**PROJECT BASED ASSIGNMENT ASSESMENT**

**BACHELOR OF TECHNOLOGY**

**COMPUTER SCIENCE AND ENGINEERING**

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# Abstract-

In today's digital world, healthcare is one of the core areas in the medical domain. A healthcare system is required to analyze a large amount of patient data, which helps to derive insights and predictions of disease. This system should be intelligent and able to predict the patient's health condition by analyzing the patient's lifestyle, physical health records, and social activities. The health recommendation system (HRS) is becoming an important platform for healthcare services. In this context, health intelligent systems have become indispensable tools in decision-making processes in the healthcare sector. The main objective is to ensure the availability of valuable information at the right time by ensuring information quality, trustworthiness, authentication, and privacy. As people use social networks to learn about their health condition, so the HRS is very important to derive outcomes such as recommending diagnosis, health insurance, clinical pathway-based treatment methods, and alternative medicines based on the patient's health profile.

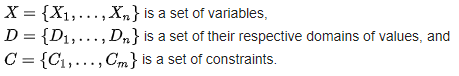
**Introduction**

Recommender systems usually make use of either or both collaborative filtering and content-based filtering (also known as the personality-based approach), as well as other systems such as knowledge-based systems. Collaborative filtering approaches build a model from a user's past behavior (items previously purchased or selected and/or numerical ratings given to those items) as well as similar decisions made by other users. This model is then used to predict items (or ratings for items) that the user may have an interest in. Content-based filtering approaches utilize a series of discrete, pre-tagged characteristics of an item in order to recommend additional items with similar properties. Current recommender systems typically combine one or more approaches into a hybrid system.

Medical information available for patient-oriented decision making has increased drastically but is often scattered across different sites . As a solution, personal health record systems (PHRS) are meant to centralize an individual's health data and to allow access for the owner as well as for authorized health professionals .

**Literature Review:**

The literature review has covered a number of selected papers that have focused specifically on constraint satisfaction problem. Constraint satisfaction problems (CSPs) are mathematical questions defined as a set of objects whose state must satisfy a number of constraints or limitations. CSPs represent the entities in a problem as a homogeneous collection of finite constraints over variables, which is solved by constraint satisfaction methods. CSPs are the subject of intense research in both artificial intelligence and operations research, since the regularity in their formulation provides a common basis to analyze and solve problems of many seemingly unrelated families. CSPs often exhibit high complexity, requiring a combination of heuristics and combinatorial search methods to be solved in a reasonable time. Formally, a constraint satisfaction problem is defined as a triple, where



The literature review has also covered pandas. It is the most popular python library that is used for data analysis. It provides highly optimized performance with back-end source code is purely written in C or Python. We can analyze data in pandas with:

1)Series

2)Data Frames

**Proposed Methodology:**

So, the proposed methodology to solve the health recommended system are:

1)**CSP**->A constraint satisfaction problem (CSP) consists of a set of variables, domain for each variable, and a set of constraints. The aim is to choose a value for each variable so that the resulting possible world satisfies the constraints; we want a model of the constraints.

A finite CSP has a finite set of variables and a finite domain for each variable. Many of the methods considered in this chapter only work for finite CSPs, although some are designed for infinite, even continuous, domains.

2)**Pandas**: Pandas is a high-level data manipulation tool developed by Wes McKinney. It is built on the NumPy package and its key data structure is called the Data Frame. Data Frames allow you to store and manipulate tabular data in rows of observations and columns of variables.

**WORK-FLOW:**

**User input**

**Enter symptom number**



**Do you want to continue?**



**Print Symptoms**

**Print the disease you are suffering from**

**Result and Discussion:**

**Conclusion:**

This project aims to predict the disease on the basis of the symptoms. The project is designed in such a way that the system takes symptoms from the user as input and produces output i.e. predict disease. Disease Predictor was successfully implemented using csp and pandas.

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