CSIT998: Project Practice by Group 11 - Analytic Top Gangs

YING KIT JERRY, LI (Student Number: 8469180)
CHENKUN, YE (Student Number: 8376141)
YI, OUYANG (Student Number: 8773397)
SHASHA, YOU (Student Number: 8834428)
HIU FUNG, WONG (Student Number: 8558796)
HO, NG (Student Number: 8527507)

March 30, 2025

1 Code of Professional Conduct

Project Background: The ageing problem has been a contentious topic in Australia for many years. A report from the Australian Institute of Health and Welfare in 2022 reveals that 65% of individuals aged 65 and older are living with disabilities. Furthermore, the percentage of disabled individuals, particularly among those aged 80 and above, continues to increase annually. Meanwhile, over 50% of them are in depression, which causes another mental issue. This trend of above situation highlights a growing need for formal and technical support facilities for elderly individuals with disabilities.

This project is about developing an AI-based innovative data visualization tool to monitor and present health trends for senior citizens in aged care facilities. Using Azure AI services, the tool will analyze the population-level data, exploring trends related to symptoms caused by dementia, such as agitation or depression, and those who need nursing interventions. It will allow for personalized health monitoring and visual data tracking to adjust the services based on the requirements of this group. The project aims to facilitate decision-making within aged care through AI-based findings and figure out a clear visual representation to improve the quality of life for the elderly.

1.1 The Primacy of the Public Interest

- Identify Stakeholders' Interests;

  Story Case: "*This project involves the parties of older adults in elderly care, especially those with dementia, nursing staff, healthcare professionals, organisation facility staff, and families who have elderly.*
  Disabled people with dementia would benefit from early realise symptoms, such as agitation and depression, which enables effective personalised care. Nursing staff and caregivers are the main users of this data system since they gain real-time information to make clinical decisions and improve the efficiency of healthcare centres or hospitals. Healthcare professionals can monitor population-level trends and guide interventions based on dynamic data. Facility staff would benefit from improved care quality standards and resource planning. In addition, patients' families will be released since their elderly receive more sophisticated care. All stakeholders' benefits are prioritised throughout the project to ensure the solution fits ethically and works practically."

- Address Potential Conflicts With Public Requirements;

  Story Case: "*Since the sensitivity of healthcare data, especially patients or other elderly in care centres or hospitals, our team acknowledges the legal need for compliance under the regulation of The Privacy Act (1988). All parties will be aware of their obligations to follow related rules, and the project will adhere to privacy-by-design principles throughout the development and deployment process.* "

- Disclose Conflicts of Public Interest If Possible;

  Story Case: "*If any conflicts of interest occur, for example, the conflicts between proprietary datasets or technology platforms or unnecessary data collection, we will report to supervisors, healthcare partners, or other relevant parties immediately, which ensures no or less unethical concerns about data usage or AI decisions.*"

- Affect Interdisciplinary Industries;

  Story Case: "*The project is basically connecting computer science, health informatics, elderly care knowledge, Law, etc. The decision-making during the development of AI models and the design of visualizations may have affected clinical operation, policy formulation, and the privacy of private sectors or patients. However, the aim of this project is to create a solution that seamlessly integrates across all these areas.*"

- Consider ICT Integrity, Security, Continuity and Utility;

  Story Case: "*The project can benefit from enterprise-grade cloud security, scalability, and business continuity features. Security practices such as role-based access control, data encryption, and maintaining audit trails will be practised, with the aim of tracking the system's integrity.*"

- Preserve The Confidentiality and Privacy of the Information;

  Story Case: "*With the regulations of The Privacy Act (1988), our operation in health data will follow strict confidentiality protocols. Secure APIs and control data access will be implemented to ensure that individual privacy is preserved throughout. No patient data would be explicated without any permissions.* "

1.2 The Enhancement of Quality of Life

- Promote All-rounded ICT for Quality of Life for Disabled People ;

  Story Case: "*This project leverages ICT to support older adults, especially those with dementia, who often have agitation or depression. By visualizing health trends and forecasting insights, the system helpfully enables nursing staff to provide more proactive and personalized care. This approach effectively enhances the overall quality of life for senior residents in aged care facilities.*"

- Prioritise the Health and Safety;

  Story Case: "*This project allows timely health interventions to prevent worse scenarios among disabled elderly based on identifying their mental and behavioural health symptoms. The nursing practice or healthcare service will be safer and more accurate upon this advanced tool. Meanwhile, the project reduces risks and wasted resources in healthcare by effective monitoring, and it contributes to a productive service to the elderly and related organisations.*"

- Understand Public Perceptions;

  Story Case: "*Considering the viewpoints and requirements from healthcare staff, caregivers and other nursing staff, etc. It possibly disrupts their work. We should reduce their unnecessary involvement and encourage constructive feedback to enhance the tool's functionality and user-friendliness.*"

- Enhance User Satisfaction and Empowerment;

  Story Case: "*Our stakeholders, particularly caregivers and nursing staff will be satisfied because they can use the tool to analyze health data more easily. It helps them in decision-making, provides quality health service to the elderly, and improves care quality. For the elderly, the level of healthcare experience would be higher since data-driven care enhances their personal value and dignity.* "

1.3 Honesty

- Ensure the Honesty of Service Suitability;

Story Case: "*All explanations about the healthcare capabilities will be ensured to be accurate and clear. Avoid overstating the tool's functionality and ensure that the mentioned stakeholders understand its role as a supportive aid rather than a replacement for professional expertise, helping to maintain realistic expectations.* "

- Distinguish Professional and Personal Advice;

  Story Case: "*When contributing to discussions or decision-making, team members clearly share their personal preferences from professional recommendations. We ensure any opinions based on individual experience is identified and useful in this project. Meanwhile, the decisions should be guided by evidence, stakeholder needs, and user feedback.*"

- Give Realistic Estimates for Projects;

  Story Case: "*When we provide timelines and progress updates, we have to ensure that all estimates are based on careful planning and a realistic understanding of the work involved. If challenges or changes are needed, we will promptly communicate with relevant stakeholders to adjust expectations and maintain trust.* "

- Qualify Limited Expertise and Knowledge;

  Story Case: "*Regarding any related regulations in our project, we will consult with legal experts or supervisors to ensure full legal compliance while focusing on implementing Azure's built-in privacy features. This helps avoid the risk of giving inaccurate or misleading advice.* "

- Acknowledge Contributions of Others;

  Story Case: " *In our final report and presentation, we will credit datasets from aged care facilities and previous academic research that inspired parts of the model. Additionally, contributions from each team member are acknowledged in collaboration.* "

- Maintain Reputation of All Involved Parties;

  Story Case: "*When feedback is received, we will review or credit the collaborative effort. This demonstrates honesty and respect for the contributions of others, ensuring fair recognition throughout the team.* "

1.4 Competence

- Align Solutions with Stakeholder Needs;

  Story Case: "*The goal of the Health Trends Analytics project is to create visualizations that specifically meet the requirements of aged care facilities that monitor dementia symptoms. Instead of providing data only, the platform will offer insight by developing*

dashboards that show the relationships between symptoms and nurse treatments. The user-friendly interface will be created for nursing staff or caregivers to fit stakeholder interests, guaranteeing that the technology improves workflows."

- Demonstrate Skills and Knowledge with Honest;

  Story Case: "*AI can work amazingly with health data, but it is unable to predict everything. Machine learning can spot patterns in symptom progression, but it is not a magic. It will be crucial to inform end users of the prediction's limitations and degree of confidence when using machine learning algorithms to forecast future health trends. We should be upfront with stakeholders about confidence levels and edge cases where the system might struggle.*"

- Obey Standards and Legislation;

  Story Case: "*Australia's aged care sector has its own regulatory framework that's quite different from international standards. Beyond the Aged Care Quality Standards, we need to consider the Aged Care Act, mandatory reporting requirements, and state-level health regulations. Our system should help facilities meet this relevant Australian compliance and avoid creating additional burdens.*"

- Protect Stakeholder Interests;

  Story Case: "*The Australian Privacy Act (1998) strictly monitors the utilisation of health data. The Australian Privacy Principles set clear expectations for how we handle resident information. We need robust security that meets Australian standards while enabling the analytics we promised. The cloud-based solution will require strong security measures to guarantee the protection of institutional data and proprietary treatment procedures.*"

1.5 Professional Development

- Commit to Sustainable Learning in Skills;

  Story Case: "*Through this project, we aim to continuously enhance our skills in machine learning, data analytics, and health informatics, in alignment with the professional standards of ICT Business Analysts (ACS 2611). By participating in training on Azure AI services, Power BI, and other data visualization tools, we ensure the project is technically reasonable, ethically compliant, and aligned with stakeholder needs. This will better support research and development in Australia's healthcare system, particularly in aged care and chronic disease management.*"

- Stay Updated on Industry Issues and ICT Development;

  Story Case: "*In developing this AI-based health trend visualization tool for elderly care, we are fully aware of key issues impacting the ICT profession and its relationship with*

the public—such as the trustworthiness of AI, data privacy protection, and the ethical use of patient information. Given the sensitivity of individual health data, we ensure that AI-generated information is presented in an open and transparent manner, with clearly communicated purposes. We also consider the information needs of stakeholders, including disabled elderly, nursing staff, caregivers, and other potential parties. Meanwhile, we have to ensure the system is inclusive, user-friendly, respectful of others, and protective of personal privacy—ultimately building public trust in AI-assisted healthcare technologies."

- Encourage Continuous Growth of People;

  Story Case: "*Through this project, we will gain hands-on experience with the main data analysis tools currently used in the Australian ICT industry, while also developing a deeper understanding of the challenges faced by the Australian healthcare system. It would significantly enhance our teamwork capabilities as we collaborate in a learning-focused environment where all team members have different backgrounds. This project can grow our skills and help us stay aligned with industry practices. This experience will broaden our career perspectives and strengthen our readiness for future employment in ICT and health-related fields.*"

- Support Inclusive ICT Education and Development

  Story Case: "*Our project team consisted of members from diverse academic and professional backgrounds, including computer science, IT, and health informatics. Through open communication and resource sharing, we support each other's growth based on individual learning needs and career goals. For example, students from a computer science background expand their skills in machine learning and AI algorithms, while those from IT backgrounds gain valuable experience in project management and data analysis. Health informatics students focused more on health technical education, elderly care technologies, and health data analysis. This project promotes inclusive and flexible learning which aligns with various career possibilities, and it demonstrates our commitment to continuous professional development across ICT disciplines.*"