Glow Genie
AI for Personalized Skincare Solutions

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Supervisor
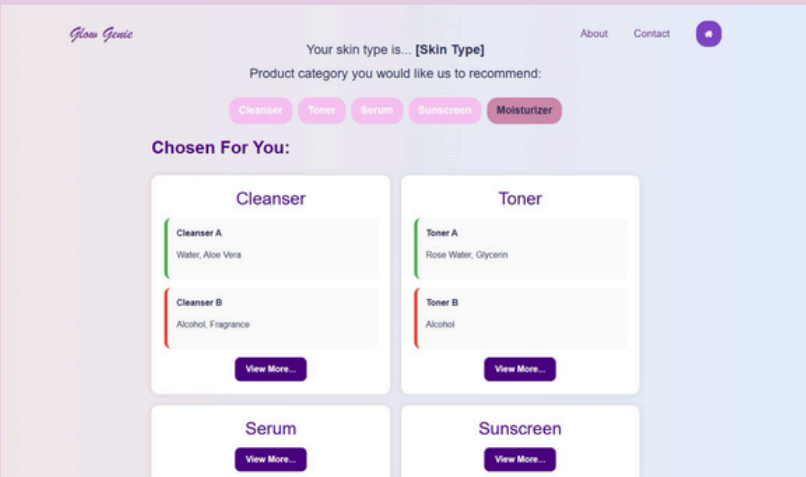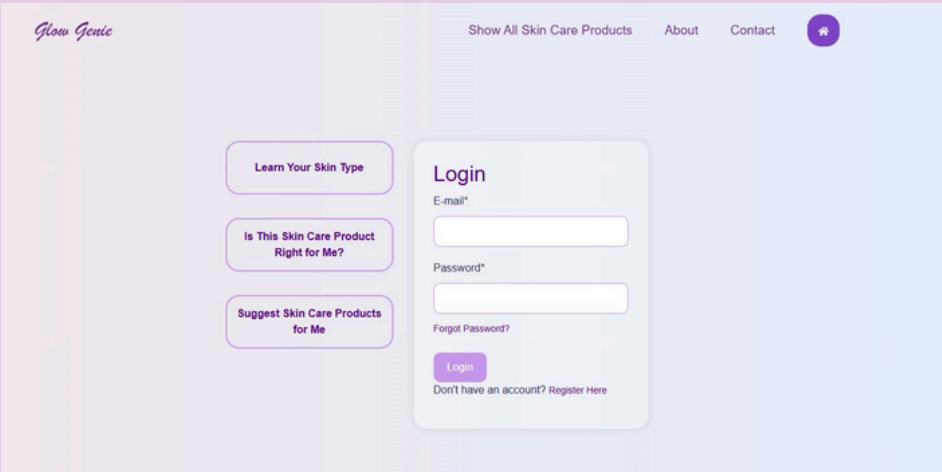Assoc. Prof. Dr. Ömer ÇETİN

Glow Genie

Aim Of the Project

GlowGenie now aims to deliver a complete, real-world-ready skincare platform by finalizing AI integration, implementing detailed product compatibility checks, and offering a seamless user experience. The goal is to bridge the gap between skincare needs and intelligent digital support.

Objective Of the Project

- Finalize full integration of AI, database, and UI components.
- Validate the accuracy of skin type prediction and product matching.
- Improve ingredient compatibility checks with expanded datasets.
- Conduct testing for system stability and usability.
- Prepare platform for future deployment and scalability.

Evaluation

- Model Evaluation:
- Skin type prediction accuracy
- Product recommendation relevance based on real ingredients
- System Testing:
- Unit and integration tests across all modules
- Form validations and error handling
- User Feedback:
- Conducted test sessions and collected feedback for UX improvements

Implementation

During the second phase, we focused on advanced development and integration:

- Frontend: Implemented skin type test, product filtering, and real-time feedback features using React.
- Backend: Completed secure endpoints with JWT, linked user sessions, and managed product logic with Flask.
- Database: Finalized skin type, product, and ingredient tables; implemented compatibility mapping.
- AI/ML: Integrated trained model into the flow for live skin type prediction using scikit-learn.
- Realtime: Used Firebase for logging chatbot interactions.
- API Gateway: Introduced a proxy layer for agent communication security.

Conclusion

GlowGenie now stands as a fully functional, intelligent skincare assistant. With personalized AI analysis, ingredient matching, and a seamless interface, it helps users confidently select the right products for their skin.

In the second phase, we focused on improving user experience, completing all system integrations, and preparing the platform for real-world deployment.

The machine learning model not only predicts skin type but also evaluates product compatibility, making recommendations more accurate and personalized.

References

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