Project Proposal Submission Format (Recommender Systems)

1. **Team ID**: E404

2. **Team Size**: 2

3. **Roll Number(s) and Name(s):**

   Se22ucse141-KORUKANTI HARPITH RAO

   Se22uari086- MADALA VENKATA BHARGAV

4. **Base Papers**

   Give title: Multi-modal Recommendation based on Knowledge Graph
   Authors: Xi Chen, Yuehai Wang, Jianyi Yang
   Place of Publication: 9th International Conference on Computer and Communications
   Year: 2023
   Link: https://ieeexplore.ieee.org/document/10507494

   Give title: Enhancing Dyadic Relations with Homogeneous Graphs for Multimodal Recommendation
   Authors: Hongyu Zhou, Xin Zhou, Lingzi Zhang, Zhiqi Shen
   Place of Publication: 16th ACM International Conference on Web Search and Data Mining (WSDM)
   Year: 2023
   Link: https://arxiv.org/abs/2301.12097

   Give title: MONET: Modality-Embracing Graph Convolutional Network and Target-Aware Attention for Multimedia Recommendation
   Authors: Yungi Kim, Taeri Kim, Won-Yong Shin, Sang-Wook Kim
   Place of Publication: 45th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)
   Year: 2023
   Link: https://arxiv.org/abs/2312.09511

5. **Major area:** Multimodal with Graph-based Approaches

6. **Proposal** –

Our project aims to perform a **comparative analysis** of three **multimodal recommender system** methods: **DRAGON**, **MONET**, and the **Knowledge Graph-based Recommendation** model. These methods use different approaches to handle multimodal data (e.g., text, images, user interactions) and improve recommendation accuracy.

Method	Graph Type	Key Strengths
DRAGON	**Homogeneous Graphs** (User-User & Item-Item)	Captures high-order relations in recommendations
MONET	**Heterogeneous Graph** (User-Item**)**	Stronger integration of multimodal data & attention mechanism
Multi-modal Knowledge Graph-based	**Knowledge Graph**	Leverages structured knowledge for better reasoning

Our Suggestion: