

École Nationale Supérieure d’Informatique et d’Analyse des Systèmes – RABAT

IMPLEMENTATION OF A HYBRID RECOMMENDATION SYSTEM FOR HEALTH APPLICATIONS USING NLP

**Performed by :**

EL OUARTI Mouad  
FIALI Mouad

**Supervised by :**

SABIRI BIHI

**Année scolaire :** 2022/2023

General context of the project

# Project brief

The project aims to develop a hybrid recommendation system for health applications that utilizes Natural Language Processing (NLP) to analyze user data, including search history, behavior, preferences, and doctor notes, in order to generate personalized recommendations and predict diseases based on doctor notes analysis. The system will utilize NLP algorithms to process user data and provide tailored recommendations for fitness, nutrition, and medication tracking. Additionally, the system will use doctor notes to predict diseases based on the analysis of medical information. By combining these different data sources, the system can provide personalized recommendations for each user's unique needs and health profile.

The project will be completed in 1.5 months and include research on existing systems, data collection and analysis, implementation of NLP algorithms, development of a user interface, and testing and evaluation.

# Project objectives and success criteria

## Objectives

* To design and develop a hybrid recommendation system for health applications that combines collaborative filtering and content-based filtering.
* To implement natural language processing (NLP) techniques to analyze textual data from health applications and extract relevant features for the recommendation system.
* To evaluate the performance of the recommendation system in terms of accuracy, precision, recall, and F1-score.
* To improve the recommendation system's performance by incorporating user feedback and updating the recommendation algorithm.
* To demonstrate the effectiveness of the recommendation system in improving user engagement and satisfaction with health applications.

## Success criteria

* The recommendation system should have a high accuracy rate of at least 80%.
* The recommendation system should provide relevant recommendations to users based on their preferences and needs.
* The recommendation system should be able to handle a large amount of data from health applications and provide real-time recommendations.
* The recommendation system should be easy to use and understand for users, with clear explanations for the recommendations provided.
* The recommendation system should improve user engagement and satisfaction with health applications, as demonstrated by user feedback and usage statistics.