INFORMATION TECHNOLOGY STRATEGIC PLAN

UNIVERSITAS ISLAM INDONESIA

2022-2026

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The Universitas Islam Indonesia (UII) has established three strategic objectives for 2022-2026: to strengthen values, elevate innovation, and deepen benefits. This is bolstered by the university's digitalization steps, which have become increasingly vital in the era of the COVID-19 pandemic. These strategic objectives serve as the primary foundation for the university's activities and manifest in developing information technology services. This encompasses the acceleration of information system development and integration, the cultivation of an online learning ecosystem, the enhancement of digital capabilities of faculty and educational staff, and the development of concepts related to data ownership, utilization, and security. UII is committed to maintaining the quality of education provided to students while continuously adapting to technological advancements and evolving times. From 2022 to 2026, the Board of Information System (BSI UII) will focus on data management, enhancing data security, and fostering a work culture that is responsive, agile, and flexible to support internal changes.

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INTRODUCTION

UII for 2022-2026, reaffirms its three strategic university objectives: to strengthen values, elevate innovation, and deepen benefits. These three strategic goals are based on a verse from the Quran, specifically Surah Ibrahim, verse 24, which can be loosely translated as a good word (the word of monotheism) is like a tree whose roots are firmly established in the ground, its trunk reaching high into the sky, bearing fruit in every season by His permission.

These three core values are solidified through the university's digitalization efforts. The relevance of digitalization in the COVID-19 era, where many activities have transitioned online, underscores its importance. These three strategic objectives serve as the primary foundation for the university's activities and are reflected in the main focus of developing information technology services. This responsibility primarily falls under the UII Board of Information System (Badan Sistem Informasi – BSI) and includes:

1. Acceleration of the development and integration of information systems
2. Development of an online learning ecosystem (supporting blended learning and distance education)
3. Enhancement of the digital capabilities of faculty and educational staff
4. Development of concepts related to data ownership, utilization, and security

The implementation of digitalization has become essential in many aspects of life, including at UII. The COVID-19 pandemic has hastened changes in the digital landscape at the university, where IT plays a vital role in driving these changes. UII has taken emergency measures, such as activating video conferencing, digital office services, and other services that support academic and non-academic activities, to ensure the continuity of the teaching and learning process during the pandemic.

Technology has become an essential tool in the modern educational landscape, and adopting it in teaching, administration, and other facets of university operations has not only streamlined processes but also brought about a paradigm shift in delivering education. This shift has resulted in increased efficiency, flexibility in pedagogical approaches, and a reduction in operational costs.

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The digital era presents UII with a unique opportunity to be at the forefront of innovation. By harnessing digital technology, the university can spearhead groundbreaking research initiatives, foster collaborations across institutions both nationally and globally, and design a curriculum that is attuned to the ever-evolving needs of the industry and the broader community. This curriculum would enable students to acquire the knowledge and skills they need to adapt to a rapidly changing world.

UII's ability to pivot and respond swiftly to the challenges posed by the pandemic is a testament to its resilience and forward-thinking approach. With a flexible mindset and a penchant for innovative solutions, this agility has solidified UII's position as a beacon of excellence in information technology service development. Such achievements are the result of a deep-rooted commitment to adapt, evolve, and provide students with an education that is relevant and of the highest quality.

Looking ahead to 2022-2026, UII's information technology services are poised to play an even more integral role. As the world continues to change, both from internal institutional shifts and external global influences, the university's IT strategies must remain malleable, proactive, and ever-evolving. This proactive approach, characterized by agility, flexibility, and innovation, will allow UII to meet objectives, anticipate and respond to unforeseen challenges and opportunities and remain a trailblazer, setting benchmarks for other institutions.

The advantages of a robust IT framework extend beyond the university. For students and educators, modern information technology tools provide access to vast knowledge spanning continents and cultures. They can collaborate seamlessly with peers, experts, and researchers from around the globe, breaking down traditional barriers, and fostering a truly global learning environment. Moreover, they can tap into the latest trends, research findings, and developments, ensuring their learning and teaching methodologies are always at the cutting edge.

However, continuous investment is imperative to sustain and build upon this momentum. UII must invest in bolstering its information technology infrastructure, ensuring it remains state-of-the-art. Equally important is the investment in human capital, enhancing the capabilities of both faculty and administrative staff. Furthermore, forging strong collaborations with diverse stakeholders, be it industry leaders, governmental bodies, or other educational institutions, will ensure that UII remains at the forefront of educational excellence.

In general, the information technology services at UII enhance the on-campus experience, enabling a flexible learning process, supporting digital innovation in the lecture process, and offering support for easy digital access related to research, community service, and Islamic propagation. This excellence points position UII as an educational institution capable of adapting to post-pandemic conditions while remaining relevant in delivering top-tier quality.

BSI UII has solidified three roles in its information technology strategic plan for 2018-2022: *accompanying*, *serving*, *and accelerating*. These three roles are maintained while enriching the three characters previously described. As such, BSI UII will continuously explore various new technologies such as augmented reality, intelligent campus technology, digital collaboration tools, artificial intelligence, and machine learning. These technologies aim to enhance the student learning process, strengthen the digital capacity of faculty and educational staff, increase research capacity and decision-making, and automate various business processes.

For 2022-2026, in line with the rector's direction through the explanation of the three strategic objectives, BSI UII will also focus on data management. Data at UII is expected to yield insights and enable a better data-driven decision-making process. Furthermore, with the increasing use of data, BSI UII is committed to enhancing data security processes, from providing and updating information technology policies focusing on privacy and access policies. Additionally, the process of securing data and information technology infrastructure through the presence of the UII Computer Security Incident Response Team (CSIRT) is emphasized.

To support internal change management, BSI UII also focuses on building a work culture that is more responsive, agile, and flexible. Staff at BSI are fully supported to enhance their capacity through various training processes, internal and external actualization processes. Change management is crucially relevant to the governance process, where BSI UII can ensure adaptation to environmental changes, sustainability, and achieving the set strategic objectives. The change management process is expected to help BSI UII identify and overcome obstacles that might be encountered in the digital transformation process.

INFORMATION TECHNOLOGY STRATEGIC PLAN 2022-2026

01

Vision and Mission

Vision and Mission, IT Development Characters

02

Digital Culture

The development of UII's digital culture and the internal culture of BSI UII, coupled with the enhancement of digital capacity, aims for more agile and responsive services.

03

Digitalization and Automation

Digitalization and automation of university's process businesses through UIIGateway

04

Online Learning Ecosystem

The development of online learning ecosystem to support distance and remote learning of the university.

05

Cyber Security

Development of IT Governance and Policies towards data and information security of the university's data.

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VISION

BSI UII provides information technology services that facilitate the adoption of advanced learning, educational, and research procedures to help the university become a global reference.

Universitas Islam Indonesia strives to become a leader in technology adoption and actively engages in local and global partnerships.

MISSION

IT DEVELOPMENT CHARACTERISTICS

01 *Agile* – Creating an environment that fosters the development of information technology services that can rapidly adapt to emerging changes or demands.

02 *Flexible* – Building a digitalization development process that allows for various approach options.

03 *Innovative* – Discovering innovative approaches for implementing and advancing cutting-edge technologies to optimize the productivity of university operations.

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THE DEVELOPMENT OF DIGITAL CULTURE AT UII

DEVELOPMENT OF DIGITAL CULTURE AT UII AND INTERNAL BSI UII, AS WELL AS ENHANCEMENT OF DIGITAL CAPACITY FOR MORE AGILE AND RESPONSIVE SERVICES, SUPPORTING THE PROCESSES OF LEARNING, RESEARCH, COMMUNITY SERVICE, AND ISLAMIC PREACHING.

Establishing a robust Information Technology Policy is an essential aspect of creating a supportive and conducive environment for higher education at UII. This policy serves as a set of guidelines, rules, and practices that regulate the management, usage, and safety of information technology resources in the institution. Its primary objective is to enhance data security measures, improve operational efficiency, and encourage collaboration and information exchange among stakeholders. Given the critical role of information technology in learning, research, community service, and Islamic preaching, it is imperative to cultivate a robust digital culture at UII.

The policy also prioritizes the automation of business processes and the enhancement of digital capacity, with an emphasis on data security measures in the coming years. To this end, UII is committed to providing adequate IT infrastructure, accessible and affordable devices, and digital resources for academic and administrative activities. Furthermore, BSI UII collaborates with relevant stakeholders to offer training and education programs that enhance digital literacy and IT skills for faculty, staff, and students. These programs may include basic training in hardware and software usage, relevant applications and systems for academic and administrative activities, and advanced training in specific topics. With a focus on developing a robust digital culture, UII is well-positioned to excel in the digital age of higher education.

Then, to foster a culture of continuous improvement, the campaign highlighting the significance of digital culture and the effective utilization of information technology in academic and administrative activities is woven into the very fabric of the university's operational planning. By incorporating this campaign as a regular component, UII strives to ingrain the importance of technological advancements and digital literacy among all stakeholders, from faculty to students and administrative staff.

Regular evaluations of the efficacy and impact of information technology adoption within academic and administrative processes allow the university to stay abreast of emerging trends, seize new opportunities, and address any challenges promptly. The insights from these assessments inform future strategies and decision-making, ensuring the institution remains at the forefront of technological integration in higher education.

Turning our focus to the internal sphere of BSI UII, adopting the SCRUM methodology as a flexible and adaptive software development framework is a strategic move to streamline operations. Embracing SCRUM empowers the development team to respond swiftly to changing requirements and market dynamics, enabling them to deliver innovative and robust solutions time-efficiently. The iterative approach of SCRUM, through well-defined sprints, fosters collaboration, transparency, and effective communication among team members and stakeholders, aligning everyone towards common objectives.

In parallel, BSI UII's use of the Knowledge Management Platform (KMP) represents a proactive approach to knowledge sharing and talent development. The KMP acts as a repository for tacit knowledge, unlocking hidden expertise within the team. By leveraging this platform, team members can continuously learn, grow, and hone their skills, fostering a dynamic workforce that remains adaptable to evolving technology trends and user needs. With a robust digital culture and the integration of SCRUM and the Knowledge Management Platform, UII and BSI UII are poised to thrive in the rapidly changing landscape of higher education and information technology. The commitment to continuous improvement and innovation ensures these institutions remain at the forefront of providing cutting-edge services, enriching the academic journey, research endeavors, community engagement, and Islamic preaching, all while embracing the transformative power of technology for a brighter and more inclusive future.

DIGITALIZATION AND AUTOMATION

DIGITALIZATION AND AUTOMATION OF UNIVERSITY'S PROCESS BUSINESSES THROUGH UIIGATEWAY

UIIGateway is a versatile digital platform that supports various university business processes involving multiple bodies and directorates within the UII environment. To keep up with the increasing complexity of business processes and technological advancements, UII recognizes the importance of enhancing collaboration among internal entities to achieve the university's strategic goals.

To achieve this, university-level business process stakeholders are given a more prominent role and responsibility in managing and controlling related applications and business processes. These stakeholders from different bodies and directorates will act as Product Owners, ensuring that user and organizational interests at the university level are met during the platform's development.

Involving a wider range of stakeholders allows for more effective and efficient collaboration in developing UIIGateway. This ensures that the resulting system aligns with users' needs and expectations, including the integration of visions and missions from the participating bodies and directorates during decision-making and strategic planning processes.

Additionally, as part of service expansion efforts, BSI UII provides Application Programming Interfaces (APIs) and Single Sign-On (SSO) services that enable the integration of various business processes across UII and non-UII environments. APIs facilitate integration between systems and applications by providing well-defined data and functionality-sharing access points. By utilizing APIs, information systems developed by faculties, for example, can easily interact with UIIGateway, ensuring data consistency and compatibility. Furthermore, APIs allow flexibility in system development, as changes in the primary system or related systems can be made without disrupting the performance of other systems integrated through APIs.

Meanwhile, SSO is a mechanism that allows users to access multiple systems or applications using a single set of authentication credentials. Implementing SSO in the university context will ease the access for users, such as faculty, staff, and students, to various systems operated by faculties and central systems like UIIGateway, without the need to remember multiple combinations of usernames and passwords. By adopting SSO, the university can enhance security and user experience while reducing the administrative burden associated with account and credential management.

We expect the utilization of APIs and SSO to become even more crucial in the university environment. This will provide a seamless, integrated, user-friendly, and efficient ecosystem. With this approach, we can effectively meet the business processes, especially those not covered by UIIGateway. By integrating various systems through APIs and SSO, we can enhance collaboration between different faculties, leading to increased productivity and innovation in developing information technology solutions that meet the diverse and changing needs of the university environment.

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ONLINE LEARNING ECOSYSTEM

DEVELOPMENT OF AN EASILY ACCESSIBLE ONLINE LEARNING ECOSYSTEM FOR THE UII STAKEHOLDERS.

Online Learning and Distance Learning (*Pendidikan Jarak Jauh - PJJ*) have become essential missions in UII's development for 2022-2026. To meet these needs, developing an easily accessible online learning ecosystem for the academic community of Universitas Islam Indonesia (UII) takes top priority in the IT strategic plan. Aligned with UII's commitment to providing high-quality, inclusive, and adaptive education, this IT strategic plan aims to outline comprehensive strategies and action plans for building and optimizing the infrastructure, platforms, and support services for online learning. Through implementing this strategic plan, UII endeavors to create a learning environment rich in resources, flexibility, and responsiveness to future needs and challenges.

Online learning at UII is supported by various platforms and services designed to facilitate learning, communication, and collaboration among faculty, staff, and students. One key component of this ecosystem is the Learning Management System (LMS), such as Google Classroom and Klasiber. LMS provides a space for faculty to organize, manage, and deliver structured learning materials efficiently. Additionally, LMS allows students to access learning resources, track assignment progress and evaluations, and interact with faculty and peers through discussions and collaborations.

Alongside LMS, video conferencing platforms like Zoom are vital in providing an interactive and practical experience for distance learning. Meanwhile, Video Repository platforms like Panopto give the students access to lecture recordings and other audiovisual materials, enabling them to review content and learn at their own pace and style.

Effective collaboration is essential for successful learning, and UII recognizes this. To facilitate interaction and cooperation, UII has integrated Google Education and Office 365 as collaboration platforms into their online learning ecosystem. These platforms provide tools and applications for creating, editing and sharing projects and communication services like email, chat, and video calls. This enables faculty, staff, and students to work together seamlessly.

UII has developed a reliable and scalable Distance Learning Center called Pusat Belajar Jarak Jauh (PBJJ) to support this online learning ecosystem. PBJJ is a resource and service center designed specifically for remote learning activities. It includes hardware and software, networks, and support systems to ensure smooth access and performance of the online learning platforms.

PBJJ uses Software-Defined Wide Area Network (SD-WAN) technology to improve connectivity, reliability, and network management efficiency. SD-WAN optimizes different network paths, including public internet and private lines, to create more flexible and reliable communication routes. With this technology, UII ensures that its academic community can access the online learning ecosystem consistently, even when adapting to changing needs and network conditions.

CYBER SECURITY

DEVELOPMENT OF DATA AND INFORMATION TECHNOLOGY INFRASTRUCTURE MANAGEMENT AND SECURITY.

UII recognizes the imminent need for robust data management and infrastructure security to sustain the educational sector's coherence and trustworthiness. To safeguard against potential cyber threats, BSI UII has been developing various initiatives and strategies. These include the forthcoming Computer Security Incident Response Team (CSIRT) launch, the formulation of exciting security policies, team member training, and deepening collaborations with security communities across Indonesia and the Asia Pacific region.

The CSIRT team is built and is integral to UII's security strategy. Their responsibilities include identifying, preventing, and handling security incidents that could potentially compromise the university's data and infrastructure integrity. Through close cooperation with relevant units within the university, the CSIRT team actively contributes to developing and maintaining comprehensive and effective security policies, ensuring that all members of the academic community implement and adhere to these policies. UII's CSIRT team is also registered as part of EduCSIRT, managed by the National Cyber and Encryption Agency (*Badan Sistem dan Sandi Negara – BSSN*).

UII's security policies are designed to anticipate potential security incidents and minimize their impact on the university's data and infrastructure. The policies cover crucial aspects such as data encryption, access management, and threat prevention and detection, and also encompass physical security management and governance. In the future, these policies will continue to evolve to address emerging threats and new technologies, ensuring the privacy and integrity of UII's data and infrastructure are safeguarded at all times.

BSI UII is committed to ensuring that the UII community is well-prepared and equipped to handle any cybersecurity challenges that may arise in the future. To achieve this goal, regular training and professional development sessions will be organized for all university members regularly. These sessions will cover a wide range of topics related to cybersecurity, including the latest tools and technologies. Additionally, the CSIRT team members will be provided with workshops that will help them enhance their skills in areas such as incident investigation techniques, malware analysis, and digital forensics. These initiatives will help ensure that the UII community is always ahead of the curve when dealing with cybersecurity threats.

UII is preparing to tackle future cybersecurity threats by implementing various strategies and initiatives to ensure a safe, protected, and resilient educational environment. These efforts will enhance UII's readiness and capabilities in dealing with the increasingly complex and dynamic cybersecurity landscape. By safeguarding critical information assets and infrastructure vital for the university's educational system's continuity and integrity, UII is taking proactive steps to prepare for future cybersecurity challenges.