# Meeting Notes

26 August 2024

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| Useful Links: | |
| * [**Trello**](https://trello.com/b/5JG6Hmrf/milestones-tasks): Trello board for project management (Milestone & Timeline). * [**GitHub**](https://github.com/tonyctyy/content-recommendation): This is the main GitHub repository of the project. We store all our information (e.g. logs of different research) here. Please check it regularly. * [**Perplexity**](https://www.perplexity.ai/collections/Content-Recommendation-FYP-r8AxwOpsSAyDXFh7Np00lg): Perplexity is used for research purposes, and we have a group chat. We can ask questions here. * [**Introduction to Content Recommendation Systems**](https://slogix.in/phd-research-topics-in-recommender-systems-based-on-deep-learning/): This website provides a brief intro to different content recommendation techniques, potential research directions, etc. We can kick off the project here. * [**Dataset for Content Recommendation System (GitHub)**](https://github.com/RUCAIBox/RecSysDatasets): This GitHub repo contains many different datasets for content recommendation systems. We can choose our dataset here.   # We can also find the datasets from [Kaggle](https://www.kaggle.com/datasets) or [Hugging Face](https://huggingface.co/datasets). | |
| Agenda | |
| * Introduce the tools/common sites of the project   1. [**Trello**](https://trello.com/b/5JG6Hmrf/milestones-tasks): for Project Management   2. [**GitHub**](https://github.com/tonyctyy/content-recommendation): repository structure and related study materials * Project Summary for the Project Plan   1. What is the problem?   2. How do you hope to solve it?   3. What result do you expect to achieve? (A time schedule should also be provided)   4. What is important about your expected result? * How to study the potential dataset   1. Define what we are looking for about the dataset.   2. The code we can use to evaluate the dataset. * Define the timeline and the tasks distribution | |
| Detail Information | |
| Project Summary  1. What is the problem?  - How to build a practical and effective content recommendation (CR) system? 2. How do you hope to solve it?    1. Study different CR techniques/models.    2. Research on some common issues/problem about the CR system and what are the industrial approaches to solve them.    3. Apply these techniques/models to build an interactive CR system.    4. Evaluate the performance of the CR system by users-feedback and simulation result.    5. Review and adjust the techniques/models including the parameters, structure, etc. 3. What result do you expect to achieve? (A time schedule should also be provided)    1. Interactive CR System - **Backend**: process the request (query) and apply different models. - **Frontend**: store cookies and allow users to interact with the UI.   # Try to include extra features to improve the CR system (e.g. sentiment analysis, LLM extraction, etc)   * 1. Research Paper - **Existing Techniques/Models**: the popular industrial approaches of CR techniques and models that are studied/applied in this project. - **Common Issues/Problems**: the general issues that are found in this paper and our approaches to solve the issues/why we can’t solve it. - **Performance Evaluation**: the UAT result in each stage and compare the performance (i.e. precision and recall of retrieval) to show the improvements. - **Limitations and Future Research Direction**  1. What is important about your expected result?    1. Can the CR System return relevant search results based on the keywords and user feedback?    2. The performance and the diversity of the CR techniques/models applied:       1. Basic CR Models (60%), e.g. Matrix Completion, Collaborative Filtering       2. More Machine Learning Skills (30%), e.g. Embedding       3. Other Extra Techniques (10%), e.g. LLM    3. The delivery of the whole project and the performance of the CR System in each stage       1. Data Pre-Processing:  (1) identify the key features and the insights of the dataset.  (2) clean, standardize, embed the data.       2. CR System:  Retrieval => Pre-Ranking => Ranking => Re-Ranking       3. Functionality and the UIUX of the Interactive CR System | |
| Action Items | |
| **Item** | **Owner** |
| Project Proposal (will further separate the tasks)    1. Define the objective of the project based on the discussion.    2. Define the deliverables (research paper, system implementation, etc.).    3. Finalize the dataset and document the insights and preprocessing steps. |  |
| Project Plan (will further separate the tasks)    1. Define the timeline with specific dates for major milestones.    2. Break down the project into tasks and subtasks.    3. Define the milestones and checkpoints for progress tracking.    4. Assign roles and responsibilities to team members (if applicable).    5. Identify potential risks and mitigation strategies. |  |
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| Next Meeting | |
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