Faculty Member's Use of Digital Learning Tools in Teaching and The Challenges They Face

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Abstract
This study aimed to identify the use of digital learning tools by faculty members in universities in the teaching process and the challenges facing them. The study sample consisted of (380) faculty members selected in the random stratified way. The study relied on the descriptive approach to verify its objectives, develop a questionnaire tool, and ensure its sincerity and stability. The results indicated that faculty members in Jordanian universities used digital learning tools to a high degree, and there were no differences due to the impact of the university's classification in all fields and in the total degree, except for the student's skills in the digital environment. The differences came in favor of official universities, and there were statistically significant differences due to the impact of the college's classification in all fields and in the total degree. The differences came in favor of scientific colleges, and there were differences due to the impact of the academic level in all fields and in the total degree. The differences came in favor of the doctorate. The results also showed that the challenges facing the study sample when using digital learning were high.The study recommended that the Jordanian Ministry of Research and Higher Education should adopt the integration of digital learning environments according to the technical, educational and scientific foundations and follow the theories of teaching and learning when integrated, andwork to modernize the infrastructure in Jordanian universities and develop it according to the results of this study, and avoid future challenges that may face the application of digital learning.
Keywords: Uses of Digital Learning, Digital Learning, Challenges of Using Digital Learning.

Introduction
Today, the world is witnessing an accelerated technological development in all sectors, and in the educational sector, so technology and its tools have become a major place in the implementation of the educational process. Students and faculty members rely today in teaching and learning on digital learning and its tools, because of its benefits that enrich the learner with information and data and enable them to access information with the least effort, time and cost. The success of this depends on the degree of awareness among

academics in the ability to integrate digital learning tools into education, and whether their academic performance is significantly related to the effectiveness of online learning, which requires decision-makers in higher education institutions to activate the effective use of digital learning in the educational process with joint efforts with the elements of the educational process, and strive to control and overcome all the challenges facing them.

As a result of the rapid and great development in education technology, global development has become based on knowledge and innovation, so educational institutions have taken the initiative to have their educational goals in this direction. Many studies emphasize the importance of digital technology in providing better learning opportunities for students. Digital learning has been activated in teaching environments, through the integration of digital activities into the educational process, and this is due to the full awareness of academic workers of the use of technology in producing and managing the design of interactive learning environments (Minghat et al., 2021). Digital learning allows learning without the use of printed educational materials, but rather relies on various technologies, such as machine learning, big data, data visualization, and the Internet of Educational Things, with the aim of improving the educational process and facilitating access to information (Díaz et al., 2022).

Joint cooperation should be achieved between educational institutions, communication companies and community institutions to activate digital learning, because the culture of transformation in the educational process should not only be at the educational level, but also at the social level, and thus we find a combination of the advantages of social learning and learning everywhere, as the technologies of this educational model allow faculty members to integrate virtual classrooms and use multimedia presentations in the completion of projects, and the integration of cloud computing applications, such as the use of Google Docs models, conducting surveys and developing tests (Giannakos et al., 2016).

Through its activation and use of digital learning and its tools, the faculty member can find that learning is not continuous everywhere and at all times. In this way, the teacher may face challenges in dealing with digital learning, so they should be professionals in their professional field, have smart innovations in educational and scientific activities, and must have a great ability to produce a variety of multimedia, use different techniques to work with students, and be fully familiar with the concepts of digital learning (Nezhyva, 2021). (Zhu, Sun & Riezebos, 2016) indicates that learning leads to innovation and creativity Nezhyva (2021) shows that faculty members in universities must know the concepts of digital learning, as the concepts of digital learning are a key component of future education.

The Problem of the Study

Societies in developing countries suffer from a decline in digital infrastructure and its readiness to activate digital learning applications, despite its importance to create an interactive digital environment capable of motivating students towards excellence, creativity and innovation. The researcher also found through his work environment the low degree of academic colleagues' possession of digital learning skills, and some do not have acceptance of the application of digitization in education, despite what institutions seek from digital transformation in education, the researcher has the need to reveal the cause of this phenomenon, through Identifying the degree of awareness among academics in universities of the concepts of digital learning, and through the personal interviews I conducted, it was found that 65% of those working in the academic field were over the age of 65 years, which made it difficult to understand and apply the concept of digitization and generated a digital

gap between academics, as 35% of them have the desire to activate digital learning applications and have modernity in education and its methods, and in light of what universities seek to shift to digital learning systems, but this will not succeed unless faculty members have the ability to apply Internet tools In education, the study of (Al-Humaidi, 2017) (Ahmad, 2023) confirms that the success of the trend towards digital learning lies in the level of awareness of faculty members of the concepts of digital learning, as (Alzyoud, Alzyoud & Sulieman, 2020) shows that the reality of university education suffers from the low practice of digital learning in education, and by referring to the recommendations of previous studies such as the study of Alzyoud et al (2020) and the study of Ibrahim and the experts (2022) showed that universities still face difficulties in raising the level of awareness of their employees towards the concepts of digital learning.

Study Questions
The current study answered the following questions
1. What is the use of faculty members in Jordanian universities for digital learning in the teaching process?
2. What are thechallenges facing the awareness of faculty members in Jordanian universities touse digital learning in the teaching process?

Objectives of the Study
The current study aimed to achieve the following

− Identify the uses of faculty members in universities for digital learning in the teaching process.

− Identify thechallenges facing the awareness of faculty members in universities touse digital learning in the teaching process.

The importance of the study: The importance of the study stems from its subject in two aspects as follows
The **theoretical importance** of the study may be useful in spreading the digital culture among workers in the academic field in particular and education in general. The results of this study may also provide theoretical literature for future researchers wishing to learn more about digital learning. The applied importance appears in developing renewed mechanisms and plans, and future proposals to focus on the quality of the educational process and modern learning outcomes, and to control the challenges that may occur under digital learning.

Terminology of Study
Digital learning: Defined by (Ali, 2021) as concepts related to education that rely on the use of modern electronic media in learning, and provides e-learning content to students in a way that allows them to interact actively with the content and with their peers, with the aim of creating an interactive environment rich in electronic applications, including: digital holographic 3D images, digital videos that display the use of a machineand a gram and through the educational display screen, computer and web.

Study Limits and Limitations

The study was determined according to the following limits

- Objective Boundaries: The current study was limited to the topic of " Faculty Members' Use of Digital Learning Tools and Challenges Facing Them."
- Time limits: The study was applied in the first semester of the academic year 2023/2024.
- Spatial Limits: The study was applied in Jordanian universities.
- Human Limits: (380) faculty members were randomly selected from the study population.

Literature Review

Digital learning environments rely on interactive and superior multimedia, which realizes the real interaction of the learner through them, and embodies scientific knowledge, especially abstract scientific concepts, and is done through visual learning or auditory learning (Bogiannidis, 2022).They help teachers engage students with media, explain each part of the lesson with some special effects and graphic presentations, and facilitate communication with peers through messaging and educational forums (Kwet & Prinsloo, 2020).

Bdiwi et al (2019) confirms that the digital learning model increases the role of the learner in the educational process and has a plurality and diversity of tasks. The learner is determined in the educational content through his role in collecting data and information, which is represented by multimedia and superior multimedia, which are supportive and supportive of him in the educational process, and the correct use of digital learning helps to provide an opportunity for continuous learning and lifelong learning.

Zhu et al (2016) confirms that digital learning equips students with skills that reflect positively on teaching and learning processes, and also provides teachers with modern teaching methods necessary to implement successful professional activities in a digital society and an advanced economy, which enhances the professional competence of teachers in digitally advanced institutions. This is confirmed by the study of (Hu, 2022) that digital learning provides an opportunity for students to learn using the e-learning complex, and the study of Romero et al (2020) found the ability to present the work of students who completed a course from previous years.

The existence of a modern and digital learning environment in which many digital tools and advanced technology are available. Specific principles should be adopted to ensure the success of this learning, as the study of Perez et al (2021) confirmed one of these principles, which is the use of modern approaches to achieve the desired learning objectives. Therefore, in learning environments, several types of interactions are implemented, including student interaction with the materials, student interaction with the teacher, and student interaction with the student (Wang et al., 2021). Given the advantages of digital learning, Bodur et al (2019) indicated that digital learning is characterized by providing the necessary resources to the learner so that he can use them easily and in a distinctive way, which increases the learner's interest in learning , by relying on pedagogical and artistic in the design and production of digital content that makes the educational situation in line with global technological development, which provides visual and transparent access to learning resources and services.

Digital learning achieves interactive and integrative learning environments in the role of the teacher and the learner. It enables the teacher to supervise students' learning, and follow up

on their achievement and creativity, which is reflected in making learning flexible and easy (Smyrnova, 2019). The study of (Alouni, 2022; Romero et al., 2020) confirmed that the role of the teacher in digital learning lies in using Google cloud document models for teachers to conduct surveys and develop tests. use boards, tablets and online courses; through forums, shared electronic tools, email, chat. As astudy revealed (Altawalbeh et al., 2023) findings revealed important understanding of how students accept using digital tools or technology in education to process information for better decision-making and student support.

Activating digital learning in educational institutions requires working to modernize the infrastructure, so that it is a comprehensive infrastructure with fast communication and modern devices and working to qualify teachers and students to use modern technologies (Ani et al., 2018). Xing & Lu (2022) emphasizes the need to provide a high level and fast communication network and the transfer of information and data. Books and decisions should be prepared in a memorable, multimedia and interactive format.
The application of digital learning in educational environments faces many challenges, especially in developing countries, including the readiness of digital infrastructure in those environments to activate virtual learning and augmented reality, including material challenges and the ability to provide these technologies independently to workers in the educational sector, especially in universities, which host large numbers of students (Al-Ashqar, 2019). According to Perez et al (2021), digital learning creates challenges for teachers, so they must be professional in their professional field and have smart innovations in educational and scientific activities. Teachers must have the largest variety of multimedia (audio and video), and the ability to use different techniques to work with students. They must also be able to exchange experiences and ideas, carry out more research activities, customize the course of study based on their tasks and the efficiency of the listener, save time, be able to provide online courses, verify tasks, and virtualize the educational process.

To meet this challenge, these institutions should contract community companies with the local community to work on educational means, equipment and devices (Garcia et al., 2020). The other challenge in the digital learning system is the need for more human resources with technical skills (Bogiannidis, 2022). That learning needs to possess computer and technical skills at an advanced level from students and teachers alike, as well as teachers should have an acceptance of digital learning and its applications in the educational process, as both Ahmad & Al-Nawaiseh (2023) on the need to qualify teachers in universities and raise their skills for digital learning.

Many previous studies were concerned with the degree of acceptance and awareness of employees in universities and higher education institutions to use digital learning, including the study of Ahmad (2021); Romero et al (2020), which revealed the degree of acceptance of faculty members of the Internet of Things for future adoption in higher education. The study relied on the descriptive approach, and the study sample consisted of 587 Spanish university teachers. The results showed that the expected performance, facilitation of conditions, and attitude towards the use of technology were influential in the behavioral intention to use the Internet of Things, while the intention to use was similar between males and females with regard to age. The results showed the need to adopt and accept the Internet of Things in higher education in the universities of Spain.

To reveal the digital competencies of learning, the study Perez et al (2021) dealt with these competencies among higher education students from Spain and Latin America. The study relied on the questionnaire tool, which used the descriptive approach, and the study sample included (926) students. The results showed significant differences between countries that can help improve not only formal education in higher education, as well as the digital skills necessary for lifelong learning between citizens in the future, provided that the recent global situation of the epidemic.

The Gambo & Muhammad study Gambo & Muhammad (2022) revealed the readiness of students for a self-organized learning environment. The study relied on the descriptive approach to achieve the goal of the study. The study sample included (157) university students. The study used quantitative data from the self-organized online learning questionnaire. The results concluded that students understood the self-organized learning process and its role in their academic success, that they can access Internet services via mobile phones and devices, and that there is a relationship between previous online learning experiences and these skills.

Hu's study (2022) sought to research the digital transformation of the learning space and its impact on improving student learning outcomes with the help of the learning dashboard. The study relied on the descriptive approach. The study sample included (50) students in the creative thinking course. The technology acceptance model (Tam) and the personal interview guide were adopted to achieve student acceptance and feedback towards learning. The study found that there is a positive trend towards learning, and there is a relationship between the quality of the system, the perceived ease of use, the perceived benefit on behavioral intention, and the transfer of learning.

Methodology of the Study
The current study used the descriptive approach; to suit it for the purposes of the study, as it is based on describing the studied phenomenon, and analyzing the data obtained (Neuman, 2014).

Study Population and Sample
The study population included all faculty members in Jordanian universities, for the first semester of the year (2023-2024), and a total of (11394) faculty members according to the statistics of the Ministry of Higher Education and Scientific Research (Ministry of Higher Education and Scientific Research, 2022). The sample was selected by thestratified random method from faculty members from Jordanian universities in Jordan, and the study sample was determined by reference to the sample size determination table of the size of the community, prepared by Krejcie and Morgan (Krejcie & Morgan, 1970).

Study Instrument
The study tool was developed after reviewing previous studies related to the subject of the study as a study Zhi et al (2016), and the questionnaire included the information of the respondents (type of university (official/government), academic rank (professor, associate professor, assistant, lecturer), classification of the college (humanitarian/scientific), and the second section, the topics and paragraphs of the questionnaire, which are (16) paragraphs distributed on two axes as follows:

The first axis: The uses of digital learning in the educational process, and it contained (8) paragraphs.

The second axis: Challenges of using digital learning, and it contained (8) paragraphs.
        The five-point Likert scale was adopted to correct the study tools, giving each of its paragraphs one of its five grades (strongly agree, agree, neutral, disagree, strongly disagree), which is numerical (5, 4, 3, 2, 1) respectively, and the following scale was adopted for the purposes of analyzing the results
1.00- 2.33 Few
2.34- 3.67 Medium
3.68- 5.00 large
The scale was calculated using the following equation:
Maximum Scale (5) - Minimum Scale (1))/Number of Required Categories (3) = (5-1)/3 =1.33
Then add the answer (1.33) to the end of each category.

Validity Study Tool
        The study tool was presented to a group of examiners who are academics and who are experienced in the field of teaching. Based on their instructions, the required modifications were made. Correlation coefficients values were also found that ranged from the axis of the challenges of using digital learning between (0.49-0.81), to the axis of the uses of digital learning in the educational process between (0.76-0.92), and the following table shows this.

Table (2)
Correlation coefficients between the paragraph and the total degree of the axis to which it belongs

Challenges of Using Digital Learning		Uses of Digital Learning in the Educational Process	
Statement No.	Coefficient of correlation	Statement No.	Coefficient of correlation
1	.74**	1	90
2	81.	2	92
3	.50**	3	.76
4	49	4	91
5	57	5	.89
6	.54	6	.79
7	79	7	84
8	68	8	81.

*   Statistically significant at the level of significance (0.05).
* *   Statistically significant at the level of significance (0.01).
It should be noted that all correlation coefficients were of acceptable grades and statistically significant, and therefore none of these paragraphs were deleted.

Questionnaire Stability
The stability of the study tool was verified by calculating the stability coefficient in the internal consistency method according to the Cronbach alpha equation, and Table No. (3) shows these values, which are appropriate for the purposes of this study.

Cronbach Alpha Internal Coefficient of Consistency and Repeat Constancy for Axes and Overall Score

Axis	Repeat stability	Internal consistency
Challenges of Using Digital Learning	0.83	0.77
Uses of Digital Learning in the Educational Process	0.88	0.84

Research variables
The study variables consisted of the following:

Independent Variable
The uses of faculty members for digital learning and the challenges they face.

Dependent variable
Digital learning.

Statistical Methods
The researcher analyzed the data using SPSS, usingthe following statistical methods:
-   Cronbach's alpha equation to calculate the stability of the questionnaire.
-   Duplicates to describe demographic variables.
-   Descriptive statistics (computational media, and standard deviations) of the response of the sample members to the study tool as a whole, for each of its areas, and for each of its paragraphs.
-   Independent Sample t-test.

Presentation and Discussion of Results
The findings of the study aimed to identify the uses of faculty members in Jordanian universities for digital learning tools in teaching as follows:

Question 1: What are the uses of faculty members in Jordanian universities for digital learning in the educational process?
To answer this question, arithmetic means and standard deviations were extracted for the uses of digital learning in the educational process, and the table below shows this.

Table 4
Arithmetic means and standard deviations related to the uses of digital learning in the educational process

Rank	Number	Paragraphs	Average	SD	Grade
1	38	Digital learning involves providing opportunities to permanently make content available	4.22	789	high
2	37	Digital learning involves always making content available.	4.19	838	high
3	40	Digital learning enables content on a permanent basis and provides immediate feedback.	4.18	781.	high
4	39	Digital learning involves providing immediate feedback.	4.16	.765	high
Total		Uses of digital learning in the educational process	4.19	.660	high

Table (4)shows that the estimates of the study sample on the uses of digital learning in the educational process were high, with an arithmetic average of (4.19), and a standard deviation of (.660). As for the paragraphs, the paragraph that states "Digital learning includes providing opportunities to provide content permanently" came first, with an arithmetic mean of (4.22), with a standard deviation of (.789), and with a high grade, while the paragraph and its text "Digital learning includes providing immediate feedback" came last, with an arithmetic mean of (4.16), and a standard deviation of (.765), and with a high grade. The results of the question one showed that the uses of the study sample for smart digital learning in the educational process were high, with an arithmetic average of (4.19), and with a high degree. This result can be explained that digital learning improves the learning experience using technical tools, which provide many options for faculty members to obtain useful study materials, as it enables them to browse images, videos, and other countless online resources to help them simplify the teaching process. Smart classes can transform the teaching and learning process into an interactive experience that stimulates students to creativity. Smart digital learning includes providing opportunities to make content available permanently. Smart digital learning also includes making content available permanently, and the content permanently provides immediate feedback. It also provides opportunities to access online resources. Students can download and watch recorded videos according to their own needs and speed. This facilitates the process and enhances the teaching and learning experience.

Referring to the paragraphs of the field, the paragraph that states "Smart digital learning includes providing opportunities to permanently make content available" came first, with an arithmetic average of (4.22), and with a high degree. This result can be explained that the most prominent feature of digital learning is its ability to permanently provide educational content on learning platforms. This provides students with access to educational materials, and reviewing and repeating their lessons according to their educational needs, which deepens their understanding and increases their practice of different concepts. This feature also allows equitable access to educational materials for all students.

While the paragraph and its text "Smart digital learning includes providing immediate feedback" ranked last, with an arithmetic average of (4.16), and with a high degree, this result can be explained that the use of digital tools in students' education and the use of digital evaluation tools provide faculty members with the ability to provide immediate feedback to students to improve their results and correct their education. This feature allows faculty members to comment on students' performance and related learning goals directly after students' answers, and this contributes to meeting their educational needs, deepening their understanding, and reducing their mistakes. The results of the sixth question agreed with the result of the Zaanin study (2020), which showed a great degree of use of smart learning. The results of the sixth question differed from the result of the Shalash study (2020), whose results concluded that the use of smart learning was average, and with the result of the study of flea and war (2018), which showed a weak degree of use.

Question 2: What are the challenges facing the awareness of faculty members in Jordanian universities to use digital learning in the teaching process?

To answer this question, arithmetic averages and standard deviations were extracted for the challenges of using digital learning, and the table below illustrates this.

Table 5
Arithmetic averages and standard deviations related to thechallenges of using digital learning

Rank	Number	Paragraphs	MD	SD	Grade
1	33	It requires the provision of powerful hardware and software, in order to ensure the success of the activation of digital learning in universities	4.37	686	high
2	32	The application of digital learning in schools and universities needs a specialized team.	4.17	.823	high
3	31	Weak digital learning infrastructure.	4.16	.843	high
	35	High cost of implementation.	4.15	.840	high
4	36	Lack of meeting the training needs of teachers to use and deal with digital learning.	4.11	.834	high
5	34	The difficulty of providing the necessary maintenance for modern devices.	4.02	859	high
Total		Challenges in using digital learning.	4.16	572	high

Table (15) shows that the study sample's estimates of the challenges of using digital learning were high with an arithmetic average of (4.16), and a standard deviation of (.572). As for the paragraphs, the paragraph stipulating that "it requires the provision of strong hardware and software, in order to ensure the success of the activation of digital learning in universities" came in first place with an arithmetic mean of (4.37), with a standard deviation of (.686), and with a high grade, while the paragraph and its text "The difficulty of providing the necessary maintenance for modern devices" came in last place with an arithmetic mean of (4.02), and a standard deviation of (.859), and with a high grade.
The results showed that the challenges facing the study sample when using digital learning were high, with an arithmetic average of (4.16), and to a high degree, and this result can be explained that the challenges of using digital learning are represented in the challenges of activating digital learning, which requires the availability of technological infrastructure,

where the availability of technology is an important factor for the success of the idea of e-learning, such as the availability of devices, the Internet, the speed of the Internet, and Internet packages, and they need to possess high technological skills for research and development. Creating digital content that is used in digital learning environments in view of what this field also requires from the faculty member of the computer capabilities and skills that he must possess, such as how to deal with the desktop, files and programs, whether by saving, transferring, deleting, modifying, sending and receiving emails and circulating them to a group of users at the same time, dealing with input and output units, using Office software and electronic spreadsheets, uploading and saving files on the network, using a data projector, or downloading and saving files from the network, and for this it is necessary The presence of a specialized technical team, which is not provided by many universities, and the devices need continuous maintenance to maintain their quality. This is also one of the items that are difficult to provide, and this hinders learning. This is what the study (Mansour & ale, 2021) recommends, raising the level of postgraduate students' participation in electronic research by providing an electronic educational environment to fill the gap they have by offering electronic courses that work to refine and develop their practical and research skills.

Referring to the paragraphs of the axis, the paragraph that states "It requires the provision of strong devices and programs, in order to ensure the success of the activation of digital learning in universities" came in first place, with an arithmetic average of (4.37), and to a high degree, and this result can be explained that one of the problems faced by faculty members when applying the concept of digital learning is the lack of provision of strong devices and programs, to ensure the success of the activation of digital learning, and this requires a high cost from universities to provide appropriate infrastructure, and the provision of digital devices and programs High quality, as poor quality and defects of information technology devices and old communications represent a challenge and an obstacle to teaching, and are considered one of the main reasons fornot being used by faculty members on the road to success . On the other hand, learning requires faculty members to have access to the Internet, and to have a high-quality computer. Due to the lack of funding and the lack of such tools in many universities, faculty members have not been able to achieve requirements for digital learning, and therefore could not apply this approach.

While the paragraph and its text "The difficulty of providing the necessary maintenance for modern devices" ranked last, with an arithmetic average of (4.02), and to a high degree, this result can be explained by the fact that devices in universities are exposed to many malfunctions and some of them are damaged, as they need periodic and continuous maintenance to maintain their quality and efficiency, and this in turn requires high expenses from universities that they may not always be able to provide, and it also requires the presence of a specialized technical team that universities also do not provide continuously, which hinders the maintenance of devices periodically.The results agreed with the Alouni study Alouni (2022), whose results showed that there are challenges in employing digital education related to infrastructure, and agreed with the Zaanin study (2020), whose results concluded that there were significant difficulties in employing learning, which differed with the study of Jumbo and Muhammad (Gambo & Muhammad, 2022), and the results concluded that students do not face difficulties in using learning.

The theoretical and contextual contribution of this research lies in its exploration of the use of digital learning tools by faculty members in Jordanian universities. The significance of this research, specifically in Jordanian universities. can be valuable for educational policymakers, administrators, and researchers seeking to enhance the quality of education

through technology integration. the research highlights challenges faced by faculty members in using digital learning tools, emphasizing the need for addressing these obstacles to ensure effective implementation. The recommendation for the Ministry of Research and Higher Education in Jordan to adopt digital learning environments based on technical, educational, and scientific foundations, as well as aligning with teaching and learning theories, underscores the practical implications of the study.In the context of educational practices, the study This proactived approach aims to prepare institutions for potential challenges and foster a conducive environment for successful digital learning integration.In summary, this research not only expands the theoretical understanding of digital learning tool usage in Jordanian universities but also provides practical recommendations for policymakers and educational institutions to enhance the effectiveness of digital learning environments. It contributes to the existing knowledge by addressing the specific context of Jordan and offers insights that can be relevant and applicable to similar educational settings globally.

Recommendations

In light of its findings, the study recommends the following
- The Jordanian Ministry of Research and Higher Education has adopted the integration of digital learning environments according to the technical, educational and scientific foundations, and has sold teaching and learning theories when integrated.
- Work to modernize and develop the infrastructure in Jordanian universities, both public and private, according to the results of this study, and avoid future challenges that may face the application of digital learning.
- Working to reconsider the tools, methods and strategies used in Jordanian public and private universities to suit scientific and humanitarian faculties.

Acknowledgment

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