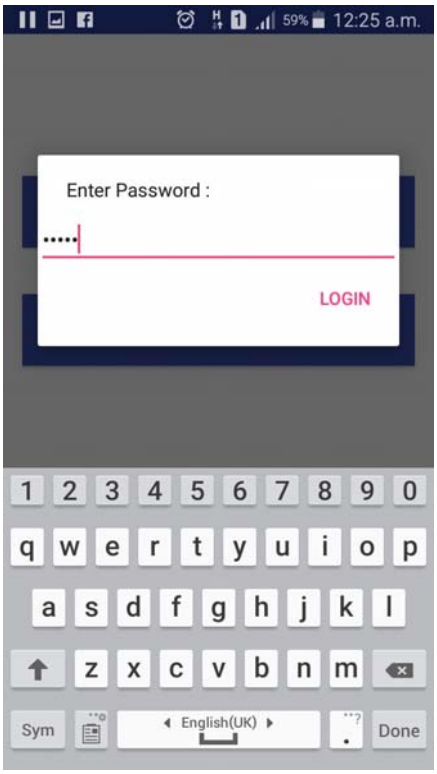

Fig.13: Password entry

The application has an option setup patient's number and doctors.

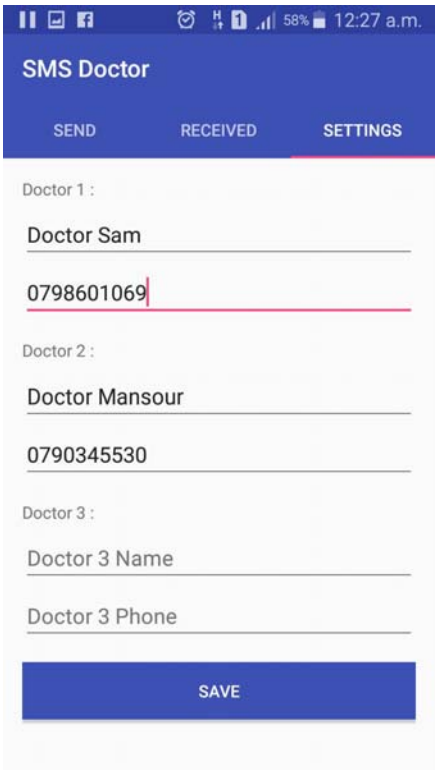

Fig.14: Doctors and patients phone number setup

Fig.15: Patient information

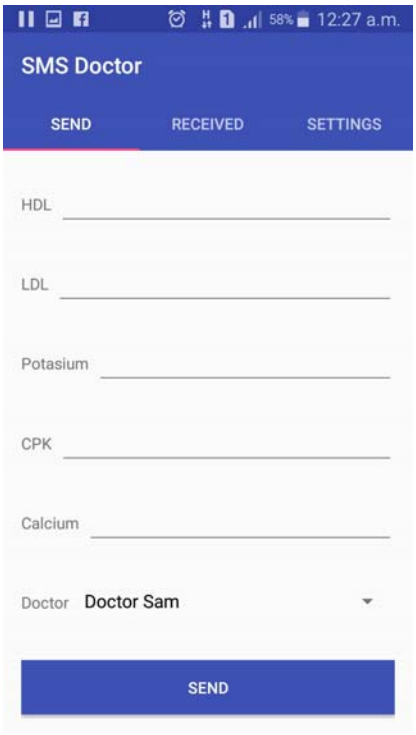

Fig.16: The Laboratory results

The physician can be accessed from personal computer unit or Mobile phone or through Medical Kit. The physician has the ability to analyze patient information and comment on the individual results in the same GUI. The diagnoses of patient case with any taken action will be entered by interacting with GUI and sent back to the

patient and/or his family members. All received data will be stored in Access database.

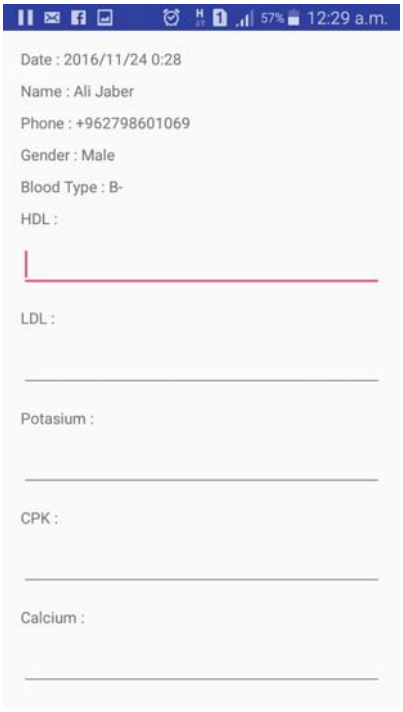

Fig.17: The Implemented GUI System- Doctor Side

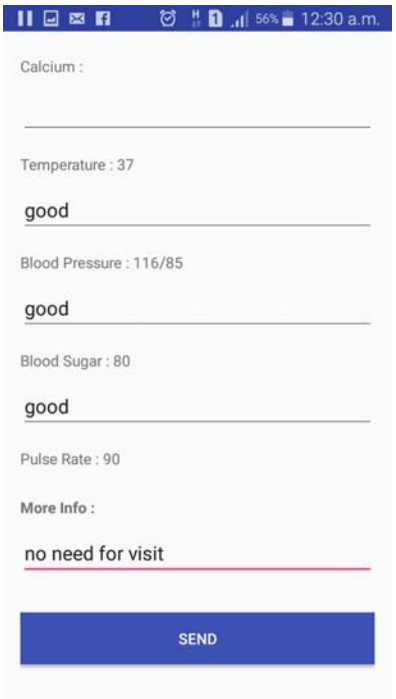

Fig.18: Comments written by doctor to patients

Fig.19: Received information from doctor

5 Conclusion

In this paper, a system is designed and developed to accelerating the delivery process of clinical diagnostic laboratory results using GSM technology. The electronics and software of the prototype were developed using multi-agent. The system has be designed using JADE. We have also preliminarily assessed its detection performance.

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References:

[1] Ayman M. Mansour, "A Multi-Agent Intelligent System for Monitoring Health Conditions of Elderly People", International Journal of Electrical, Robotics, Electronics and Communications Engineering, Vol.8 (6), 2014.

[2] A. Mansour, H. Ying, P. Dews, Y. Ji, J. Yen, R. E. Miller, and R. M. Massanari, "Finding similar patients in a multi-agent environment", Fuzzy Information Processing Society (NAFIPS), 2011 Annual Meeting of the North American, 2011,pp. 1-6.

[3] Ayman Mansour, Hao Ying, Peter Dews, Yanqing Ji, Margo Farber, John Yen, Richard E.

Miller, and R. Michael Massanari, "A Multi-Agent System for Detecting Adverse Drug Reactions," Proceedings of the 29th NAFIPS, Toronto, ON, Canada, July 12-14, 2010.

[4] S. M. Alhashmi, "Design of an Internet-Based Advisory System: A Multi-agent Approach," presented at the Proceedings of the 11th Pacific Rim International Conference on Multi-Agents: Intelligent Agents and Multi-Agent Systems, Hanoi, Vietnam, 2008.

[5] H. Lin, Architectural design of multi-agent systems : technologies and techniques. Hershey: Information Science Reference, 2007.

[6] K. I. Wang, W. H. Abdulla, and Z. Salcic, "A multi-agent system for intelligent environments using JADE," IEE Seminar Digests, vol. 2005, pp. v2-86-v2-86, 2005.

[7] Jacques Ferber, Multi-Agent Systems: Intro. to Distributed System. Addison-Wesley, 1999.

[8] Lawrence Harte, Introduction to GSM: Physical Channels, Logical Channels, Network Functions, and Operation Phoenix Global Support,2008.

[9] Donald J. Longueuil, Wireless Messaging Demystified: SMS, EMS, MMS, IM, and others, McGraw-Hill Professional, 2002.

[10] Arnaud Henry-Labordere, SMS and MMS Interworking in Mobile Networks, Artech House Mobile Communications, 2004.