

Health Care System to Assist Cancer Patients for their Treatment at their Home – Android-Based Application

Yukta Manohar Jadhav

Students, Department of MCA

Late Bhausaheb Hiray S S Trust's Hiray Institute of Computer Application, Mumbai, India

Abstract: *The application is an attempt to help patients to get services from the comfort of their homes by using digital technology in the medical sector. We have a thought to create one treatment-based system, which is a mobile application for patients to get treatment easily due, to the recent advances in science as well as the need for improving the lifestyle of patients. As the use of mobile technology is increasing day by day, we have elected to study a mobile-based application to help cancer patients. Just by registering with the application one can get the Chemotherapy treatment from their home also in order to book an appointment for their nearest hospital and professional health workers will be available there for the treatment and monitoring of the patient's health. This application also provides real-time updates to patients and advises them regarding the actions they need to take without the need to go to a hospital or visit their doctor/physician.*

Keywords: Chemotherapy, android application, Cancer treatment, Support

I. INTRODUCTION

The most often therapy used to treat cancer patients is Chemotherapy since cancer cells grow and multiply much more quickly than most cells in the body. It is a treatment that is given to cancer patients to destroy the growth and dividing of the cancer cells in our body, it is usually used to treat cancer patients. The table shows which chemotherapy are used for various types of cancers:

| Types of Chemotherapy | Cancer may be used to treat |
|---|---|
| Alkylating agents | Multiple myeloma sarcoma Hodgkin's Disease Lung Cancer Breast Cancer Ovarian Cancer |
| Plant Alkaloids: Topoisomerase inhibitors | leukaemia Pancreatic Cancer Ovarian Cancer Gastrointestinal Cancer Lung Cancer |
| Plant Alkaloids: Mitotic Inhibitors | Breast Cancer Lung Cancer Myelomas Lymphoma Leukaemia |
| Anti-Metabolite | Breast Cancer leukaemia Ovarian Cancer Prostate Cancer |
| Anti-Tumour Antibiotics | Lung Cancer Colorectal Cancer Ovarian Cancer Prostate Cancer |
| Corticosteroids | May be used to treating cancer or prevent gastric side effects or allergic reactions from chemotherapy. |

A Side effect of Chemotherapy: Chemotherapy is used to kill quickly growing cancer cells. Body cells in the following areas can get affected by taking the chemotherapy:

- Blood
- Hair
- Skin
- Lining of your intestinal tract

Due to this, the sides effects cause on the body by taking chemotherapy include:

- Easy bruising and excessive bleeding
- Diarrhea
- Dry mouth
- Mouth sores
- Fatigue
- Fever
- Hair loss
- Loss of appetite
- Nausea
- Vomiting
- Weight loss
- Pain from nerve damage
- Infections
- Anemia
- Constipation
- Neuropathy
- Lymphedema
- Memory problems
- Concentration problems
- Skin changes
- Nail changes
- Insomnia
- Sexual changes
- Fertility changes

Long period side effects: There is high risk and more chances to detect the side effects of this treatment These effects could include damage to the:

- Heart
- Kidneys
- Lungs
- Nerves
- Reproductive organs

II. LITERATURE REVIEW

The main target is to treat a maximum number of patients timely and in a proper manner... This research will help the medical field to achieve a new milestone and it will reduce the stress of the health workers as well as the family members of the patient. Nowadays there is a shortage of medicine, blood, and platelets for cancer patients this application will also help to keep the stock up to date and it will help to meet the needs of the patient. The beneficiary part of this research is patients don't have to visit the hospital again and again for the chemotherapy they can have their sessions at their home itself with ease and comfort.

III. OBJECTIVES

Chemotherapy is a cancer treatment where medicine is involved to kill the cancer cell. It helps to cure cancer completely. It can be also combined with other treatments to make them more effective. It helps in reducing the spread of cancer and tumor size. it shrinks your tumor so that it can be easily removed from surgery or radiation therapy. In the final stage of cancer, it helps to reduce pain. It is also helpful for other diseases or other immune system disorders. Thus, chemotherapy is a more effective and optimized solution in-order to treat cancer.

There are times when people find it difficult to book an appointment for the same. Thus, this app helps them with hassle-free on-time treatment. One needs to just register themselves in the application by creating an account. The

patient will be treated and monitored on regular basis by professional doctors and nurses. The application also guides patients with medications under the supervision of a medical professional.

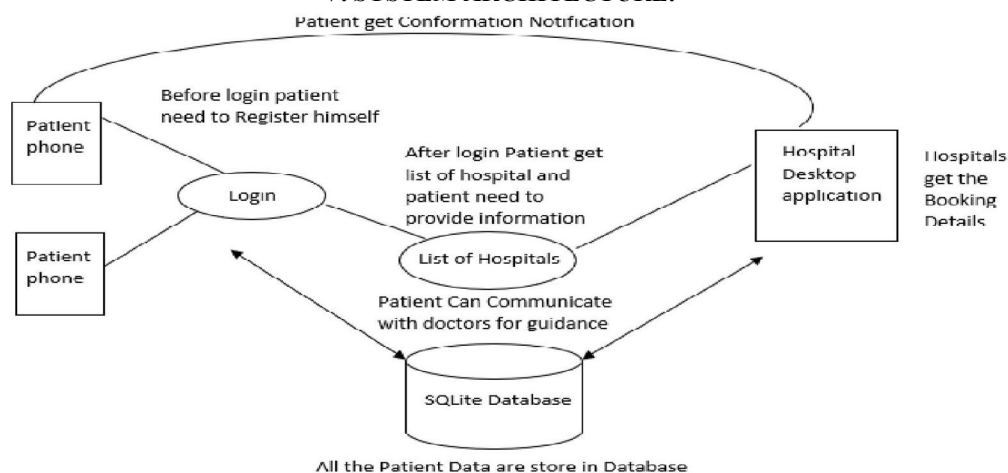
IV. METHODOLOGY

Agile is the methodology used in this project. It includes breaking down the project parts such as requirement, analysis, design, implementation, execution, testing, and maintenance. In Agile methodologies, approaches and methods are used for product development that agrees with the ideas, values, and principles mentioned in the Agile Manifesto for software development and testing.

In software development, Agile methodology is used for the practices which include the process of discovering the end-user requirements and developing their solutions through collaborative efforts of the organization, cross-functional teams, and end-users. This kind of development process breaks the software development work into small, but connected fragments which significantly decreases the amount of initial planning and designing. The iterations range from about one to four weeks.

The daily stand-up is the fundamental used by Agile Software Development. To be precise, the work progress and status is shared with the team members on a regular basis which includes the previous day's progress and the new changes to be made in order to complete the goal.

V. SYSTEM ARCHITECTURE:



VI. RESEARCH AND FINDING

Despite a few inconsistencies, android App development is promising and can be replaced with small to medium-scale business apps, where time, money, and user friendly is an important factor in the development of Android apps were created with the help of Linux and is an open-source software stack. All the features are available on Android OS via APIs written in the Java language.

VII. CONCLUSION

The increase in ICT applications has helped in digitalization. With the increase in digitalization, the research is expanding itself to access more home care. Remote monitoring of symptoms experienced by patients using mobile phones in the medical field is an inexpensive solution to traditional ways of using telemedicine. In covid scenarios, where fewer nurses need to be physically present at the hospitals and the patients do not need to spend much on everyday traveling to have their side effects monitored this will be an optimized solution. It also helps in cost reduction as well as mobile is an everyday necessity for people, it is a more convenient way for monitoring. Literature on the oral chemotherapy context is yet to be discovered. Thus, the existing interventions are highly acceptable and useful to cancer patients, yet more research is required.

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