

GROUP 9

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Project Overview

This project aims to develop a **personalised monster character advertising generation and recommendation system** tailored for creative users. By combining user preferences with generative AI technology, the system automatically converts abstract interests into concrete visual imagery and facilitates their dissemination. The system can analyse users' interests and preferences (such as favourite movie or game genres, preferred monster styles, and visual style preferences), as well as keyword extraction and multimodal feature mapping, to convert these subjective preferences into AI-recognisable semantic vectors. These vectors are then used to generate ad content with stylistic variations, enabling precise personalised recommendations.

This system is not only applicable for the customised generation of advertising content but also serves as a creative assistance tool for monster character enthusiasts, illustrators, and concept designers. It supports the generation of unique monster images and stylised visual materials, inspiring users' creative inspiration and participation enthusiasm. The monster characters generated by the system feature high recognisability and unique styles, making them widely applicable in advertising dissemination, entertainment interaction, and other scenarios, thereby enhancing the appeal and immersion of advertisements.

Related work

Identify User Needs

Collect ten **users'** data

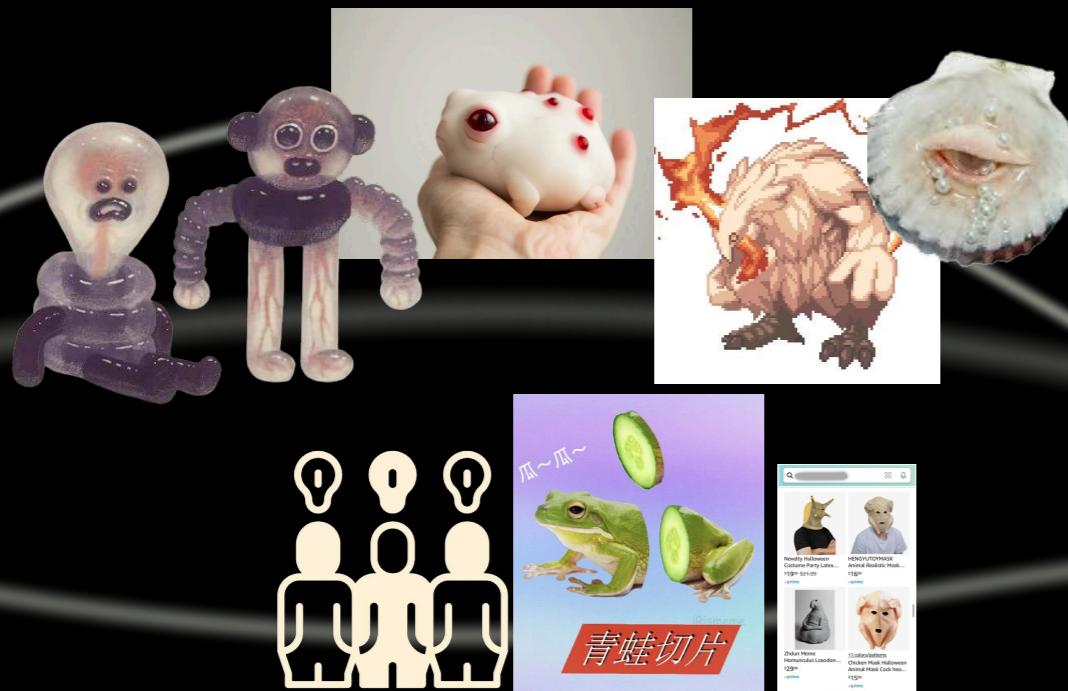


Focusing on users' favorite **characters and colors**

Collect a large number of monster pictures



Classify them into ten categories according to their **styles**, preset their **style names and keyword descriptions**.



Concept & System Design

10 personalisation seeds



10 input seeds

10x10 seeds



Rapid Prototyping

Build code prototype:

Generate **prompt** and favorite **rep images** from user data;

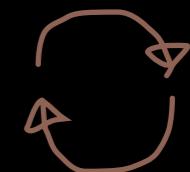
Overlay inputseeds to generate **AI monster images and descriptions**;

+
Make card prototype:

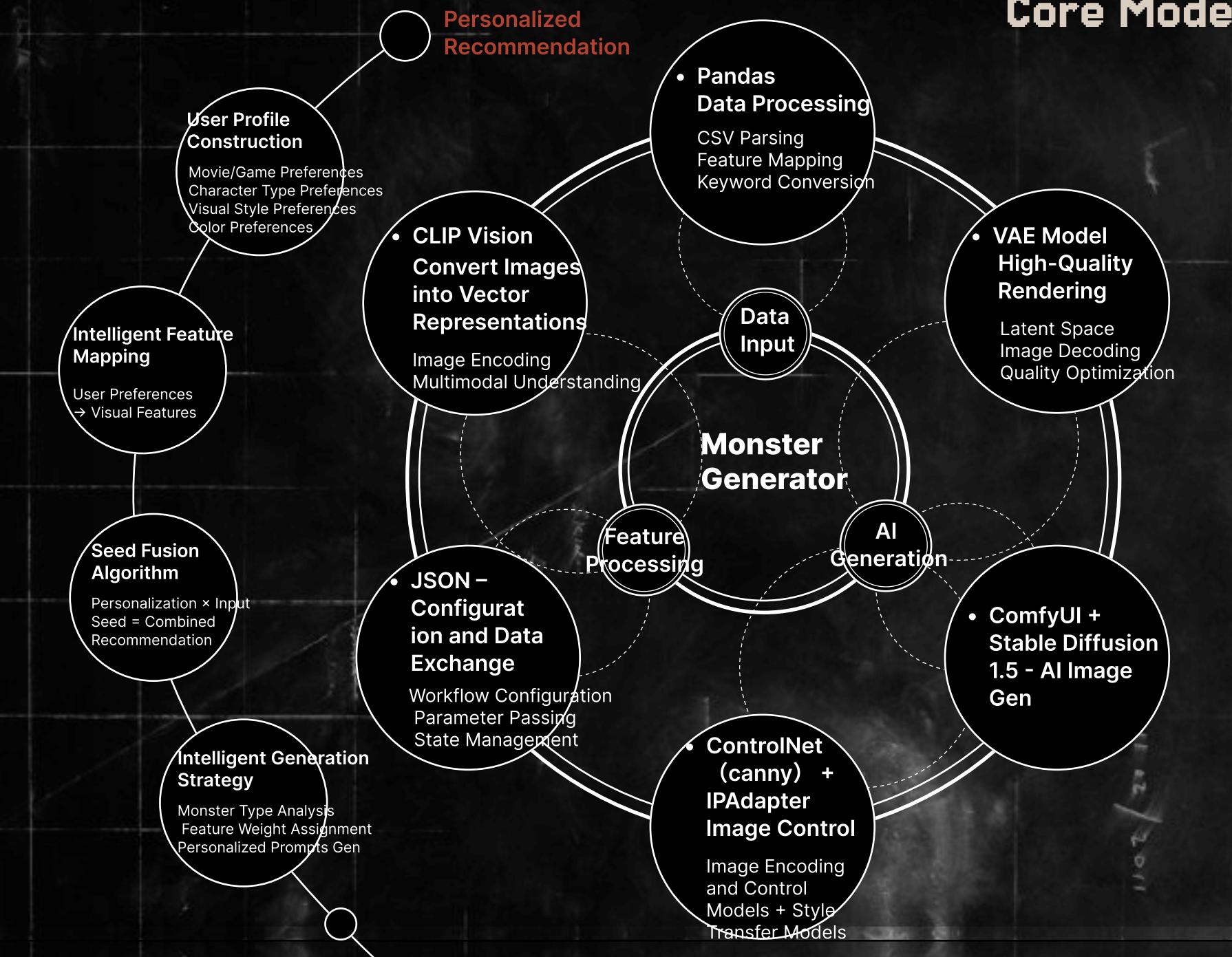
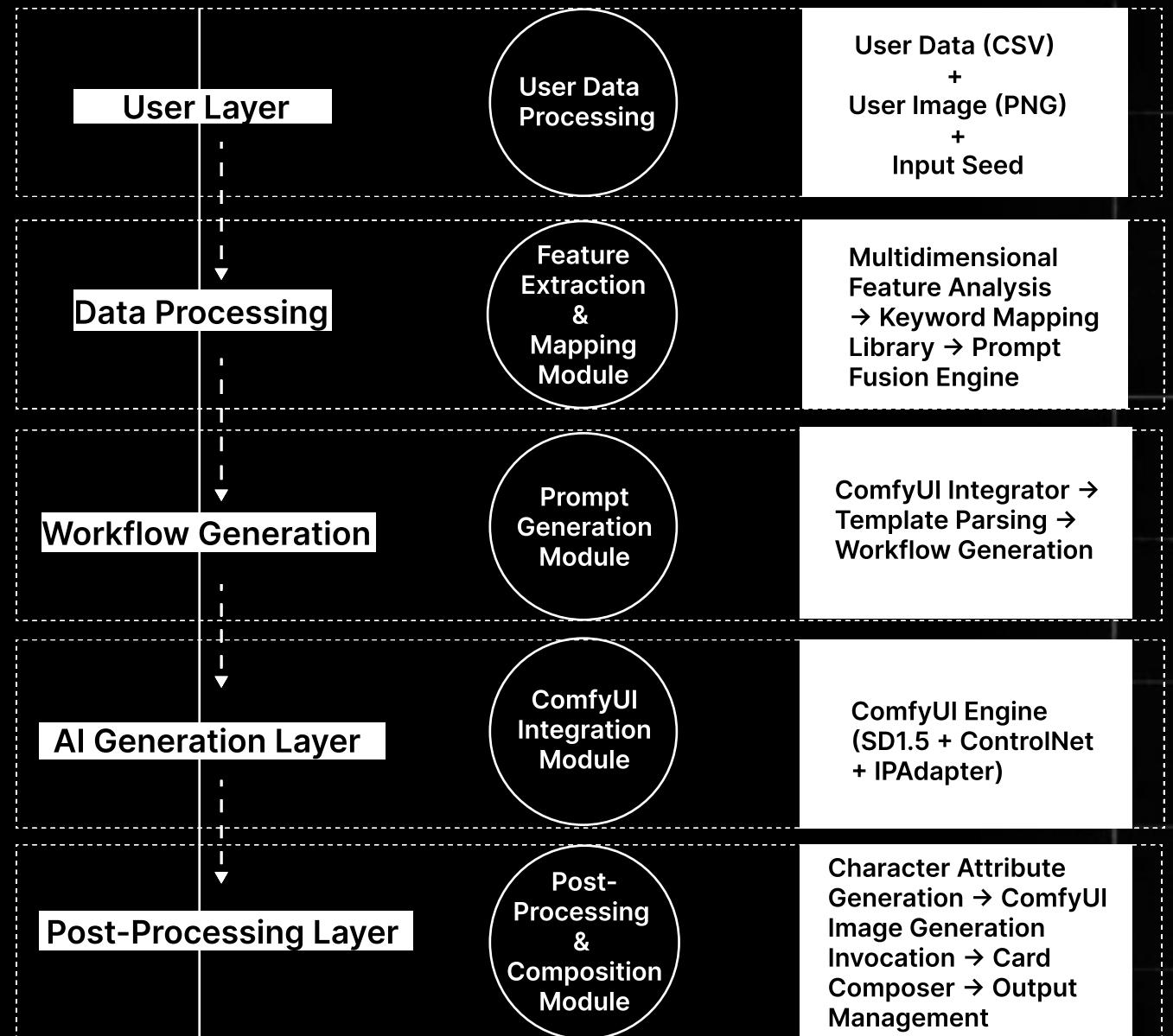


User Testing & Refinement

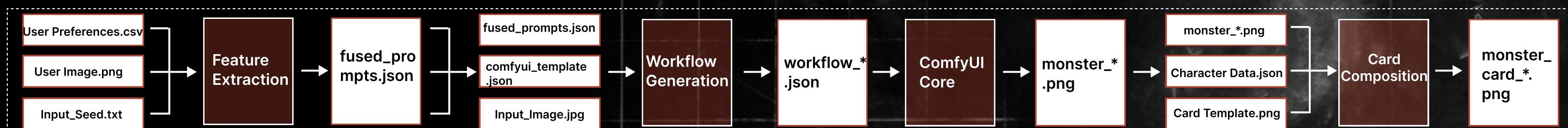
Test the diversity and stability of the generated results under different styles of images and prompt descriptions.



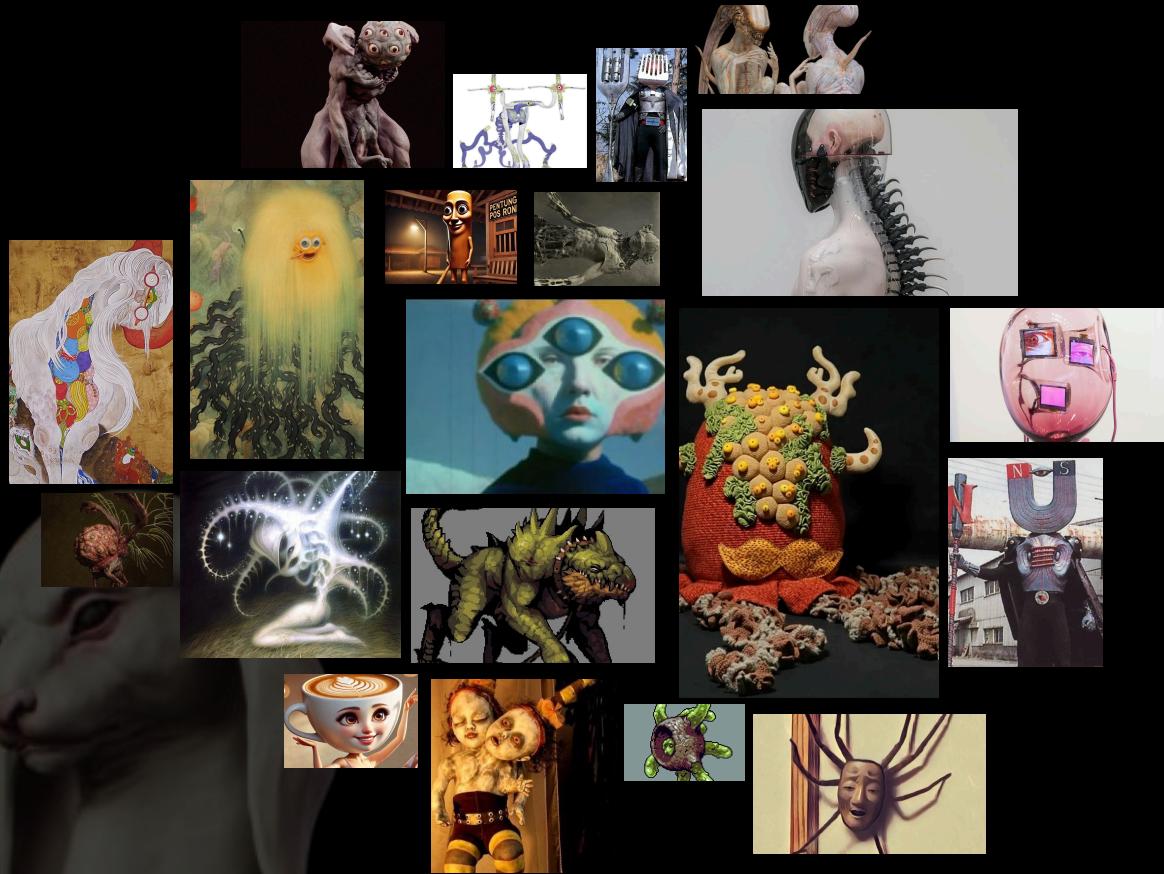
Overall Technical Architecture



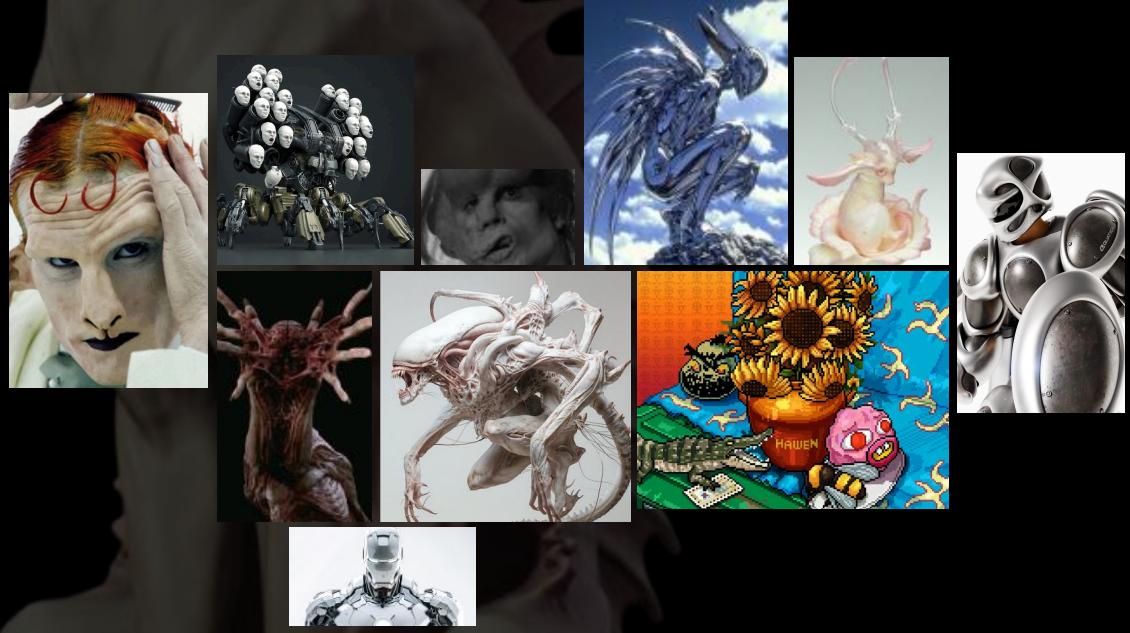
Data Flow Diagram



Input seeds



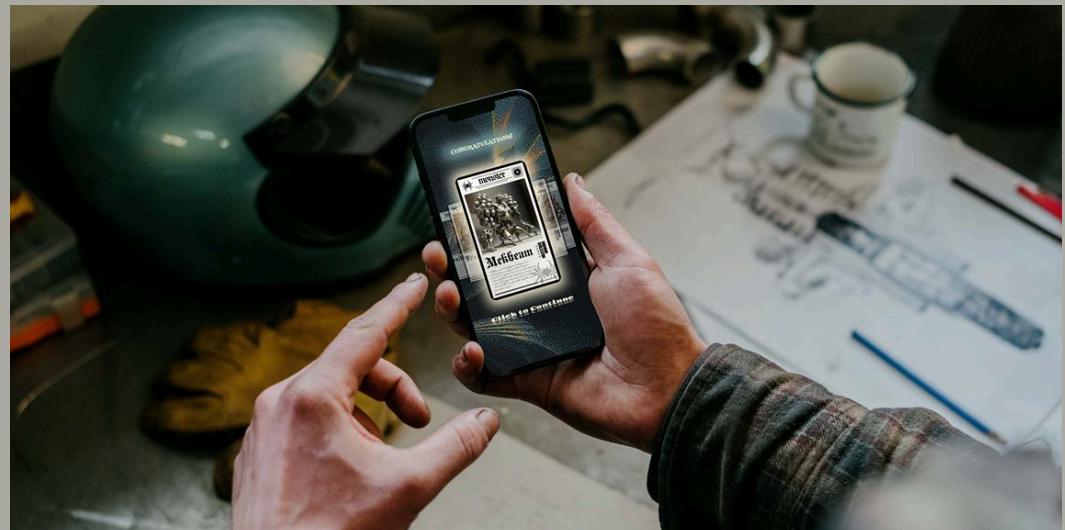
Personization seeds



Generate result



Mock-up



Legal Considerations

User Data Compliance

Issue

This project analyzes users' visual preferences based on social media data, which involves the processing of personal data.

Mitigation

No user identity information (such as usernames or real names) will be collected, stored, or linked. If social media platform APIs are used, their developer policies and privacy regulations will be strictly followed. The project will comply with GDPR (EU) and UK GDPR (UK), emphasizing that user profiling is conducted through anonymous analysis.

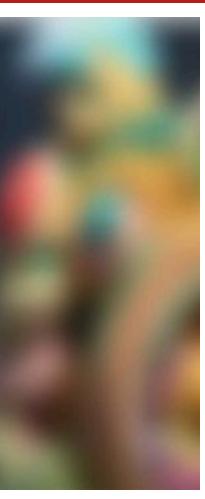
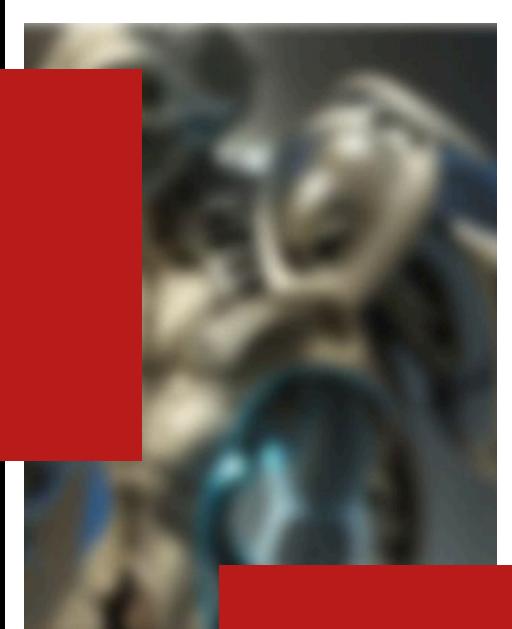
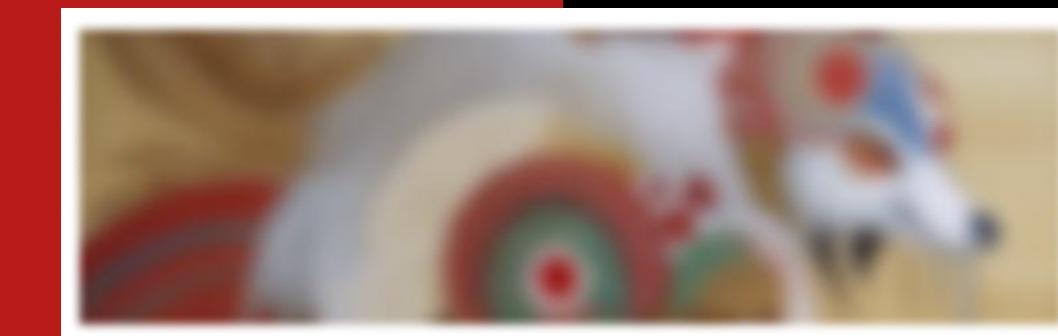


Image Generation Copyright

The copyright ownership of AI-generated images remains uncertain, especially when training data may involve third-party works.

The models used are based on publicly available datasets or commercially permitted models (e.g., under the non-commercial licenses of Stable Diffusion or Midjourney). The generated images are strictly for research and demonstration purposes, not for commercial use. If the project is commercialized in the future, the legality of the training data will be reassessed or licensed models will be used.



Risks & Guardrails



Potential Risk	Mitigation / Safeguard Measures
Leakage of user data	No original social media data is stored; user identities are fully anonymized.
Copyright concerns over generated images	Only publicly available models and datasets are used; project limited to non-commercial use.
Offensive or culturally inappropriate visuals	Generated monsters follow neutral and diverse aesthetic rules; filters prevent inappropriate content.
Misuse of the generation model	Only final images are exposed to users; model pipeline is not publicly accessible.
Psychological or behavioral manipulation	Visual style preference is used solely for aesthetic personalization; no behavior prediction involved.

References

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- [2] Liu, F., 2025. ICAS: IP Adapter and ControlNet-based Attention Structure for Multi-Subject Style Transfer Optimization. arXiv preprint arXiv:2504.13224.
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- [4] Long, L.I.N.G., Xinyi, C.H.E.N., Ruoyu, W.E.N., Toby Jia-Jun, L.I. and Ray, L.C., 2024. Sketchar: Supporting character design and illustration prototyping using generative AI. Proceedings of the ACM on Human-Computer Interaction, 8(CHI PLAY), p.337. (<https://scholars.cityu.edu.hk/files/264889706/230791216.pdf>)
- [5] Kang, Y., Lin, H., Yang, M. and Lee, S.J., 2024, July. UMAIR-FPS: User-aware Multi-modal Animation Illustration Recommendation Fusion with Painting Style. In International Conference on Database Systems for Advanced Applications (pp. 483-494). Singapore: Springer Nature Singapore. (https://link.springer.com/chapter/10.1007/978-981-97-5555-4_34)
- [6] Wu, Z., Chen, Z., Zhu, D., Mousas, C. and Kao, D., 2025. A Systematic Review of Generative AI on Game Character Creation: Applications, Challenges, and Future Trends. IEEE Transactions on Games. (<https://ieeexplore.ieee.org/abstract/document/10979443>)

Thank you !