

The Implementation of Artificial Intelligence in Islamic Religious Education and Its Impact on Students' Religious Character at State Senior High School 1 Makassar

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Abstract

This study aims to analyze the implementation of Artificial Intelligence (AI) in Islamic Religious Education instruction and its influence on students' religious character development at State Senior High School 1 Makassar. The research is grounded in the increasing use of AI in educational processes, which presents both opportunities and challenges in internalizing religious values. This study employed a qualitative case study design. Data were collected through in-depth interviews, classroom observations, and documentation, and analyzed using thematic data reduction, data display, and conclusion drawing. The findings indicate that AI implementation occurs adaptively through educational chatbots, moral case analysis, and technology-assisted reflective discussions. AI enhances student engagement, contextual understanding of Islamic teachings, and awareness of digital responsibility when guided by proper pedagogical supervision. However, unreflective use may lead to dependency and the internalization of superficial values. The study concludes that AI can support religious character formation when integrated ethically and systematically. Therefore, strengthening religious digital literacy and establishing school regulations are essential to ensure that AI utilization remains aligned with the goals of Islamic education.

Keywords: Artificial Intelligence, Islamic Religious Education, Religious Character, Students

INTRODUCTION

The digital transformation in education has accelerated significantly alongside the rapid development of Artificial Intelligence (AI), a technology poised to revolutionize teaching and learning. The use of AI in the form of educational chatbots, learning recommendation systems, and student performance analytics has been increasingly adopted across educational institutions, including senior high schools. On the one hand, this innovation provides opportunities to enhance adaptive and personalized learning experiences. On the other hand, it raises critical concerns regarding its impact on students' affective and moral dimensions, particularly in Islamic Religious Education (IRE), which emphasizes the formation of religious character (Fauziyati, 2023; Muchlis, 2025; Nurrohmah et al., 2025).

Islamic Religious Education holds a strategic role within the national education system, aiming to develop students who are faithful, pious, and morally upright. The learning process in IRE does not merely transmit religious knowledge but also instills values, attitudes, and habits that reflect religious character in everyday life. Therefore, integrating AI into IRE requires thorough examination to ensure that technological use does not shift the essence of value-based education into purely technical activities. The implementation of AI at the senior high school level is increasingly relevant, as students are in the formal operational stage of cognitive development, characterized by the emergence of abstract and critical thinking abilities (Sanrock,

2021). In this context, AI has the potential to function as an effective learning tool to enrich educational resources, encourage broader exploration of religious materials, and enhance students' critical thinking (Sodikin, 2024). However, the use of AI without ethical reinforcement and pedagogical supervision may lead to dependency, plagiarism, and a reduction in spiritual reflection.

The phenomenon of AI usage among students at State Senior High School 1 Makassar illustrates a new dynamic in IRE learning. Students utilize AI-based applications to obtain instant answers for religious assignments, understand scriptural references, and even summarize learning materials. This practice creates a dilemma between learning efficiency and the depth of value internalization. Teachers are therefore challenged to ensure that AI use supports the development of religious character rather than merely accelerating the completion of academic tasks (Lubis et al., 2023).

A prominent issue in contemporary educational discourse concerns how to maintain a balance between technological innovation and character formation. Some argue that AI enriches learning through personalized content and rapid feedback, while others express concern about its potential impact on moral integrity and individual responsibility. Within the context of IRE, this issue becomes more complex, as it relates to values such as honesty, trustworthiness, and spiritual awareness (Hakim et al., 2024; Isdayani et al., 2024; Sholehah & Rachman, 2023).

Previous studies have shown that AI implementation in education significantly enhances student motivation and engagement. These studies found that AI-based platforms can increase classroom participation, encourage innovation and creativity, and improve conceptual understanding (Syafitri et al., 2024). However, this research has not specifically examined the impact of AI on religious character formation, particularly in value-oriented subjects such as IRE. Other studies indicate that integrating digital technology into religious education improves access to learning resources and broadens students' understanding of contemporary Islamic issues (Alfayumi et al., 2025; Sarinda et al., 2023). Nevertheless, these studies primarily emphasize cognitive aspects and do not measure behavioral or attitudinal changes in students after technology use.

Research on digital literacy further emphasizes that the ability to evaluate and filter information is crucial for responsible technology use (Isdayani et al., 2024; Tantri et al., 2023). In IRE learning, digital literacy extends beyond technical competence to include ethical awareness in accessing and utilizing religious information. Without proper guidance, students may accept inaccurate information or misinterpret religious teachings.

From a pedagogical perspective, modern constructivist learning theories highlight the importance of interaction and reflection in meaning-making processes (Schunk, 2020). AI can serve as a cognitive scaffolding tool; however, the teacher's role remains central in directing learning toward spiritual and moral understanding. Furthermore, ICT-based demonstration methods have proven to improve students' learning outcomes in religious subjects (Mubarok, 2021). In the context of State Senior High School 1 Makassar, it is essential to examine how IRE teachers facilitate the use of AI in alignment with Islamic values and character education goals.

The integration of technology in education in Indonesia aligns with the national education reform policy, Merdeka Belajar, which promotes flexible, student-centered learning and the development of character and critical thinking skills (Fitriyah & Wardani, 2022; Kemendikbud, 2020). Schools are encouraged to adopt technology as part of instructional innovation, particularly in integrating digital tools and analyzing Islamic material content within the independent curriculum (Khalijah & Zuliana, 2024; Qolbiyah, 2022; Salsabila et al., 2024). However, implementing this curriculum in religious education presents its own challenges and innovations for schools (Jatmiko et al., 2025). These policies have not provided detailed guidelines regarding AI integration in religious education. Consequently, implementation largely depends on individual teachers'

initiatives and competencies. This condition necessitates contextual research that provides empirical insights into actual classroom practices.

Religious character, as the primary variable of this study, encompasses dimensions of belief, worship practices, moral conduct, and social responsibility. Its development is influenced by school environment, learning culture, and teacher-student interaction. The integration of AI into the digital learning environment adds complexity to these influencing factors. Therefore, analyzing the impact of AI on religious character formation requires a systematic and contextual approach (Nurrohmah et al., 2025).

Some studies also indicate that technology use without value-based guidance may distort Islamic education and reduce direct social interaction (Fahrudin et al., 2024; Hakim et al., 2024). In IRE learning, face-to-face interaction and teacher role modeling are fundamental elements in internalizing values. If AI excessively replaces dialogical engagement, the process of religious character formation may be reduced to purely cognitive activity.

Conversely, AI also offers positive potential to strengthen reflective learning through moral case studies, ethical simulations, and interactive scenario-based discussions. With appropriate pedagogical design, AI can serve as a medium to reinforce religious values, provided that the ethical use of social media and digital platforms is actively taught (Tantri et al., 2023). Therefore, this study does not view AI's impact in a dichotomous manner but objectively analyzes how its implementation influences students' religious character formation.

The research gap lies in the absence of empirical studies specifically examining AI implementation in IRE learning at State Senior High School 1, Makassar, and its impact on students' religious character. Considering the local cultural and social characteristics that influence learning processes, contextual investigation is necessary.

Based on these considerations, this study aims to contribute to academic understanding of the dynamics of AI implementation in IRE and its influence on religious character formation. The findings are expected to serve as references for teachers, schools, and policymakers in designing AI integration strategies that remain oriented toward value and character reinforcement. Thus, digital transformation at State Senior High School 1 Makassar is expected not only to generate technological innovation but also to strengthen the fundamental objectives of Islamic education in forming knowledgeable and morally upright generations.

METHOD

Design

This study employed a qualitative case study approach to explore the implementation of Artificial Intelligence (AI) in Islamic Religious Education (IRE) and its impact on students' religious character at State Senior High School 1 Makassar. A case study design was selected to gain an in-depth, holistic understanding of complex, real-life educational phenomena within their natural context (Viera, 2023). Participants were determined using a purposive sampling technique, ensuring that informants had direct involvement and rich experiences with AI integration in the classroom. The key informants included 3 IRE teachers, the school principal, and 30 grade XI students. This methodological choice was intended to provide a comprehensive, contextually grounded understanding of how AI influences students' affective and moral dimensions.

Procedures and Data Collection

Empirical data collection was conducted over 3 months using three primary techniques: in-depth interviews, direct observation, and document analysis. First, semi-structured in-depth interviews were conducted with the key stakeholders. The interview sessions, lasting approximately 45 minutes each, relied on a targeted guide that explored themes such as AI use, pedagogical strategies, and observable changes in

students' religious character. Second, direct, non-participant observations were carried out during 6 IRE learning sessions. This non-invasive method allowed the researcher to systematically observe how students interacted with AI tools, peers, and teachers during regular school activities. Third, documentation analysis involved examining school policy records, instructional modules (Modul Ajar), and student character assessment reports. This rigorous data collection process was supported by current theoretical frameworks in qualitative methodology (Viera, 2023).

Data Analysis

The data analysis in this study followed a systematic qualitative thematic analysis, which consists of three concurrent flows of activity: data condensation, data display, and conclusion drawing/verification.

During the data condensation (reduction) stage, the researcher carefully selected, simplified, and organized the raw data from interview transcripts, field observation notes, and documents. This process involved categorizing statements and identifying recurring themes—such as emotional expressions, ethical awareness, and behavioral shifts—while eliminating irrelevant information. Coding techniques were applied to group similar data segments related to the development of students' character (Mishra & Dey, 2022).

In the data display stage, the condensed data were organized and presented in narrative descriptions and thematic matrices to facilitate pattern recognition and interpretation. This presentation enabled systematic comparisons across data from different sources (e.g., cross-referencing interviews with observational notes), enabling rigorous data triangulation. Finally, the conclusion drawing and verification stage involved interpreting the established patterns to understand the precise influence of AI on students' religious character.

To ensure the trustworthiness, credibility, and validity of the findings, the researcher applied methodological and source triangulation, as well as member checking, where preliminary findings were shared with key informants to verify the accuracy of the interpretations (Bans-Akutey & Tiimub, 2021). The entire process was contextually grounded in the actual educational conditions of State Senior High School 1, Makassar.

RESULTS AND DISCUSSION

Results

The Implementation of Artificial Intelligence in Islamic Religious Education at State Senior High School 1 Makassar

The findings of this qualitative study indicate that the implementation of Artificial Intelligence (AI) in Islamic Religious Education (IRE) at State Senior High School 1 Makassar is adaptive and context-sensitive. Based on interviews with IRE teachers, AI is utilized through educational chatbots, AI-based reference search applications, and digital learning platforms equipped with automated feedback features for students' responses. Teachers reported that AI helps accelerate lesson preparation and provides more varied explanations of complex religious concepts. This suggests that AI has become part of a pedagogical strategy rather than merely a technical support tool.

Classroom observations revealed that students primarily use AI during group discussions and while completing religious case analysis assignments. In several sessions, teachers required students to compare AI-generated responses with authoritative religious texts or official references to cultivate critical thinking. This pattern demonstrates that AI is not used freely without control but operates under pedagogical supervision. These findings align with recent research (Baidoo-Anu & Ansah, 2023), which emphasizes that AI's effectiveness in education largely depends on instructional design and teacher guidance.

However, interviews with several students revealed a tendency to use AI for instant answers without engaging in deeper reflection. Some students admitted that they occasionally copied AI-generated responses

without verifying scriptural references. This phenomenon reflects an ambivalence in AI implementation: while it enhances learning efficiency, it may also reduce the depth of religious understanding. This condition reinforces recent findings (Hakim et al., 2024) that digital literacy and ethical awareness are decisive factors in the utilization of technology within Islamic education.

Documentation analysis further showed that teachers have begun incorporating case-based activities and reflective questions that use AI as a discussion trigger. This strategy indicates an effort to integrate technology within a constructivist framework. AI functions as a stimulus for critical thinking rather than as an ultimate source of truth. From a social constructivist perspective, such practice supports meaning-making through interaction and dialogue.

Thematic analysis of interview data identified three primary themes: learning efficiency, academic ethical challenges, and the need for regulatory guidelines regarding AI use. The efficiency theme relates to easier access to information and diversified learning resources. Ethical concerns stem from teachers' worries about plagiarism and student dependency. The regulatory theme highlights the necessity of school-level guidelines defining acceptable boundaries for AI use in religious assignments.

Overall, AI implementation at IRE, State Senior High School 1 Makassar, remains in a transitional stage. Technology has been accepted as part of instructional innovation, but has not yet been fully integrated into a systematic value-based pedagogical framework. The findings indicate that successful AI integration depends not merely on technological availability but on teachers' pedagogical awareness and their ability to guide its ethical use.

Further in-depth interviews revealed that AI use also influences lesson-planning patterns. Teachers acknowledged that the presence of AI encourages them to design more analytical and contextual questions that cannot be easily answered through instant digital responses. Consequently, AI indirectly stimulates improvements in instructional design, as teachers adjust assessment strategies to demand critical and reflective thinking. This reflects an adaptive dynamic between technological advancement and pedagogical competence.

In practice, AI is also used to explore contemporary issues related to Islamic values, such as digital ethics, responsible social media use, and misinformation. Teachers ask students to pose questions to AI about specific cases, then discuss the responses from an Islamic perspective. This approach creates a broader and more contextual dialogue. Thus, AI serves not only as an information source but also as a catalyst for moral discourse relevant to students' daily lives.

From the students' perspective, AI usage provides a more interactive and less monotonous learning experience. Several students reported increased interest in exploring religious topics independently through AI before discussing them in class. This indicates enhanced intrinsic motivation. Nevertheless, students also acknowledged the importance of teacher guidance to prevent misinterpretation or uncritical acceptance of AI-generated information.

The findings also reveal a shift in knowledge authority patterns within the classroom. Whereas teachers were previously the sole primary source of information, AI now functions as an alternative reference. This shift requires teachers to reinforce their roles as facilitators and interpreters of values rather than mere transmitters of knowledge. In religious education, this role is particularly crucial because interpreting Islamic teachings demands contextual understanding and spiritual depth that algorithmic systems cannot fully replace.

Additionally, observations indicate that AI implementation fosters a collaborative learning culture. Students tend to engage in small-group discussions to compare AI-generated responses with the textbook and religious sources. This process maintains social interaction despite active use of technology. Therefore, the assumption that technology necessarily isolates learners is not fully supported in this context, provided that teachers guide its collective and reflective use.

Conceptually, these findings affirm that AI implementation in IRE at State Senior High School 1 Makassar is a dynamic and evolving process. Technology acts as a catalyst for pedagogical transformation, yet its effectiveness depends on integrating values, exercising ethical control, and fostering critical reflection in the classroom. In other words, AI is not the sole determinant of IRE transformation but part of an educational ecosystem that must be consciously managed to remain aligned to foster students' religious character.

Table 1. Findings on AI Implementation in Islamic Religious Education

| No | Analyzed Aspect | Field Findings | Interpretation |
|----|--------------------|---|---|
| 1 | AI Usage Pattern | Used for scriptural reference searches, material summaries, and case analysis | AI functions as a reference source and discussion stimulus. |
| 2 | Teacher's Role | Teachers guide students to compare AI responses with authoritative religious texts. | Pedagogical control determines the quality of AI utilization. |
| 3 | Student Response | Students become more active in discussions and questioning | AI enhances participation and engagement |
| 4 | Ethical Challenges | Some students copy responses without verification | Digital literacy and value supervision remain necessary |
| 5 | Value Integration | AI used in contemporary moral and fiqh case studies | Technology can support value internalization when used reflectively |

Analysis of the Impact of AI Implementation on Students' Religious Character Formation

Based on in-depth interviews with teachers and students, religious character formation was identified through indicators such as discipline in worship, academic honesty, respectful attitudes, and social responsibility. Teachers stated that AI use supports students' understanding of moral (akhlaq) and fiqh concepts through moral case simulations, enabling them to comprehend the practical implications of Islamic teachings better. During several AI-assisted discussions, students appeared more active in expressing opinions and relating the material to their daily lives.

However, classroom observations revealed behavioral differences between students who used AI reflectively and those who used it instantaneously. Students guided to analyze and critically evaluate AI-generated responses demonstrated greater responsibility and stronger argumentative skills. In contrast, students who merely copied answers tended to struggle in explaining the material in depth. This finding suggests that AI can contribute to religious character formation when implemented through a reflective pedagogical approach.

The study also found that AI-supported discussions on moral values fostered critical awareness of contemporary ethical issues, such as social media ethics and digital responsibility. Students connected Islamic teachings with their daily technological practices. This indicates that AI can broaden the space for internalizing religious values within modern life contexts. These findings are consistent with recent research (Syafitri et al., 2024), which argues that technology can strengthen value-based learning when designed contextually.

Nevertheless, several teachers expressed concerns that excessive reliance on AI might reduce direct teacher-student interaction. In Islamic education, teacher role modeling is a fundamental element in character formation. AI lacks the spiritual and emotional dimensions necessary to serve as a moral exemplar. Therefore, AI integration must be positioned as a supportive instrument rather than a substitute for pedagogical interaction.

Data analysis indicates that the impact of AI on religious character formation is conditional. Positive outcomes emerge when AI is utilized as a tool for value reflection and ethical discussion. Conversely, negative effects may arise when AI is used passively without supervision. Thus, the determining factor lies not in the technology itself but in instructional design and normative control.

Theoretically, these findings reinforce the view that religious character formation is a multidimensional process influenced by learning environments, social interaction, and reflective experiences. AI can enrich these experiences, but cannot function independently. Technology integration must align with principles of *adab* (proper conduct), responsibility, and spiritual awareness.

Further interview data revealed that academic honesty is the most sensitive indicator in the context of AI usage. Teachers observed that some students began recognizing the importance of citing sources and explaining their reasoning processes when presenting AI-assisted discussion results. Oral clarification in class encouraged students to take responsibility for their answers rather than merely submitting written responses. In this context, AI can serve as a medium for cultivating integrity when teachers consistently emphasize transparency and accountability.

Moreover, religious character formation was reflected in increased student awareness of digital responsibility. During discussions, students acknowledged that sincere intentions must accompany AI use and that it should not be used to deceive or manipulate assignments. This indicates the internalization of the value of *amanah* (trustworthiness) within the digital sphere. Thus, AI is not only perceived as an academic tool but also as part of a moral practice requiring ethical accountability.

Observations further demonstrated that students who actively engaged in dialogue with teachers regarding AI-generated responses were more open to correction and differing viewpoints. This attitude reflects the development of humility (*tawadhu'*) and a readiness to accept truth from multiple sources after verification. In contrast, students who used AI independently, without discussion, tended to defend their answers even when they lacked authoritative support. This difference reinforces the conclusion that pedagogical interaction remains essential in character formation.

Regarding discipline in worship, teachers reported that integrating AI into *fiqh* and moral lessons helped students understand the rationale behind religious practices, making them less ritualistic and more meaningful. Some students expressed a deeper understanding of the wisdom behind congregational prayer and the importance of guarding speech after analyzing AI-assisted case studies. Although behavioral change requires consistent habituation beyond the classroom, contextual understanding can heighten awareness.

Analytically, these findings demonstrate that the influence of AI on religious character formation is non-linear and mediated by teacher facilitation, school culture, and students' readiness to interpret technology as part of moral responsibility. AI serves as a medium providing access to knowledge and value simulations, yet internalization depends on dialogue, reflection, and exemplary conduct. Therefore, AI integration in IRE must be framed within a value-based pedagogy that emphasizes ethical consciousness rather than mere academic efficiency.

Overall, this extended analysis affirms that religious character formation in the digital era demands an integrative approach between technology and spirituality. AI implementation at State Senior High School 1 Makassar shows potential for strengthening character when guided by reflective strategies and consistent normative supervision. Consequently, developing school policies and enhancing teachers' religious digital literacy competencies are strategic steps to ensure that technological transformation aligns with the fundamental objectives of Islamic education—balancing knowledge, faith, and moral conduct.

Table 2. Analysis of the Impact of AI Implementation on Religious Character

| No | Religious Character Indicator | Positive Impact | Potential Risk |
|----|----------------------------------|---|--|
| 1 | Worship Discipline | More contextual understanding of the wisdom behind worship | Practice may not be consistent without habituation |
| 2 | Academic Honesty | Students learn to justify and present their answers responsibly | Risk of plagiarism without supervision |
| 3 | Respectful & Dialogical Attitude | Discussions become more open and argumentative | Dependence on AI-generated responses |
| 4 | Digital Responsibility | Increased ethical awareness in technology use | Misuse of AI without school regulation |
| 5 | Moral Reflection | Digital case discussions broaden moral understanding | Superficial understanding without verification |

Discussion

The findings of this study indicate that integrating artificial intelligence into Islamic Religious Education (IRE) at State Senior High School 1 Makassar has introduced new opportunities to improve learning efficiency and accessibility. Students reported that AI-based tools helped them obtain explanations of religious concepts more quickly and allowed them to review learning materials independently. This aligns with contemporary studies that highlight how generative AI can enhance learning processes through adaptive feedback, personalized learning experiences, and rapid access to information (Baidoo-Anu & Ansah, 2023). In this context, AI serves as a supportive educational tool that enhances students' engagement with religious learning materials, especially when used under teachers' guidance.

However, the results also demonstrate that AI implementation does not replace teachers' pedagogical role in Islamic Religious Education. Teachers remain central in interpreting religious values, guiding students' reflections, and ensuring that technological tools are used responsibly. This finding supports the view that AI in education should serve as a complementary tool rather than a substitute for human instruction (Anwar, 2024). In value-oriented subjects such as religious education, teachers play a critical role in contextualizing knowledge, clarifying moral implications, and fostering meaningful discussions that technological systems cannot fully replicate.

Another important finding concerns the influence of AI-assisted learning on students' religious character. The data suggest that when AI is integrated within a structured pedagogical framework, it can support students' curiosity and motivation to explore religious knowledge more deeply. Access to diverse digital resources encourages students to ask questions and engage more actively with learning materials. This observation corresponds with recent research suggesting that digital learning technologies increase student motivation and engagement when integrated effectively into classroom practices (Chen et al., 2023; Jatmiko et al., 2025). Nevertheless, motivation alone does not automatically translate into deeper religious understanding without reflective guidance from teachers.

The study also reveals a degree of ambivalence in the use of artificial intelligence within religious education. While AI improves learning efficiency, there is concern that students may become overly dependent on automated answers, reducing opportunities for deeper reflection and critical interpretation of religious teachings. Scholars have warned that excessive reliance on digital technologies in Islamic education may lead to surface-level learning and a deficit in spiritual internalization (Fauziyati, 2023; Isdayani et al., 2024). In the context of IRE, where moral reasoning and spiritual reflection are essential, such tendencies require careful pedagogical management.

From a theoretical perspective, these findings can also be interpreted through the lens of social constructivist learning theory, which emphasizes that knowledge is constructed through social interaction and guided learning experiences (Vygotsky, 1978; Tantri et al., 2023). Even though AI provides rapid access to information, the development of religious character still relies heavily on interpersonal dialogue, mentorship, and ethical guidance provided by teachers and the broader school community. This reinforces the idea that technology should be integrated within collaborative and reflective learning environments rather than used as a purely individual learning tool.

Finally, the findings highlight the importance of contextual and ethical considerations in the implementation of artificial intelligence in religious education. National educational reforms encouraging digital transformation in learning environments support the adoption of innovative technologies in schools, yet practical implementation still depends largely on teachers' competencies and pedagogical strategies. Therefore, successful integration of AI in Islamic Religious Education requires a balanced approach that combines technological innovation with value-based education, ensuring that the use of digital tools contributes not only to cognitive development but also to the cultivation of students' religious character and moral responsibility.

CONCLUSION

Based on the findings, it can be concluded that the implementation of Artificial Intelligence (AI) in Islamic Religious Education (IRE) at State Senior High School 1 Makassar has a contextual impact that depends on usage patterns and pedagogical supervision. AI enriches learning resources, enhances student participation, and encourages reflective discussion of religious issues when used critically and purposefully. However, AI use without value-based guidance may lead to dependency and a shallower depth of religious internalization. Therefore, students' religious character formation is not determined solely by technological presence but by instructional design, teacher role modeling, and the reinforcement of digital ethics. These findings affirm that AI can serve as a constructive instrument in IRE learning when integrated wisely, reflectively, and in alignment with Islamic character education objectives.

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AUTHOR CONTRIBUTIONS STATEMENT

The author was solely responsible for the entire research process. This included conceptualizing the study, designing the research framework, collecting and analyzing the data, and interpreting the findings related to the implementation of Artificial Intelligence (AI) in Islamic Religious Education. The author also developed the discussion, formulated the conclusions, and ensured alignment between technological integration and the objectives of Islamic character education. Furthermore, the author prepared, reviewed, and finalized the manuscript, incorporating feedback and ensuring academic rigor throughout the study.

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