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# Summary

*for*

# Al-Sha'afi

**Diagnostics and Treatment with Artificial Intelligence and Machine Learning**

**Version 1.0**

"*And whoever saves one - it is as if he had saved mankind entirely.*"

*Al-Quran [5:32]*

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# Abstract

Diseases never come with prior intimation. In real-world scenarios reporting such diseases is a real challenge. We are proposing a new idea to automate this process of disease prediction and effective treatment. Through this app, people will be able to get one more way to properly medical checkup without visiting hospitals. We have developed an expert system named "Al-Shaafi" that provides medical facilities to the patients in the minimum possible time. This system may diagnose the patient. This diagnosis will inform the patients about their disease they are suffering with. This expert system also facilitates the patients in the treatment for the respective illness they are suffering with. In this system, a team of dedicated and expert doctors would be available if a patient needs medical consultancy. Emergency services like Ambulance and Rescue are available 24/7. This expert system also facilitates women in obstetrical and gynaecological treatment. It has been observed that when the patient visits the doctor for the next time, the medical history of the patients is usually overlooked. Al-Shaafi provides the facility to record the patient's history. This expert system virtually connects a patient to the doctor for medical consultancy.

# 1.    Introduction

The system is named "Al-Shaafi" means "The Healer"; and is the Holy name of Allah Almighty. This is an expert system for computerized diagnostics and treatment. This system is the solution for a long queue of patients in almost every hospital and clinic. This is an important issue that should be resolved. We may increase the number of doctors against the number of patients. To increase the number of doctors is not possible in the developing countries due to lack of resources. Health is vital, does not matter what country we are from or what race we are, or what age or gender we are; we all strive for a healthy life. It is crucial for everyone, and it costs more than anything. We are living in an era of the internet and information technology. Diseases never come with prior intimation. In real-world scenarios reporting such diseases is a real challenge. We are proposing a new idea to automate this process of disease prediction and effective treatment. Through this app, people will be able to get one more way to properly medical checkup without visiting hospitals. We have developed an expert system named "Al-Shaafi" that provides medical facilities to the patients in the minimum possible time. This system may diagnose the patient. This diagnosis will inform the patients about their disease they are suffering with. This expert system also facilitates the patients in the treatment for the respective illness they are suffering with. In this system, a team of dedicated and expert doctors would be available if a patient needs medical consultancy. Emergency services like Ambulance and Rescue are available 24/7.  This expert system also facilitates women in obstetrical and gynaecological treatment. It has been observed that when the patient visits the doctor for the next time, the medical history of the patients is usually overlooked. Al-Shaafi provides the facility to record the patient's history. This expert system virtually connects a patient to the doctor for medical consultancy.

## 2.    Related System Analysis

We studied three systems like this and found weaknesses in different eras.

1. **CURRENT Medical Diagnosis and Treatment CMDT 2020** [1]
2. **Medical Laboratory Diagnosis** [2]
3. **Symptomate – Symptom checker** [3]

**Table 1 Related System Analysis with proposed project solution**

| Application Name | Weakness | Proposed Project Solution |
|---|---|---|
| CURRENT Medical Diagnosis and Treatment CMDT | - No Medical Consultancy<br>- No Emergency Helpline<br>- No Obstetrics and Gynaecology<br>- PKR 10,100 | - Medical Consultancy<br>- Emergency Helpline<br>- Obstetrics and Gynaecology<br>- Cheap Solution |
| Medical Laboratory Diagnosis | - No Medical Consultancy<br>- No Emergency Helpline<br>- No Obstetrics and Gynaecology<br>- PKR 390 | - Medical Consultancy<br>- Emergency Helpline<br>- Obstetrics and Gynaecology<br>- Cheap Solution |
| Symptomate – Symptom checker | - No Emergency Helpline<br>- No Obstetrics and Gynaecology<br>- No Laboratory Tests | - Emergency Helpline<br>- Obstetrics and Gynaecology<br>- Laboratory Tests |

## 3.    Conclusion

Patients may diagnose themselves just like a real checkup by a doctor. This diagnosis will inform the patients about their disease they are suffering with. This expert system also facilitates the patients in the treatment for the respective illness they are suffering with. A team of dedicated doctors would be available if a patient needs medical consultancy. Moreover, emergency services like ambulance and rescue would be available 24/7. This expert system also facilitates women in obstetrical and gynaecological treatment. It has been observed that when the patient visits the doctor for the next time, the medical history of the patients is usually overlooked. Al-Shaafi provides the facility to record the patient's history. This expert system virtually connects a patient to the doctor for medical consultancy.

# 4. References

1. **CURRENT Medical Diagnosis and Treatment CMDT 2020**

   (https://play.google.com/store/apps/details?id=com.usatineMediaLLC.cmdt2020)

2. **Medical Laboratory Diagnosis**

   (https://play.google.com/store/apps/details?id=com.toolcoder.medicallaboratorydiagnosis)

3. **Symptomate – Symptom checker**

   (https://play.google.com/store/apps/details?id=com.symptomate.mobile)

4. **Mockups (Adobe XD)**

   (https://xd.adobe.com/view/0072b651-aec0-4404-8a52-24ecec2ae6d3-5521/?fullscreen&hints=on)