HPDMS

Health care prediction using data mining system

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Introduction

The healthcare industry is growing rapidly. The healthcare **expenditures** are also increasing very high. Various healthcare organizations worldwide such as world health organization (WHO) are trying to provide quality healthcare treatments at **cheaper costs**. The healthcare organizations are adopting **new technologies**, which will help in **early detection** of life threatening diseases and lowering the **medical costs**. The aims of the proposed tool are:

- Segmenting patients into groups
- Identifying the frequent patients and their recurring health problems
- Curbing the treatment costs
- Predicting medical diagnosis
- Medical research
- Minimizing time to wait for medical treatment
- Minimizing the delay time in providing medical treatments

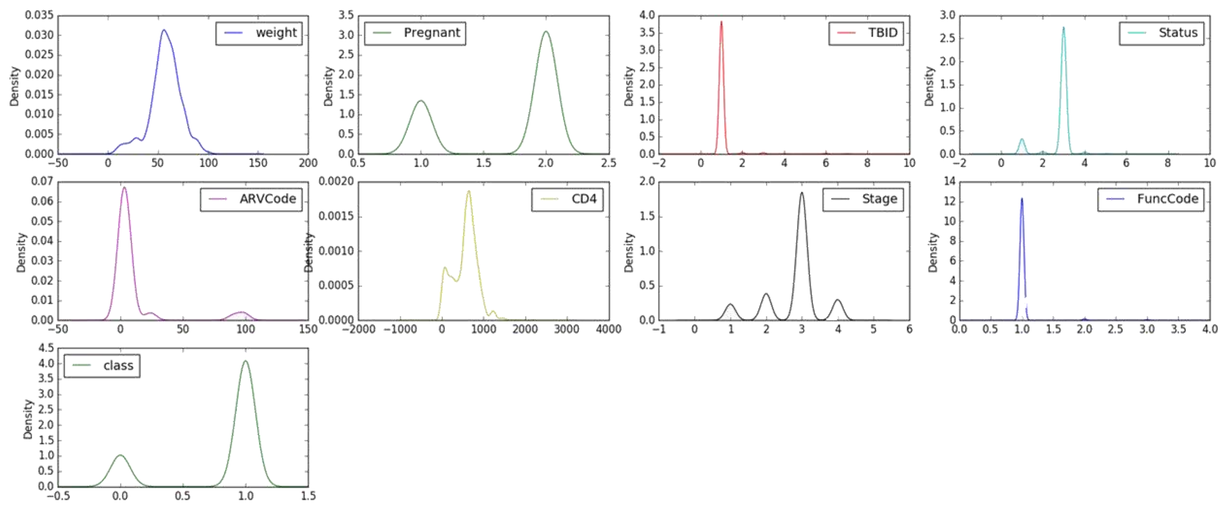
Objective

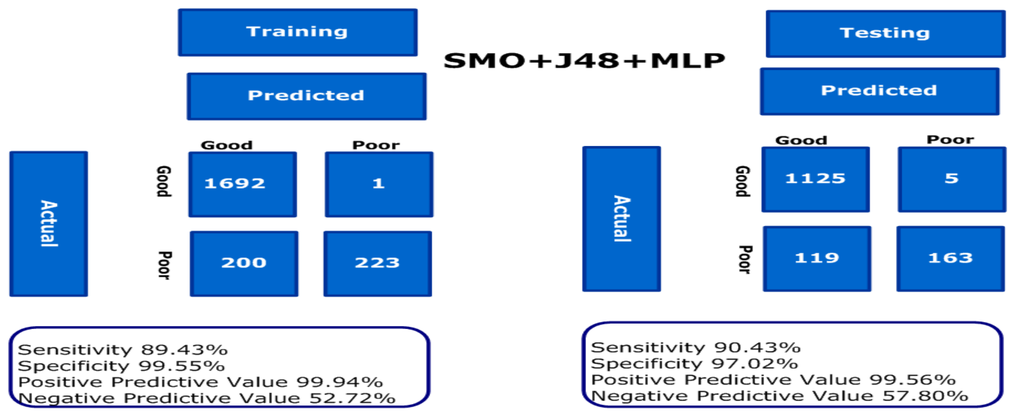
To propose data mining tool for Diagnosis, prediction of treatments and drug suggestions for patients suffering from different diseases. The tool allows users to get instant **guidance** on their health issues through an **intelligent** health care system online. The tool is fed with various symptoms and the disease/illness associated with those symptoms. Also, the tool allows user to share their **symptoms** and issues, then processes user's symptoms to check for various illness that could be associated with it. The tool use some **intelligent data mining techniques** to guess the most accurate illness that could be associated with patient's symptoms.

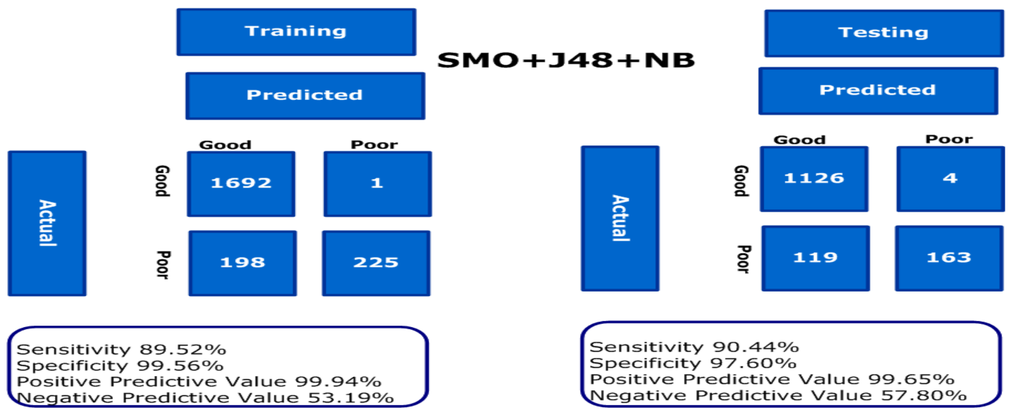
Data Collection

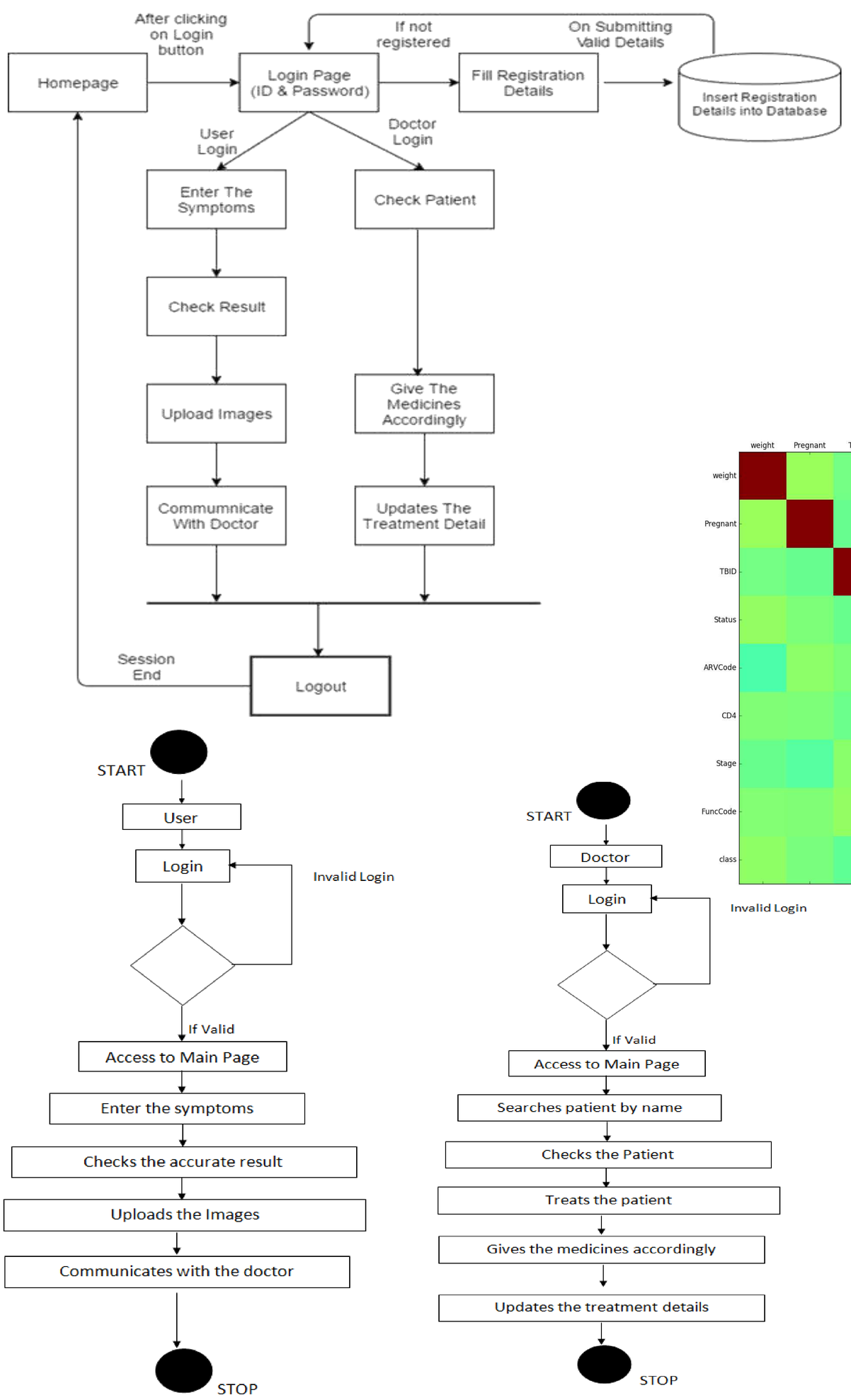
Datasets from **CTC** HIV database with 9 attributes and 3527instances/samples was constructed from the initial raw data basically from the **Bombo Hospital** CTC database. The dataset includes 9 selected attributes, namely: weight, nowpregnant, TBScreeningID, ARVStatusCode, ARVCode, CD4, WHOStage, FunctionalStatusCode and ARVAdherenceCode. The tool takes data in arff format in a single table, before that the prepared data in excel format is changed to **CSV** format. The dataset was selected for further examination and testing of the performance of different classifier algorithms to predict whether an individual being treated with HIV is classified to have a health status that is either **good** or **poor.**

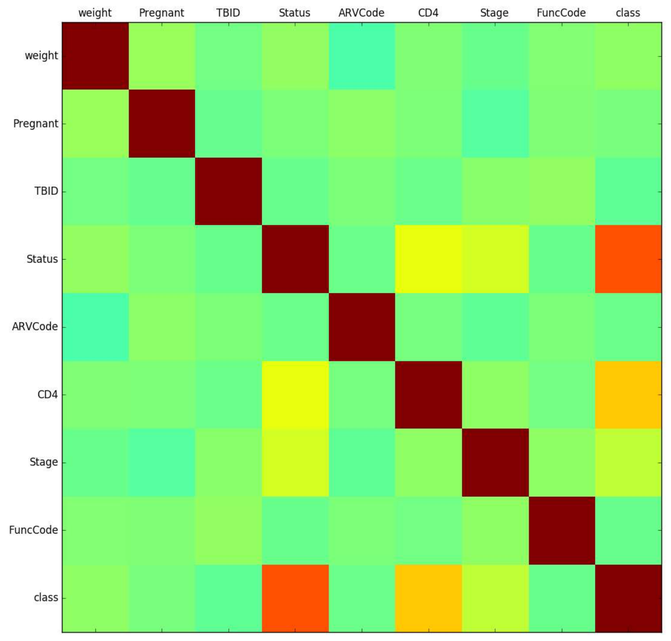
Results

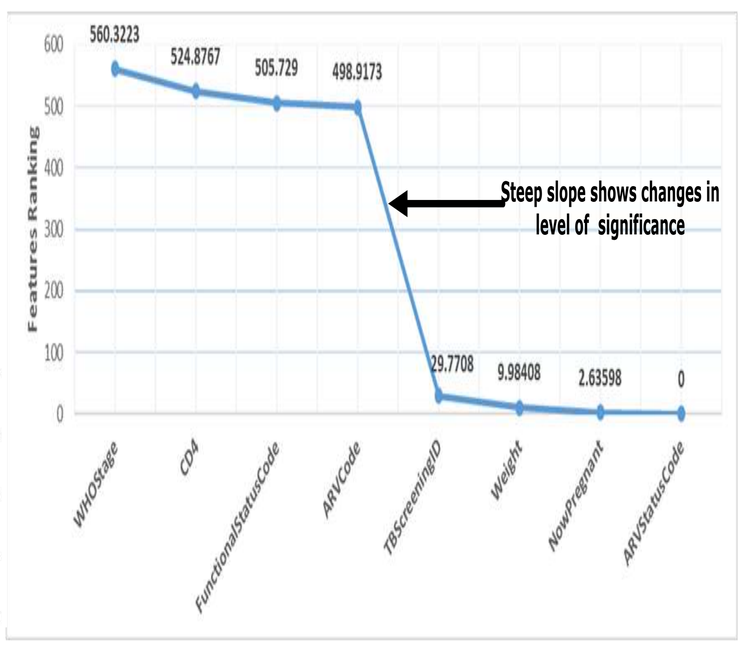












Conclusion

Disease detection and its treatment methods is a major area of concern that needs much attention these days. The proposed tool supports the fact that **machine learning** can be of big help when it comes to medical diagnosis and prognosis. The presented tool can assist physicians either **new or experienced** in **medical diagnosis and prognosis** at initial stages of the diseases. The main issue here is to save time, reduce healthcare costs, quality healthcare delivery and reduce **mortality and morbidity rate**, which is very crucial in life threatening diseases. Therefore, the developed tool can help physicians make more accurate diagnosis as well as get answers they often seek from individual patients. As diseases are diagnosed, the predictive tool helps medical doctors in decision-making about what disease case it is and suggests possible treatment strategies within a much- reduced time.