UTM
UNIVERSITI TEKNOLOGI MALAYSIA

INDUSTRIAL TRAINING PRESENTATION

Prepared and Presented by:
Aina Najwa Binti Mohd Rozi

Company Supervisor: Prof. Zilfalil Bin Alwi
Faculty Supervisor: Dr. Fazliaty Edora Binti Fadzli

Innovating Solutions

Table of Contents

1 About Company

2 Company Vision, Mission and Motto

3 Organization Structure

4 Industrial Training Objectives

5 Tasks Objectives

6 Software

7 Hardware

8 Challenges Faced

9 Skills Improvement

10 Main Task

11 Side Task

12 Conclusion

About Company

MALAYSIAN NODE
OF THE
HUMAN VARIOME PROJECT

- Malaysian Node of the Human Variome Project (MyHVP) is part of the global Human Variome Project (HVP). Its main role is to collect, organize and share information about genetic variations to support advancements in genetic research and healthcare.
- The organization works with both local and international partners to strengthen genetic research and encourage the sharing of knowledge in genomics.
- MyHVP focuses on connecting researchers and healthcare professionals, ensuring that genetic information is used to improve patient care and health outcomes.

Company Vision, Mission and Motto

VISION

To be a leading center for genetic data management in Southeast Asia, contributing to global advancements in healthcare and research.

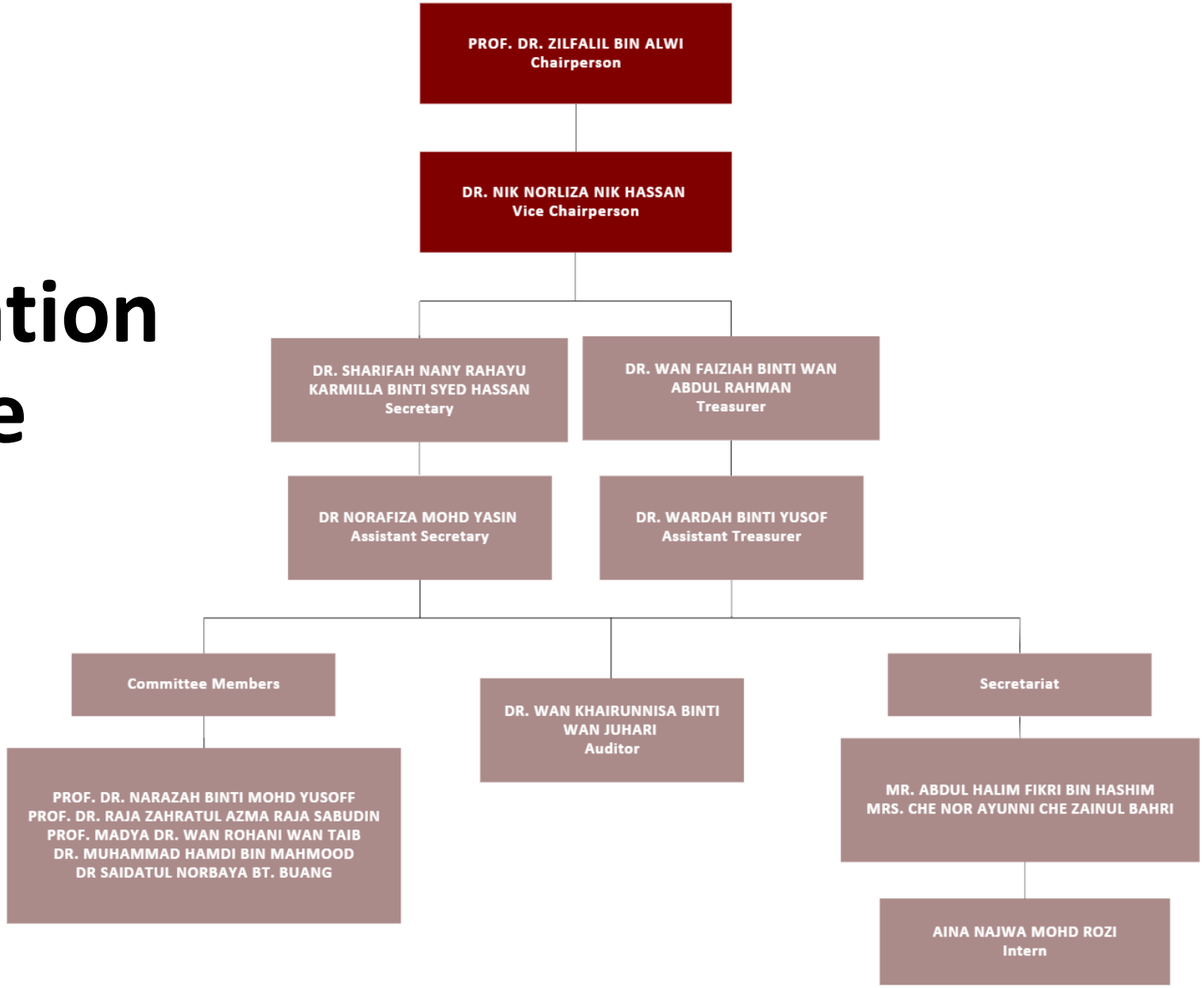
MISSION

To support the Human Variome Project by collecting and curating high-quality genetic data.
To facilitate research and collaboration in the field of medical genetics.

MOTTO

“Sharing Data. Reducing Disease. Healthier Nation”

Organization Structure



Industrial Training Objectives

01 To understand the work procedure of the Secretariat of the Malaysian Node of the Human Variome Project.

02 To adapt myself to the real-life work environment.

03 To apply knowledge learned from previous semesters in the completion of tasks.

Tasks Objectives

01 To develop and optimize the website using HTML and CSS in Joomla.

02 To collect and extract genetic data from research papers or articles for insertion into the Leiden Open Variation Database (LOVD).

03 To make appropriate changes and enhancements to the database and website based on feedback.

Software

FOR DEVELOPING AND MANAGING THE WEBSITE

FOR DATA SUBMISSION

TO ANALYZE GENETIC VARIATIONS FOR DATA ENTRY AND RESEARCH

FOR INTERPRETING AND ANALYZING CLINICAL SIGNIFICANCE OF GENETIC VARIANTS

FOR SEARCHING ARTICLE OR RESEARCH PAPER

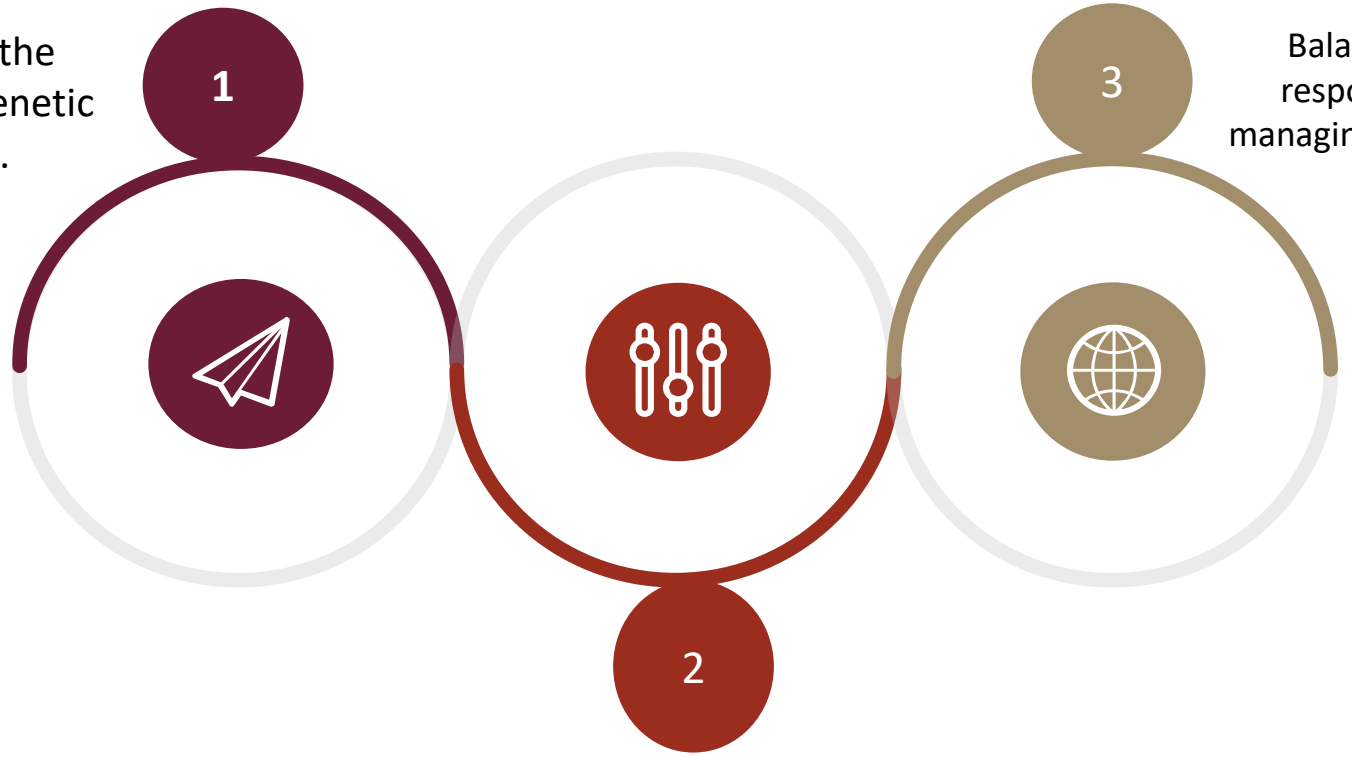
FOR REPORT WRITING AND DOCUMENTATION

Hardware


LAPTOP : Lenovo Ideapad
PROCESSOR : AMD Ryzen 5
RAM : 8 GB
OS : Windows 11

Challenges Faced

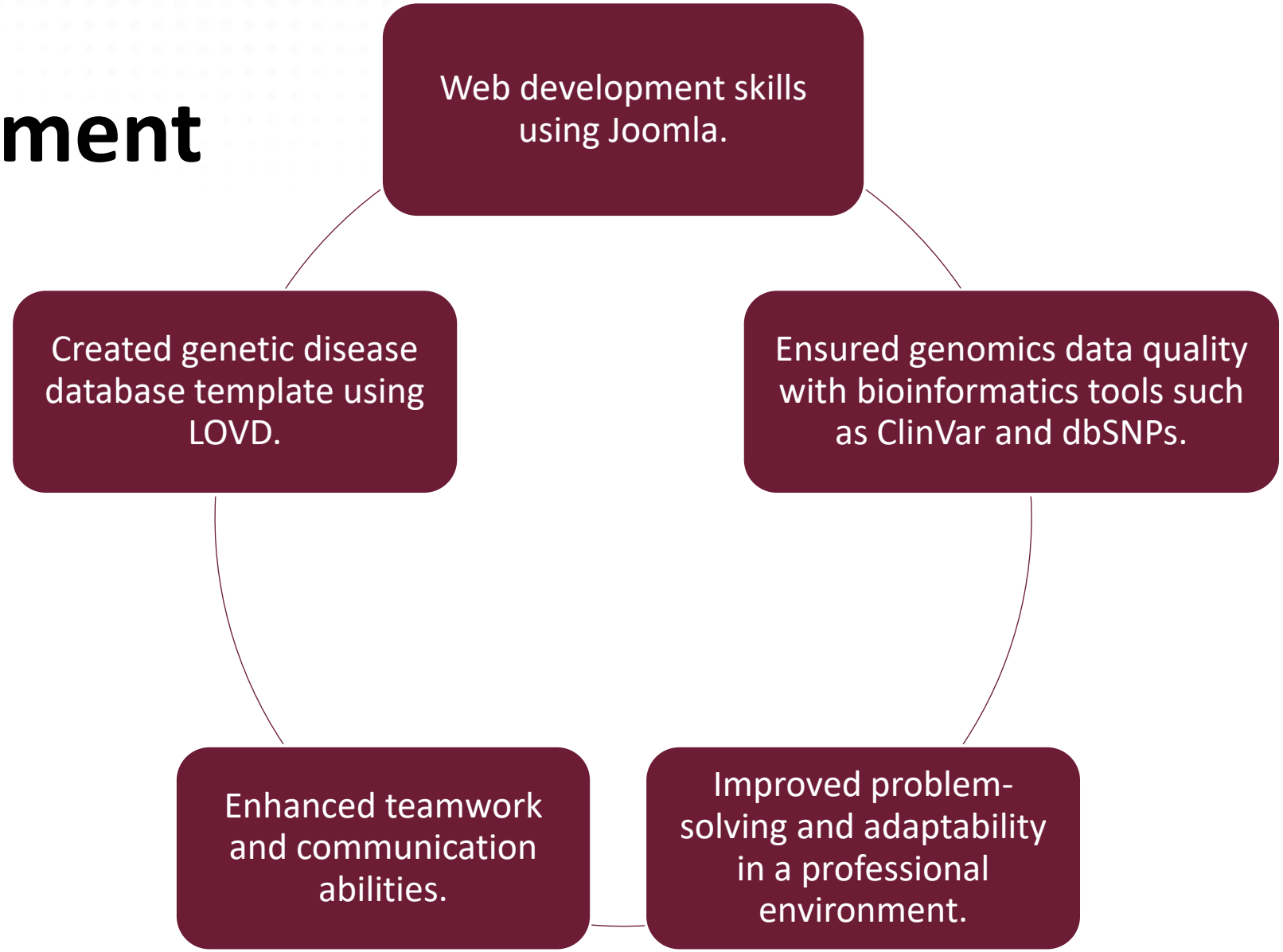
1. Understanding the complexities of genetic data formats.



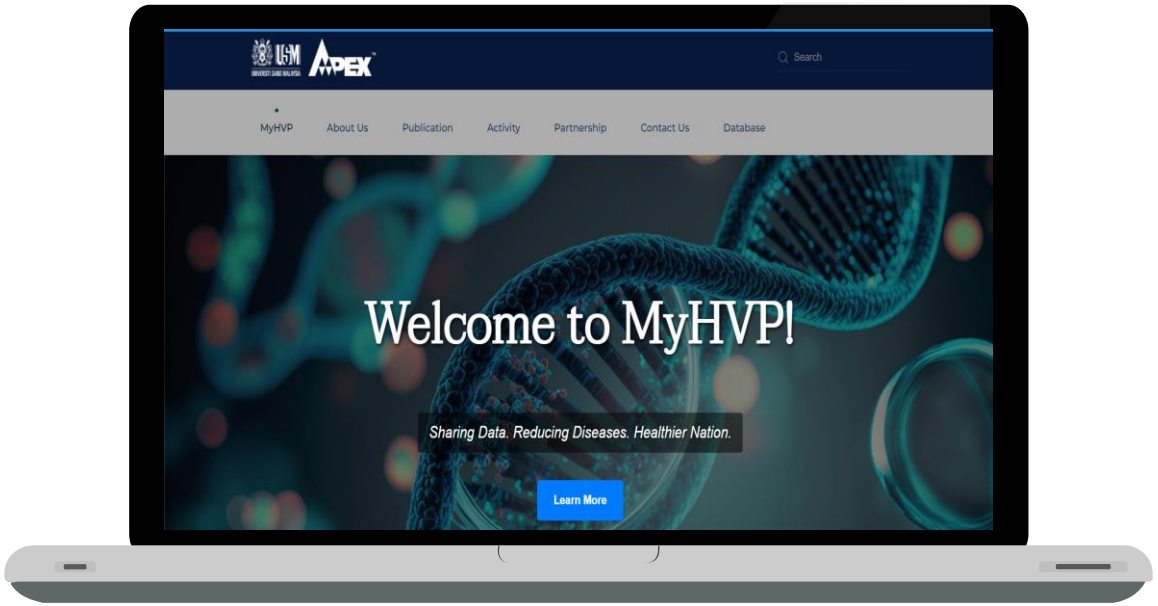
2. Adapting to Joomla for website development.

3. Balancing multiple responsibilities and managing time effectively.

Skills Improvement



Main Task



Link: https://hvpmalaysia.kk.usm.my/index.php

- The MyHVP website underwent a comprehensive redesign to enhance its design, navigation, and overall user experience. The outdated and static layout of the old website was replaced with a modern, clean, and responsive design, significantly improving its visual appeal and usability.
- The navigation structure was reorganized to be more intuitive, enabling users to easily locate key resources and information. Dropdown menus and quick-access links were added to simplify browsing and improve accessibility.
- Content organization was streamlined by logically grouping related information and updating outdated sections. This ensured that the website aligned with the organization's goals and provided users with accurate and relevant information.

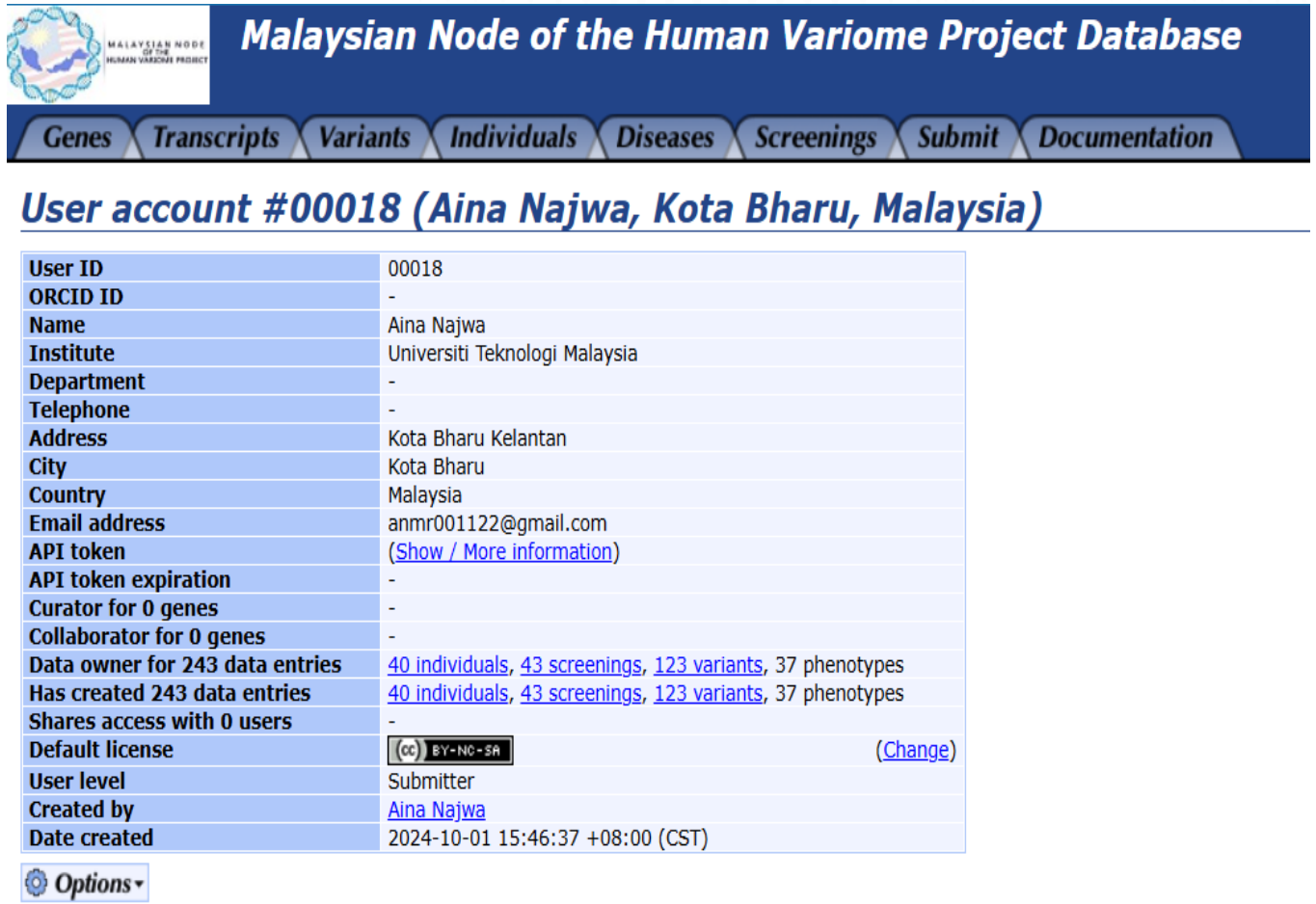
Website Features and Impact

- Accessibility optimization was a key focus of the redesign. The updated website now features enhanced responsiveness and compliance with accessibility standards. These improvements include the use of clear fonts, contrasting colors, and a user-friendly layout.

- Visual enhancements were also made to create a professional and engaging appearance. Updated graphics, banners, and a consistent color scheme were applied to reflect the organization’s mission and improve user engagement.

- As a result of these changes, the MyHVP website now serves as a significantly improved platform for genetic research and resources. With better functionality and usability, users can easily access the latest information, contributing to MyHVP’s goal of advancing genetic research and knowledge sharing.

Side Task (Data Submission)



Link: https://myhvpdb.kk.usm.my/users/00018

Data entry submission to the Leiden Open Variation Database (LOVD).

Involve uploading genetic variation data from research papers or articles, ensuring accuracy and consistency.

Example disease:
HBB,
Familial Hypercholesterolemia,
Parkinson's Disease,
X-linked Agammaglobulinemia.

Research References

Disease	Research Paper Title	References
HBB	**Application of Targeted Next-Generation Sequencing for the Investigation of Thalassemia in a Developing Country: A Single Center Experience**	Zulkeflee, R. H., Bahar, R., Abdullah, M., Mohd Radzi, M. A. R., Md Fauzi, A., & Hassan, R. (2023). Application of Targeted Next-Generation Sequencing for the Investigation of Thalassemia in a Developing Country: A Single Center Experience. *Diagnostics (Basel, Switzerland)*, *13*(8), 1379. https://doi.org/10.3390/diagnostics13081379
FH	**Genetic Spectrum of Familial Hypercholesterolaemia in the Malaysian Community: Identification of Pathogenic Gene Variants Using Targeted Next-Generation Sequencing**	Razman, A. Z., Chua, Y.-A., Mohd Kasim, N. A., Al-Khateeb, A., Sheikh Abdul Kadir, S. H., Jusoh, S. A., & Nawawi, H., on behalf of the MyHEBAT-FH Study Investigators. (2022). Genetic Spectrum of Familial Hypercholesterolaemia in the Malaysian Community: Identification of Pathogenic Gene Variants Using Targeted Next-Generation Sequencing. *International Journal of Molecular Sciences*, *23*(23), 14971. https://doi.org/10.3390/ijms232314971
Parkinson's Disease	**Genetic study of early-onset Parkinson's disease in the Malaysian population**	Tay, Y. W., Tan, A. H., Lim, J. L., Lohmann, K., Ibrahim, K. A., Abdul Aziz, Z., Chin, Y. T., Mawardi, A. S., Lim, T. T., Looi, I., Chia, Y. K., Ooi, J. C. E., Cheah, W. K., Dy Closas, A. M. F., Lit, L. C., Hor, J. W., Toh, T. S., Muthusamy, K. A., Bauer, P., Skrahin, V., … Lim, S. Y. (2023). Genetic study of early-onset Parkinson's disease in the Malaysian population. *Parkinsonism & related disorders*, *111*, 105399. https://doi.org/10.1016/j.parkreldis.2023.105399
XLA	**Clinical features and mutational analysis of X-linked agammaglobulinemia patients in Malaysia**	Chear, C. T., Ismail, I. H., Chan, K. C., Noh, L. M., Kassim, A., Latiff, A. H. A., Gill, S. S., Ramly, N. H., Tan, K. K., Sundaraj, C., Choo, C. M., Mohamed, S. A. S., Baharin, M. F., Zamri, A. S., Yahya, S. N. H. S., Mohamad, S. B., & Ripen, A. M. (2023). Clinical features and mutational analysis of X-linked agammaglobulinemia patients in Malaysia. *Frontiers in immunology*, *14*, 1252765. https://doi.org/10.3389/fimmu.2023.1252765

Conclusion

In conclusion, this internship has been an invaluable learning experience, allowing me to develop practical skills in genetic data management and web development. I'm grateful for the opportunity to contribute to the team and for the guidance I received throughout the journey. The challenges I faced and the knowledge I gained will serve as a strong foundation for my future career and help me tackle new challenges ahead.

THANK YOU

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

In the Name of God for Mankind