forwarding email to a wireless communication terminal that includes an attached	Could grasp the basic notion of creating a pdf and delivering it automatically.	If several reports must be given to a single customer, there is no solution.

	10.1109/CSNDSP.2014.6923791.	file. In particular, unwanted channel bandwidth occupation needs to be eliminated in a mobile communication terminal appropriate for wireless communications, such WiBro, with a limitation in channel bandwidth between a base station and the mobile communication terminal.		
6.	K. M. Lu and S. H. A. Hamid, "Conceptual Design of Web-Based Appointment Management System using Object WebML," 2007 First IEEE International Symposium on Information Technologies and Applications in Education, 2007, pp. 354-359, doi: 10.1109/ISITAE.2007.4409303.	**APPOINTMENT MAINTENANCE** WBAMS, a Web-based appointment management system, was created and used to help students and lecturers schedule meetings more effectively.	Could comprehend how to maintain an appointment and how a queue works in a real-world setting.	Priorities cannot be used to confirm an appointment.

5. REFERENCES

[1] Jiuchuan Guo and Shulin Tian, "Cyber–Physical healthcare system with blood test module on broadcast television network for remote cardiovascular disease (CVD) management," IEEE Transactions on Industrial Informatics (Volume: 17, Issue: 5, May 2021) DOI**:** 10.1109/TII.2020.3010280.

[2] Kajal Jewani and Krishna Boddu, "Detection of diseases via blood analysis using image processing techniques," IEEE , DOI**:** 10.1109/ICSCET.2018.8537364

[3] Davide Brinati, Andrea Campagner, and Davide Ferrari "Detection of COVID-19 infection from routine blood exams", PMC doi: 10.1007/s10916-020-01597-4.

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