Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

# Design and Implementation of an Agile-Based Electronic Prescription System for Neurological Medications

**Denny Jean Cross Sihombing**
Information System Study Program, Atma Jaya Catholic University of Indonesia

**Article Info**
**Keywords:**
Electronic Prescription,
Agile Methodology,
Neurology Clinics.

**ABSTRACT**
This study addresses the complexity of managing neurological medication prescriptions by implementing an Agile-based electronic prescription system. The main issues faced in neurological medical practice are complex drug dosages, drug interactions, and effective patient monitoring. To tackle these problems, this research employs qualitative and quantitative methods, including user needs analysis, application development, and user acceptance evaluation. The study's findings indicate that implementing the Agile-based electronic prescription system successfully enhances efficiency, safety, and service quality in neurological medical practice. This system provides flexibility and certainty in patient care by its ability to adapt to changes in patient conditions and treatment protocols. The primary contribution of this research is the development of an Agile-based electronic prescription system capable of addressing the complexity of managing neurological medication prescriptions. This study offers a new perspective on paradigm shifts in prescription management through technology-driven approaches, thereby contributing to advancing more targeted and improved healthcare services in the future.



**Corresponding Author:**
Denny Jean Cross Sihombing
Atma Jaya Catholic University of Indonesia
Jakarta, Indonesia
denny.jean@atmajaya.ac.id

## INTRODUCTION

In modern medical practice, electronic prescription systems have become integral to patient care management(Bhat et al., 2023; Das et al., 2021; Mahdi et al., 2023). Moving away from error-prone paper prescriptions and time-consuming manual processes, electronic prescription systems provide a more efficient, accurate, and secure solution. By leveraging information technology, these systems enable healthcare providers to transmit medication prescriptions directly to pharmacies, facilitate better monitoring of medication usage by patients, and ensure adherence to prescribed treatment protocols. The importance of information technology in medication prescription management is particularly evident in several key aspects. Firstly, electronic prescription systems reduce the risk of prescription filling errors and harmful drug interactions for patients. With integrated databases, these systems can provide automatic alerts for potentially dangerous drug interactions, thus enhancing patient safety and reducing the risk of unwanted side effects(Kolabas et al., 2023; Kumar & R.S., 2022; Tan et al., 2023; Wang & Conwell, 2022).

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

Additionally, electronic prescription systems facilitate better coordination among healthcare providers, pharmacists, and patients. Well-documented and real-time available information enables medical teams to access patients' medication histories easily, make more informed decisions, and provide more personalized and focused care. By adopting electronic prescription systems, medical practices can streamline administrative processes, reduce operational costs, and improve efficiency in medication inventory management. This helps to direct more excellent resources towards direct patient care, increasing productivity and reducing patient wait times in medical facilities. Overall, information technology in medication prescription management enhances the quality of healthcare services and patient safety and creates a more efficient and coordinated work environment for medical professionals. With the continuous advancement of technology, electronic prescription systems continue to undergo innovation to meet increasingly complex medical demands, including neurological treatment, which presents specific challenges and needs(Chan et al., 2022; Miller et al., 2023; Roulet Perez, 2023; St Louis & Videnovic, 2021).

Several issues require careful and measured solutions in the context of neurological prescription management. Firstly, the complexity of neurological treatment is a significant focus. This is due to the specific characteristics of medications used in treating neurological conditions. These medications often have very sensitive dosages, require strict monitoring of their side effects, and can interact with other medications taken by patients. These challenges demand careful supervision and management from healthcare providers to ensure treatment effectiveness and reduce the risk of unwanted complications. Moreover, the limitations of conventional prescription systems are also a significant obstacle in neurological prescription management. Paper-based and manual prescriptions are often prone to human errors that can threaten patient safety. For instance, errors in dosage calculations or improper prescription recording can result in severe consequences for neurologically sensitive patients regarding dosage changes or drug interactions. Additionally, conventional prescription systems slow down service processes and consume valuable time for healthcare providers, especially in emergencies requiring a rapid response.

Expanding patient reach and more complex medical team coordination are challenges that need to be addressed in neurological prescription management. Neurological patients often require long-term and integrated care from various medical specialists, including neurologists, pharmacists, and physical therapists. Effective coordination among these medical teams requires a system that can smoothly connect information, ensure clear communication, and facilitate coordinated and holistic care for patients. In addressing these various issues, developing adaptive and responsive electronic prescription systems becomes highly relevant and essential in neurological prescription management. Electronic prescription systems can provide more sophisticated solutions for managing the complexity of neurological treatment, reducing prescription filling errors, facilitating more effective patient monitoring, and improving coordination among medical teams. Thus, focusing on developing Agile-based electronic prescription systems for neurological medications can significantly contribute to improving healthcare service quality and patient safety in the specific and complex field of neurology.

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

There has been widespread development and implementation in various medical fields in the context of existing electronic prescription systems. Various medical institutions have adopted electronic prescription systems to enhance efficiency and accuracy in treatment management. Performance evaluation and effectiveness assessments of these systems have been regularly conducted to ensure that they meet established safety and quality standards. On the other hand, the role of Agile in developing medical software has proven to be highly valuable. Agile's basic concepts, such as iterative development, team collaboration, and adaptability, provide advantages in dealing with rapid changes in medical practice(Alami et al., 2022; Almeida et al., 2022; Hasan et al., 2013; Meiliana et al., 2023; Mishra & Alzoubi, 2023; Najihi et al., 2022; Rindell et al., 2021). Agile's success in improving responsiveness and user satisfaction has been a strong rationale for its application in developing electronic prescription systems, especially in the neurological context that requires special attention to patient condition changes and treatment protocols.

The rationale for using Agile electronic prescription systems for neurological medications is crucial. The focus on patient care flexibility and certainty, where Agile systems can adapt to dynamic patient conditions and changing treatment protocols, is paramount. This enhances certainty and safety in neurological medication prescription management and provides the flexibility needed for rapid adjustments to medical situations. Moreover, efficiency and service quality are also important aspects. With the adoption of Agile electronic prescription systems, the reduction of prescription filling errors and drug interactions can be achieved, reducing the risk of unwanted side effects in sensitive neurological patients. Better system integration also enables better collaboration among medical teams and patients, ensuring that care is provided with optimal coordination.

Previous studies have highlighted the effectiveness, safety, and user satisfaction of using Agile electronic prescription systems in medical practice. However, limitations and research areas still need to be further explored, especially in the context of neurological treatment, which has unique characteristics and challenges. The main objective of this research is to develop and implement an Agile electronic prescription system that meets the needs of neurological medical practice. Performance analysis and effectiveness evaluations of the system are expected to significantly contribute to the development of information technology in the healthcare sector, improving patient care quality and overall medical practice efficiency(Al-Hassan & AlQahtani, 2019; Bin et al., 2021; Hatta et al., 2022; Horita et al., 2023; Mahdavi et al., 2023; Samadbeik et al., 2023).

This research has significantly contributed to the development of medical technology, particularly in the context of adaptive and responsive electronic prescription management. Practical recommendations generated from this research will be valuable guidelines for medical institutions in implementing Agile electronic prescription systems in daily practice. This will improve operational efficiency and patient safety and open up opportunities for developing more adaptive and responsive systems in the future. Implementing Agile electronic prescription systems in neurological medical practice is expected to impact healthcare services and prescription management significantly. Firstly, there will be increased efficiency in neurological treatment by reducing prescription filling errors and drug

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

interactions. This will result in increased accuracy in medication administration to patients, reducing the risk of unwanted side effects and increasing patient confidence in the care they receive.

Additionally, Agile electronic prescription systems will bring about a paradigm shift in prescription management with an information technology-based approach. Better system integration among various medical teams will facilitate more effective communication, coordinated patient monitoring, and more accurate decision-making based on accurate and real-time data. This will create a more collaborative and responsive work environment to meet the complex needs of neurological patients. Overall, this research is expected to bring about positive changes in neurological medical practice, improving efficiency, accuracy, and safety in treatment and changing the paradigm in prescription management with an adaptive and responsive information technology approach. Thus, the contribution of this research will be felt not only at the institutional level but also directly impact the health and quality of life of the neurological patients served.

## METHODS

This research followed three critical stages to develop an Agile electronic prescription system responsive to medical users as shown in Figure 1. Firstly, user needs analysis was conducted to understand the main challenges in neurological prescription management. The next stage was application development with an intuitive interface and solid integration. The final stage was user acceptance evaluation, where training, testing, and system performance evaluation were conducted to ensure positive acceptance and adjustment to user needs.

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

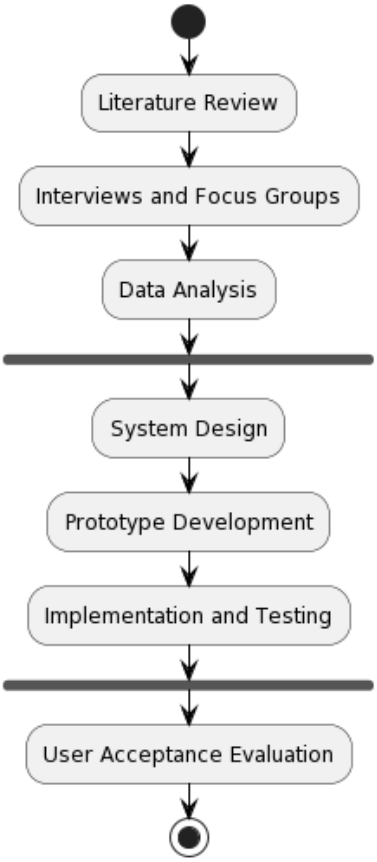


**Figure 1.** Research Stages

**User Needs Analysis**

The first stage, User Needs Analysis, is a critical step in this research. We conducted a series of in-depth interviews with neurology specialists, pharmacists, and neurological patients to gain a comprehensive understanding of the challenges they face in medication prescription management. This analysis provides a clear insight into the needs that must be met by the new electronic prescription system, including better integration between various aspects of treatment and more accurate monitoring of drug interactions.

**Application Development**

The second stage, Application Development, is an intensive period where our development team designs and implements a responsive Agile electronic prescription system. We crafted an intuitive user interface, provided precise prescription filling modules, and built solid integration with electronic medical record systems. We also conducted thorough internal testing during this stage to ensure the system ran smoothly and securely.

**User Acceptance Evaluation**

Then, in the third stage, User Acceptance Evaluation, we allowed trial users to interact directly with the newly developed system. We organized comprehensive training ses-

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

sions to ensure they fully understand the system's features and can use them effectively in their daily practices. System performance evaluation was conducted comprehensively, considering response time, accuracy, and user satisfaction levels. The results of this evaluation helped us adjust the system to be more responsive to user needs and confirmed positive acceptance of the newly developed Agile electronic prescription system.

## RESULTS AND DISCUSSION

### User Needs Analysis

The User Needs Analysis shows the steps taken to understand user needs related to electronic prescription systems comprehensively. Firstly, data collection involving doctors, pharmacists, and neurological patients was conducted to identify preferences and expectations regarding the desired system. Subsequently, a series of interviews were conducted with medical practitioners and administrative staff to gain an in-depth understanding of the ongoing prescription management processes, including prescription filling procedures, drug interaction monitoring, and drug inventory management. Surveys or questionnaires were also distributed to neurological patients to obtain direct input regarding their preferences for electronic prescription systems. Data gathered from various sources were then analyzed comprehensively to identify critical needs, challenges faced, and expectations that must be met by the new electronic prescription system to be developed. This stage provides a strong foundation for designing a more adaptive and responsive system according to the needs and expectations of users in neurological medical practice.

**Table 1.** Data Collection Results

| Stakeholder | Main Needs | Challenges Addressed | Expectations and Desires |
|---|---|---|---|
| Doctor | Integration with electronic medical records<br>User-friendly system interface | Monitoring drug interactions<br>Drug inventory management<br>Accurate and real-time information | Efficiency in prescription filling<br>Improved medication safety |
| Pharmacist | Integration with inventory management system<br>Ability to monitor drug interactions | Improved medical team collaboration<br>Enhanced medication safety<br>Fast accessibility to information | Better monitoring of drug interactions<br>Better integration with doctors |
| Neurological Patients | Ease of system access and use<br>Trust in the system | Limited accessibility to information<br>Lack of understanding about the system | More personalized and focused care<br>More accurate and effective treatment |

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

Table 1 presents several key findings. Firstly, doctors desire seamless integration between the electronic prescription system and electronic medical records to ensure accurate and timely information. They also emphasize the importance of efficiency in prescription filling to enhance productivity and service quality. Secondly, pharmacists stress the need for medication safety, especially in monitoring drug interactions and managing drug inventory. This underscores the necessity for a system to ensure patient safety in medication use. Thirdly, neurological patients highlight the importance of ease of access and trust in the electronic prescription system. They expect more personalized and focused care and more accurate and effective treatment. From this analysis, the new electronic prescription system should integrate information effectively, enhance efficiency and medication safety, and provide a better experience for neurological patients. Thus, the new system is expected to improve the quality of neurological medical services.

**Application Development**

The Application Development phase has reached several crucial steps in designing an adaptive and responsive electronic prescription system. Firstly, the development team has successfully designed an intuitive and responsive user interface based on the previously conducted user needs analysis. This aims to provide a better user experience and facilitate access and use of the system for medical practitioners and neurological patients. Furthermore, the Agile-based electronic prescription system has been developed with comprehensive modules for prescription filling, drug interaction monitoring, drug inventory management, and integration with electronic medical records. The Agile approach was chosen to ensure the flexibility and responsiveness of the system in addressing changing user needs and demands in the future. During this phase, internal system testing was conducted to ensure proper functionality and data security. This testing aims to identify potential bugs or other technical issues that must be addressed before introducing the system to a broader user base. Finally, the development team conducted iterative development based on feedback from the development team and trial users. This aims to continuously improve and enhance the system's quality to meet users' expected standards of security, performance, and functionality. Thus, Phase 2 is crucial in producing an effective, efficient, and safe electronic prescription system for neurological medical practice.

Figure 2 illustrates the process of the Agile-based electronic prescription system application development stage. The phase begins with designing an intuitive and responsive user interface, followed by developing system modules such as prescription filling, drug interaction monitoring, drug inventory management, and integration with electronic medical records. Once the modules are developed, internal testing ensures proper functionality and adequate data security. Development iterations are performed to improve and enhance the system quality if issues are found. This iterative process involves interface improvements, module fixes, and change testing. The testing and iteration stages are repeated until the system is stable and ready for end-users.

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

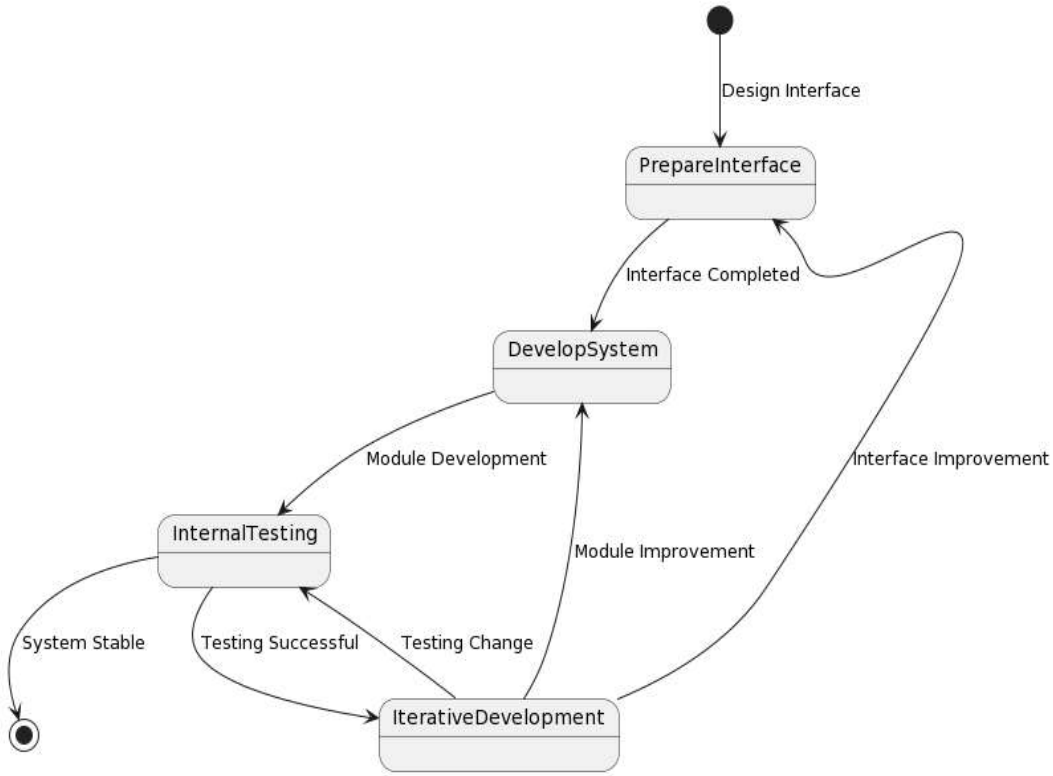


**Figure 2.** State Diagram

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

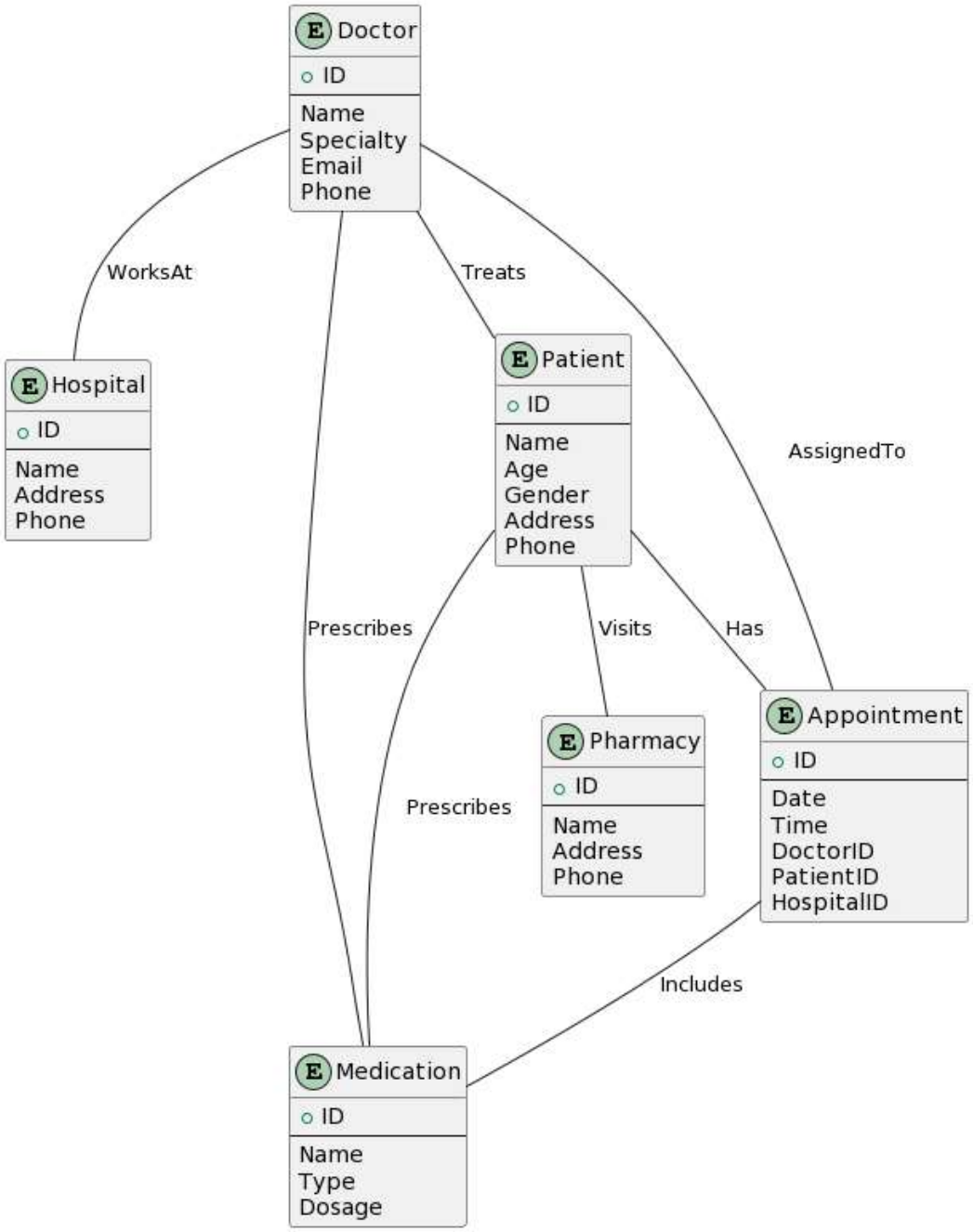


**Figure 3.** ERD

The ERD in Figure 3 depicts the complex data structure for a healthcare management system involving doctors, hospitals, patients, appointments, medications, and pharmacies. The doctor entity has attributes such as ID, name, specialization, email, and phone number. Doctors work at hospitals and treat patients by scheduling appointments. Patients have attributes like ID, name, age, gender, address, and phone number. Patients are associated with doctors through treatment, have hospital appointments, and receive prescriptions from doctors. Appointments have attributes such as date, time, doctor ID, patient ID, and hospi-

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

tal ID. Doctors schedule appointments and take place at specific hospitals. Medications have attributes like ID, name, type, and dosage. Medications are prescribed by doctors to patients and are included in appointments. Pharmacies have attributes like ID, name, address, and phone number. Patients visit pharmacies to obtain medications. This ERD analysis clarifies how entities are interconnected and how data is organized in an integrated healthcare management system. With this understanding, the system can be designed to effectively and efficiently manage patient information, prescriptions, and treatment processes.

### User Acceptance Evaluation

The user acceptance evaluation stage in developing the electronic prescription system involves a series of crucial activities to ensure that the developed system can be effectively used and meets user needs. Firstly, training sessions have been conducted for key system users, such as doctors, pharmacists, and administrative staff, to introduce them to the new electronic prescription system. This training aims to equip users with sufficient understanding and skills to operate the system effectively. Additionally, trial users can test the system in real-life situations, such as prescription filling, drug interaction monitoring, and inventory management. During these trials, users provide feedback on their user experience, which serves as the basis for system performance evaluation. Secondly, system performance evaluation uses predefined metrics such as response time, accuracy, and user satisfaction. These metrics help evaluate the system's efficiency, reliability, and suitability for the needs of neurological medical practice. The results of these evaluations are then analyzed in-depth to identify the strengths and weaknesses of the system. Findings from user evaluations are used to improve and enhance the system to make it more responsive and aligned with user needs. Thus, the user acceptance evaluation stage is crucial in confirming that the Agile electronic prescription system has been well-received by users and provides the expected benefits in neurological medical practice.

## CONCLUSION

This study concludes that implementing an Agile-based electronic prescription system in neurological medical practice significantly improves efficiency, safety, and service quality. Through user needs analysis, application development, and user acceptance evaluation stages, this system successfully addresses complex neurological treatment issues such as complex drug dosages, drug interactions, and patient monitoring effectively. Additionally, the system provides flexibility and certainty in patient care by adapting to changes in patient conditions and treatment protocols. In the context of neurological medication prescription management, the implementation of this system brings about a paradigm shift that is more adaptive and responsive based on information technology, reducing errors in prescription filling, improving medical team coordination, and enhancing responsiveness to patient needs, thus making a valuable contribution to advancing better and targeted healthcare services in the future.

Jurnal Ekonomi
Volume 13, Number 02, 2024, DOI 10.54209/ekonomi.v13i02
ESSN 2721-9879 (Online)
https://ejournal.seaninstitute.or.id/index.php/Ekonomi

## REFERENCE

Alami, A., Krancher, O., & Paasivaara, M. (2022). The journey to technical excellence in agile software development. *Information and Software Technology*, *150*. https://doi.org/10.1016/j.infsof.2022.106959

Al-Hassan, M., & AlQahtani, S. (2019). Preparedness of dental clinics for medical emergencies in Riyadh, Saudi Arabia. *Saudi Dental Journal*, *31*(1), 115–121. https://doi.org/10.1016/j.sdentj.2018.11.006

Almeida, F., Simões, J., & Lopes, S. (2022). Exploring the Benefits of Combining DevOps and Agile. *Future Internet*, *14*(2). https://doi.org/10.3390/fi14020063

Bhat, S., Birajdar, G. K., & Patil, M. D. (2023). A comprehensive survey of deep learning algorithms and applications in dental radiograph analysis. In *Healthcare Analytics* (Vol. 4). Elsevier Inc. https://doi.org/10.1016/j.health.2023.100282

Bin, K. J., Higa, N., da Silva, J. H., Quagliano, D. A., Hangai, R. K., Cobello-Júnior, V., Pereira, A. J. R., Carneiro-D'albuquerque, L. A., Carrilho, F. J., Wen, C. L., & Ono, S. K. (2021). Building an outpatient telemedicine care pilot using scrum-like framework within a medical residency program. *Clinics*, *76*. https://doi.org/10.6061/CLINICS/2021/E2795

Chan, K., Sepassi, A., Saunders, I. M., Goodman, A., & Watanabe, J. H. (2022). Effects of financial toxicity on prescription drug use and mental well-being in cancer patients. *Exploratory Research in Clinical and Social Pharmacy*, *6*. https://doi.org/10.1016/j.rcsop.2022.100136

Das, A. K., Islam, M. N., Billah, M. M., & Sarker, A. (2021). COVID-19 pandemic and healthcare solid waste management strategy – A mini-review. In *Science of the Total Environment* (Vol. 778). Elsevier B.V. https://doi.org/10.1016/j.scitotenv.2021.146220

Hasan, R., Ta, A.-, & Razali, R. (2013). Prioritizing Requirements in Agile Development : A Conceptual Framework. *Procedia Technology*, *11*(Iceei), 733–739. https://doi.org/10.1016/j.protcy.2013.12.252

Hatta, T., Ide, K., Fujita, M., & Ikka, T. (2022). Financial risks posed by unproven cell interventions: Estimation of refunds from medical expense deductions in Japan. In *Stem Cell Reports* (Vol. 17, Issue 5, pp. 1016–1018). Cell Press. https://doi.org/10.1016/j.stemcr.2022.03.015

Horita, H. M., Friesen, T. L., Cahill, G., Brigger, H., Rao, A., Kumar, S., Duong, T. E., Morris, K., Horvay, L., Floco, V., & Brigger, M. T. (2023). Development of a Medical Complexity Score for Pediatric Aerodigestive Patients. *Journal of Pediatrics*, *261*. https://doi.org/10.1016/j.jpeds.2023.113549

Kolabas, Z. I., Kuemmerle, L. B., Perneczky, R., Förstera, B., Ulukaya, S., Ali, M., Kapoor, S., Bartos, L. M., Büttner, M., Caliskan, O. S., Rong, Z., Mai, H., Höher, L., Jeridi, D., Molbay, M., Khalin, I., Deligiannis, I. K., Negwer, M., Roberts, K., … Erturk, A. (2023). Distinct molecular profiles of skull bone marrow in health and neurological disorders. *Cell*, *186*(17), 3706-3725.e29. https://doi.org/10.1016/j.cell.2023.07.009

Kumar, G., & R.S., R. (2022). Availability of public health facilities and utilization of maternal and child health services in districts of India. *Clinical Epidemiology and Global Health*, *15*. https://doi.org/10.1016/j.cegh.2022.101070

Mahdavi, A., Atlasi, R., Ebrahimi, M., Azimian, E., & Naemi, R. (2023). Human resource management (HRM) strategies of medical staff during the COVID-19 pandemic. In *Heliyon* (Vol. 9, Issue 10). Elsevier Ltd. https://doi.org/10.1016/j.heliyon.2023.e20355

Mahdi, S. S., Battineni, G., Khawaja, M., Allana, R., Siddiqui, M. K., & Agha, D. (2023). How does artificial intelligence impact digital healthcare initiatives? A review of AI applications in dental healthcare. In *International Journal of Information Management Data Insights* (Vol. 3, Issue 1). Elsevier B.V. https://doi.org/10.1016/j.jjimei.2022.100144

Meiliana, Daniella, G., Wijaya, N., Putra, N. G. E., & Efata, R. (2023). Agile Software Development Effort Estimation based on Product Backlog Items. *Procedia Computer Science*, *227*, 186–193. https://doi.org/10.1016/j.procs.2023.10.516

Miller, M. I., Shih, L. C., & Kolachalama, V. B. (2023). Machine Learning in Clinical Trials: A Primer with Applications to Neurology. *Neurotherapeutics*, *20*(4), 1066–1080. https://doi.org/10.1007/s13311-023-01384-2

Mishra, A., & Alzoubi, Y. I. (2023). Structured software development versus agile software development: a comparative analysis. *International Journal of System Assurance Engineering and Management*. https://doi.org/10.1007/s13198-023-01958-5

Najihi, S., Elhadi, S., Abdelouahid, R. A., & Marzak, A. (2022). Software Testing from an Agile and Traditional view. *Procedia Computer Science*, *203*, 775–782. https://doi.org/10.1016/j.procs.2022.07.116

Rindell, K., Ruohonen, J., Holvitie, J., Hyrynsalmi, S., & Leppänen, V. (2021). Security in agile software development: A practitioner survey. *Information and Software Technology*, *131*. https://doi.org/10.1016/j.infsof.2020.106488

Roulet Perez, E. (2023). Precision or narrative medicine? Child neurology needs both! *Archives de Pediatrie*, *30*(6), 415–419. https://doi.org/10.1016/j.arcped.2023.06.007

Samadbeik, M., Aslani, N., Maleki, M., & Garavand, A. (2023). Acceptance of mobile health in medical sciences students: Applying technology acceptance model. *Informatics in Medicine Unlocked*, *40*. https://doi.org/10.1016/j.imu.2023.101290

St Louis, E. K., & Videnovic, A. (2021). Sleep Neurology's Toolkit at the Crossroads: Challenges and Opportunities in Neurotherapeutics Lost and Found in Translation. In *Neurotherapeutics* (Vol. 18, Issue 1). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/s13311-021-01032-7

Tan, Z. C., Tan, C. E., & Choong, Y. O. (2023). Occupational Safety & Health Management and Corporate Sustainability: The Mediating Role of Affective Commitment. *Safety and Health at Work*. https://doi.org/10.1016/j.shaw.2023.10.006

Wang, J., & Conwell, J. (2022). Higher education and health at midlife: Evaluating the role of college quality. *SSM - Population Health*, *19*. https://doi.org/10.1016/j.ssmph.2022.101228