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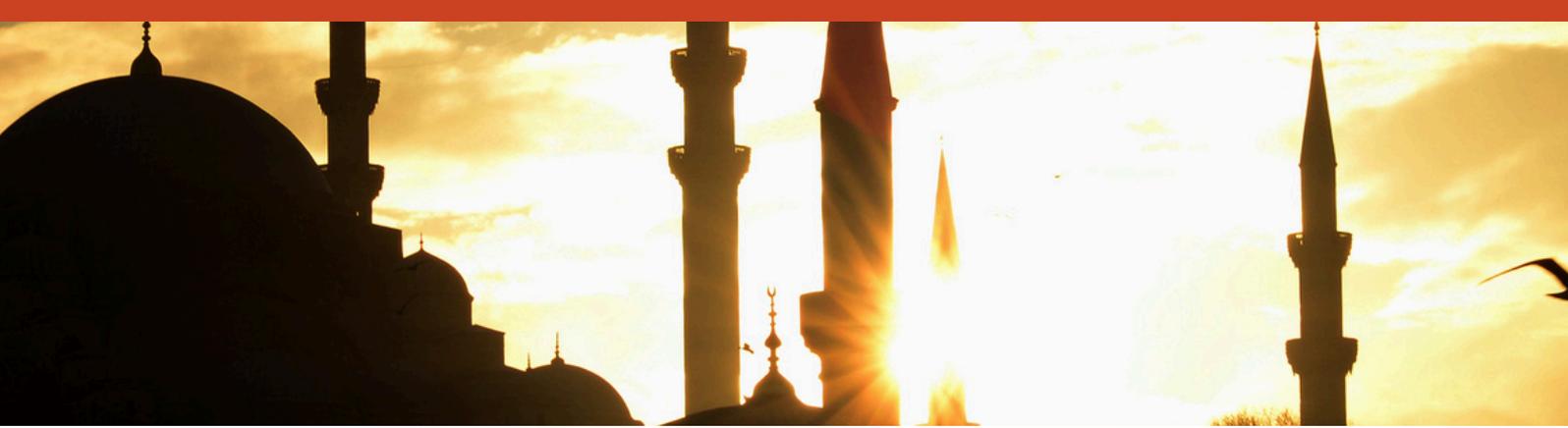
THE FUN SIDE OF MATH:
MAGIC TRICKS AND PUZZLES

COLLABORATING FOR SMARTER MOSQUES

How Chess Sharpens Your Mind and Math Skills

BEYOND THE CLAIM OF RANDOM SAMPLING

COLLABORATING FOR SMARTER MOSQUES

Haslinda Noradzan, Wan Aryati Wan Ghani, Siti 'Aisyah Sa'dan & Shamsudin Md Sarif
Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA (UiTM), Cawangan Negeri Sembilan, Kampus Seremban, 70300, Negeri Sembilan Darul Khusus, Malaysia.

haslindanoradzan@uitm.edu.my

INTRODUCTION

The transformation brought by intelligent technology calls for an intelligent community that connects to its environment. In this context, a smart mosque represents community vis-à-vis spirituality, where innovation strengthens facilities and bonds among people, especially neighborhood children. A smart mosque (or *masjid pintar*) refers to a mosque that integrates advanced or modern technologies, digital systems, and sustainable design features to enhance its functions. Transformed into a *smart building* through emerging technologies, it optimizes energy use, enhances security, and improves user comfort.

Using digital technologies and automation, technology embedded in smart mosques reduces energy and water waste, lowering operational costs that often rely on public donations. It improves worshippers' comfort through smart ventilation, lighting, and sound systems, while also ensuring accessibility for the elderly and people with disabilities. They also solve problems of overcrowding and facility management during peak times, and predictive maintenance systems help detect issues early, reducing repair costs. This article explores how community-driven innovation, in collaboration with experts from a university, shapes the development of innovative mosque products as part of this broader transformation.

CREATIVITY OF YOUNG INNOVATORS

Digital innovation is one of the factors that influenced the transformation of mosque management as a community hub that contributes to the sustainability of social and religious programs (Amin et al., 2024). Thus, an inspiring initiative took shape when the mosque management collaborated with a nearby university. This collaboration provided an avenue for children to grow a culture of innovation. Rather than learning in the classroom, the children were given a platform to put their problem-solving and STEM skills into practice. With guidance, they began sketching ideas, experimenting, and building simple prototypes to turn their creativity into innovative solutions that could one day benefit the mosque and its community.

SMART MOSQUE PRODUCTS

Smart building technologies are gaining attention everywhere, especially for their ability to save energy and improve quality of life (Mohammed et al., 2024). When brought into mosques, these innovations enhance the way the community experiences and interacts with the environment.

The success of smart mosque innovation lies in collaborative effort. Universities provide guidance and theoretical development, while innovators focus on designing products that meet community needs. Community leaders, mosque committees, and parents then help ensure these innovations are implemented and utilised effectively. By working together, they transformed the mosque into a classroom where children could get hands-on with ideas rather than just reading about them. With encouragement from parents and community leaders, schoolchildren sketched, fiddled, and eventually showcased prototypes such as energy-saving systems, digital notice boards, and auto-detection tools. Some of the products showcased are shown in Figure 1. Children of all ages turned out to explore the programme, which was held as part of the collaboration. The university staged a fascinating series of demonstrations, hands-on experiments, and talks, giving the wider community a chance to share in the excitement of innovation. The effort highlighted the mosque as a hub of innovation and gave children new ways to learn and the community a stronger sense of connection.

Figure 1: Innovation in Action: Smart Mosque Prototypes

LOOKING AHEAD

The journey of creating smart mosque prototypes is just the beginning. By connecting campuses with communities, these initiatives highlight how young minds can shape meaningful solutions for everyday life. Looking ahead, this collaboration promises smarter mosques and stronger and more connected communities. Designed to inspire their understanding and enjoyment of intelligent technology, the prototypes allowed children to work with the people who shape their community and see how their ideas could grow into something real. The extremely high standard that the students had achieved, along with the practical, discursive, and teamwork skills they demonstrated in producing their work, was highly commendable.

REFERENCES

[1] Amin, M., & Muhammadah, S. (2024). Improving Mosque Management: Strategies Towards A Center For Islamic Activities. Journal of Research and Community Service, 1(1), 31-43.

[2] Mohammed, A. S., Issah, B. A., Abbas, J., & Dzimale, A. (2024). Emerging technologies for transforming mosques into smart buildings: a systematic literature review. International Journal of Research and Scientific Innovation (IJRSI), (6), 510–534.