Health Portal

Problem:

We often see long queues and harsh behaviors at receptions of hospitals. The problem lies when there're few hospitals in public sector with less staff and more patients. One way to resolve this problem is to increase the number of hospitals, or increase hospital staff and arrange more reception counters. But this seems to be less practical solution to a sensible person.

Beside of all other things there's one fact that patients are always in hurry and sometimes they become harsh when they are said to wait for long time in addition to suffering with some disease.

So the thing is that we can't change the nature of human beings. Therefore we have to go some other way around.

Solution:

We propose to establish such a Health Portal (either by provincial or federal government) which takes good care of patients and also facilitates the doctors. The idea is to establish a web portal where we'll maintain data of hospitals and patients resulting in a better environment and better services. On this portal we'll store:

- Data of Hospitals
    - Departments
        - Disease for which treatment is provided
        - Services (e.g. Diabetic Centre, Allergy Treatment Centre, Clinical Psychology, etc…)
    - Doctors
- Data of Patients
    - Medical Profile / Treatment History (e.g. previous diagnoses, advised medications, etc…)
    - Appointment History (e.g. visiting date of some doctor)

- ✓ **Patients** can take appointment through website, SMS or community built mobile applications.
- ✓ **Doctors** will be able to view the appointment details, maintaining and viewing patient's history.
- ✓ **Hospital Administrators** (may be MS or someone else designated to following job) will be able to update the list of departments, doctors and other data related to their hospital.

What's good in our solutions?

While storing appointment details and maintaining patient's history we'll be able to:

- Overcome the rush and harsh environments at hospitals
- Serve patients in better way
- Facilitate doctors by showing all previous history of patient.

This is not the all. By implementing the above said system we'll get some more things for free i.e. a good business intelligence system which might have more importance than our primary goal and results in:

- Deep insight/trend of a disease in specific region
- Age wise trend of disease
- And much more ad-hoc analysis…

Technical Details:

This portal will be SOA (Service Oriented Architecture) based solution. In addition to a webmaster there will be three major entities involved in our system i.e.:

- Hospital Administrator
- Doctor
- Patient

We'll expose web services for all these three entities. These web services will be the only way to communicate with the portal and no back-door channel (neither external nor internal) will be allowed to communicate with portal. By doing so, it will be much easier for us to scale or modify the system in future. Moreover the web services will allow the community to build custom applications to facilitate other community members.

Assumptions:

As we don't have GSM modems available here so we're not going to implement the SMS service. However we'll certainly provide well defined interfaces/contracts of web services which will facilitate the appointment-taking procedure via SMS. As said earlier that web services will be the only way to communicate with HEALTH PORTAL so the services that we'll use for appointment-taking procedure via website will be re-used for same procedure but in different way i.e. SMS.

Moreover, due to time constraint we'll not provide the Business Intelligence (BI) or Data warehouse implementation. However they can be implemented in future, given the sufficient time and resources.

At the last we would like to specify that this is only a prototype but it's scalable to a full-fledge working portal as said in 'Solution' section above.