**Project Report**

**1. INTRODUCTION**

**1.1 Overview**

The aim is to create a Recommender System that recommends only relevant events to each employee and intern based on their preferences, whenever the company receives invites for said events. The system should read new events and autonomously classify them into various domains. It should then match the event with all of those in the company database who have given said domains as a preference. Finally, for each event, the system should output the list of people whose preferences match with the event’s detected domain.

**1.2 Objective**

1. To read a set of events as input.
2. To classify each event into one or more domains.
3. To fetch the employee database with domain and event preferences.
4. To match each event with all interested employees.
5. To output the list of matching employees per event.

**1.3 Constraints**

1. The system is to be created in Python 3.6 or above.
2. The events and employee list to be read shall be provided as a [txt] with 1 element per line.
3. You are allowed to use any ML approach, publicly available resources, and additional training data, but the final output should be on the provided list.
4. The output shall be in the form of a spreadsheet having a column for event name and another for the names of people to recommend said event to.
5. The output spreadsheet should be auto-generated by the system you create

**1.4 Points for the output**

1. The system should handle I/O only as mentioned in order to be evaluated correctly.
2. Submission of the complete working code of the designed system to be done.
3. Report:

o Methodology of the overall system.

o Tools & libraries used for the system.

o ML approach utilized.

o Recommended future improvements.

**2. SCOPE**

**2.1 Within scope**

Apply to events which are in their domain

**2.2 Outside Scope**

cannot apply to events using this application.

**3 PROJECT RISKS, CONSTRAINTS, ASSUMPTIONS**

**3.1 Risks**

Technical risk:Unmet requirements-forgetting to include a single requirement can cost us time & budget overhead, or worse, poor website quality.

Resource risk:Uncertainty in resource availability: Interns might go on leave on commencement of university exams. Due to the COVID-19 outbreak, the exact examination dates are not available.On team changeover, new members need to get trained and it's time-consuming.

**3.2 Constraints**

Very stringent time for the completion of the project.

**3.3 Assumptions**

Will help the employees to get to know about the events they are interested in.

**4 REQUIREMENTS**

**4.1 Software Requirements**

Operating System: Windows.

Internet Browser: Chrome, Mozilla Firefox, Internet Explorer.

**4.2 Hardware Requirements**

RAM: 512 MB or more.

Processor: Pentium – IV onwards.

**5 FUNCTIONAL REQUIREMENTS**

The system should be able to take into consideration the preferences of the employees and interns for events. Taking these, it must predict or provide appropriate recommendations. The recommendations would help them attend events based on their interests and ensure they don't miss out on any.

**6 NON FUNCTIONAL REQUIREMENTS**

1. Usability
2. Legal or Regulatory Requirements
3. Reliability
4. Performance

**7 TECHNOLOGY USED**

Substring matching

Numpy: It is a general-purpose array-processing package. It provides a high-performance multidimensional array object, and tools for working with these arrays.

Pandas: It is the most popular python library that is used for data analysis. It provides highly optimized performance with back-end source code.

**8 FEASIBILITY STUDY**

A feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Information such as resource availability, cost estimation for software development, benefits of the software to the organization after it is developed and cost to be incurred on its maintenance are considered during the feasibility study. The objective of the feasibility study is to establish the reasons for developing the software that is acceptable to users, adaptable to change and conformable to established standards.

**9. RESULT**

Thus the model is able to recommend the employees for a particular event successfully.

**10. CONCLUSION**

Thus , the project is successfully completed .Based on the preferences employee will get recommended for certain event.