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INTERACTIVE MOBILE PLATFORMS FOR PROGRAMMING TRAINING: EFFECT ON PERSONNEL TRAINING FOR THE IT INDUSTRY

Abstract. *Interactive mobile platforms for learning programming are becoming essential in training professionals for the IT sector and related fields. By leveraging gamification and personalized learning, they make programming more accessible and engaging, accelerating the adaptation of specialists to market demands and supporting the growth of the digital economy.*

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ИНТЕРАКТИВНЫЕ МОБИЛЬНЫЕ ПЛАТФОРМЫ ДЛЯ ОБУЧЕНИЯ ПРОГРАММИРОВАНИЮ: ЭФФЕКТ НА ПОДГОТОВКУ КАДРОВ ДЛЯ IT-ИНДУСТРИИ

Аннотация. *Интерактивные мобильные платформы для обучения программированию становятся ключевыми в подготовке кадров для IT и смежных отраслей. Используя геймификацию и персонализированное обучение, они делают освоение программирования доступным и привлекательным, что ускоряет адаптацию специалистов к требованиям рынка и поддерживает рост цифровой экономики.*

With the rapid development of digital technologies and growing demand for IT specialists, traditional forms of training often fail to keep pace with market needs. Mobile platforms for learning programming are becoming an important training tool, enabling basic and advanced skills to

be mastered in the shortest possible time and with a high degree of accessibility. Through the use of interactive methodologies, gamification and personalized approach, mobile platforms engage a wide audience, providing flexibility in learning and the opportunity to acquire relevant knowledge regardless of geographical location or level of training.

The purpose of this article is to study the impact of interactive mobile educational platforms on the process of training specialists for the IT industry and related sectors of the economy. The work will analyze the features and advantages of mobile platforms, as well as their potential in improving digital literacy and training personnel capable of adapting to the challenges of the modern economy.

Interactive mobile platforms for learning programming are becoming more and more in demand due to their accessibility and convenience. Apps such as SoloLearn, Coursera, and HackerRank offer users courses in core programming languages such as Python, JavaScript, HTML, and SQL. Their main features are gamification and adaptive learning. Gamification makes the learning process more engaging through game elements - points, levels, achievements - that stimulate engagement. Adaptive learning, on the other hand, tailors the content to each user's level of expertise, thus increasing learning productivity.

The accessibility of mobile platforms is another important advantage. They allow learning at a convenient time and from anywhere, making programming accessible even for those who have limited time or cannot attend traditional courses [1, 2].

Mobile platforms for learning programming have a significant impact on the process of skill acquisition due to their accessibility, flexibility, and interactive approach. These features make the process of learning programming more adaptive to the user's needs and increase the efficiency of learning the material.

The main advantages of online learning platforms:

– Gamification and motivation. One of the key factors influencing the popularity of mobile platforms is gamification. Platforms such as Mimo and SoloLearn incorporate gamified elements into the learning process: rewards for completed tasks, achievements, ranking tables and duels. These elements make the learning process more engaging, motivating users to study regularly and deepen their knowledge. Gamification helps keep attention on learning programming, increasing engagement and reducing the risk of interrupted learning;

– Personalized learning tracks. Many mobile platforms use adaptive algorithms to tailor learning content to each user's learning level and pace. For example, on SoloLearn and Grasshopper, the platforms

analyze a student's progress and tailor assignments to match their current skills, helping to effectively address knowledge gaps and improve practical skills. Personalized tracks make it easier to master complex topics, as the platforms offer additional materials and exercises if the user is struggling;

– Flexibility and accessibility. A key advantage of mobile platforms is the ability to learn anytime and from anywhere, which is especially important for busy people and those living in regions with limited access to educational infrastructure. Learning through mobile platforms requires only access to a smartphone, allowing you to combine your studies with work or other commitments. Many platforms, such as SoloLearn, even provide offline access to courses, expanding the learning experience and making it accessible to users with limited internet access;

– Simplifying complex concepts. Interactive learning methods help users grasp complex topics more easily. Mobile platforms provide a variety of content formats - text-based explanations, video tutorials, visual diagrams, and tasks with step-by-step instructions that clarify programming concepts. For example, Grasshopper emphasizes visual learning, helping beginners learn the basic principles of code through visual examples and hands-on exercises. This makes it easier for users to grasp complex concepts and put them into practice faster.

- Efficiency in achieving results. Through a combination of personalization and convenience, mobile platforms create an environment where users can learn programming and practical skills more efficiently. These platforms bridge the gap between theoretical learning and practical skills, which is especially important for employment in the IT industry. As programming skills become basic not only for IT but also for other industries, mobile platforms open new opportunities for a wide range of users, making digital literacy and programming accessible to all [3].

Mobile programming learning platforms play a significant role in training professionals for IT and related industries, offering the flexibility and accessibility needed to learn in-demand skills. Platforms help users master basic and advanced skills required for development, data analytics, and database management. Gamification and adaptive learning make the process more engaging and effective, lowering the barrier for beginners.

Mobile platforms also facilitate reskilling by allowing users from other industries to learn new skills without taking a break from their current jobs. This accelerates the transition of professionals into IT by providing structured courses with consistent skill development. In addition, such knowledge is useful in related fields: for example, basic programming skills are in demand in marketing and finance to analyze data and automate tasks [4].

Thus, mobile platforms for learning programming actively contribute to staff training, supporting digital transformation and forming digital literacy, which is important for economic development in the context of growing demand for IT-specialists [5].

Thus, interactive mobile platforms for learning programming have a significant impact on training for the IT industry and related industries, contributing to the growth of digital literacy and the development of necessary skills. Through flexibility, gamification, and adaptive learning, they make the process of learning programming accessible to a wide range of users, including novices and professionals looking to retrain. These platforms help meet the high demand for skilled workers by fostering competencies in demand in the labor market.

As a result, mobile learning solutions support digital transformation and enable continuous learning, which is an important factor in the sustainable development of the digital economy. Programming learning platforms are becoming an effective tool for training specialists capable of adapting to technological changes and participating in the development of innovative solutions for various sectors of the economy.

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