ARTIFICIAL INTELLIGENCE IN MOBILE APPLICATIONS

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Abstract: *This article discusses how artificial intelligence helps bring mobile applications to a new level and raise the role of mobile applications*
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Mobile app development is growing rapidly. Think back to calendar apps and Snake when mobile phones were first introduced. This was the beginning of the app era. There are several million apps in the smartphone world today, and each of them has a good review or rating. The downloads of these apps show the level of popularity and engagement they show to users.

In the world when apps were first introduced, they weren't as smart as they are today. Modern applications can compute and perform human tasks. For example, Amazon. It can create a shopping list, but combine it with a virtual assistant like Alexa and force the app to make purchases as well. There are quite a few apps like this out there, and the artificial intelligence (AI) that powers Alexa is definitely redefining how these apps are used. It has also changed the perception of apps and allowed app developers to consider users and their needs for personalization and incorporating the latest trends to improve the experience [1-3].

Mobile application development continues to develop rapidly, becoming more functional and complex. From simple games and calculators on early smartphones to serious business applications today such as medical, economy and banking applications. However, as the number of applications grows, so does the competition. This requires even more work and creative solutions from developers in order to create something truly interesting and user-friendly.

Leveraging the latest technologies, modern mobile applications designed with the power of artificial intelligence, machine learning and big data analytics offer a wealth of functionality previously unavailable to businesses. They allow you to predict user behavior, create personalized offers of goods and services, quickly and safely conduct banking transactions automatically recognizing fraudulent transactions, broadcast content in various formats in any language, recognize voice commands, and much more.

Artificial intelligence for mobile apps is no longer a fantasy; this is part of the real development. You can't think of personalization, hyper-personalization, or even basics like inventory and supply chain management without implementing AI technology. Here we will tell you how artificial intelligence has disrupted mobile apps and taken them to the next level [6-8].

How can you use artificial intelligence in mobile applications?

When you implement artificial intelligence into your mobile apps, you aim to make them smart. This reduces your workload and improves efficiency and productivity. Here we will tell you about the main reasons why artificial intelligence should be part of your mobile applications.

1. Automate repetitive processes

With the help of artificial intelligence technology, you can automate repetitive processes, thereby increasing the efficiency of your mobile application. For example, Google Maps is known to help you access the fastest route when you ask for directions. Likewise, all Uber rides are optimized to reach your destination quickly. The built-in artificial intelligence algorithm contributes to this kind of automation and accelerates the results. The algorithm is developed based on the understanding of past trips, routes traveled and their in-depth analysis [4-5].

2. Turn on recommendations in mobile apps

Netflix generally recommends the best comedies based on your past viewing experience. It also offers an overall recommendation result based on your past views. These past views, combined with your interests and topics in that category, help the machines make a personalized list of recommendations. This is just one of the types of recommendations used by Netflix. You can use more of these guidelines when developing your mobile app.

3. Translation

When it comes to translation, you need fast machines. They must be able to understand what you want to convey and translate accordingly. With the help of artificial intelligence, machines can translate from any language to another in real time, thereby increasing machine power and translation. In fact, these machines can be connected to complete the translation and offline. How it works? This is equivalent to an automatic translator. The actual work of the translator is taken over by machines, using their intelligence and, in part, an algorithm that is built on the analysis of translators and their tasks [9-12].

4. Advanced search options

Search engines are the backbone of mobile applications. Not only do you want the mobile app to be closely related to the search engine, but you also want to make sure that the mobile app has rich search capabilities. This will allow the user to find what they need using the mobile app. With the help of artificial intelligence, mobile app developers can easily embed voice or visual search into a mobile app, thereby increasing the richness of results. In fact, localized search can also help increase conversion rates for mobile solutions [13-16].

5. Security

Security is the concern of mobile app owners, so adding artificial intelligence will increase app security and improve transactions. Facial recognition capabilities ensure that the mobile app can only be unlocked with perfect biometric data. This reduces the possibility of hacking the mobile application. It is the result of deep

learning associated with artificial intelligence technology. Thanks to AI, your apps are in alert mode, and you'll get a notification as soon as someone hacks into your account without your knowledge. They will not be allowed and you will be notified of this action, which will keep your account and data safe.

Advantages of artificial intelligence in mobile applications

You often consider using technology when building a mobile app solution. The same is true for mobile app solutions combined with artificial intelligence technology. You are not sure what benefit it will bring to you. here we have listed the benefits of using artificial intelligence in your mobile app solution [17-21].

• Personalization is the first benefit associated with an AI mobile application solution. you need to consider your customers' preferences, how they use the mobile app, and their local needs before planning a recommendation or solution for them. The benefits of artificial intelligence technology are to reduce the time spent on analyzing all this and provide you with the best solution.

• Exceeding user expectations is the ultimate goal of every mobile app developer. The need to enrich the experience and improve mobile app solutions is possible only by creating mobile app solutions that meet user needs. With the help of artificial intelligence, you can implement the solutions that the user is looking for and offer solutions that are consistent with the problems that the user of the mobile application is facing. The data that developers can mine helps in the development of an algorithm that will help improve the user experience and enrich the solution.

• Because AI learns from users, it is able to offer solutions that the customer needs and help increase engagement. They understand user preferences and are able to translate them into your idea and ultimately solution. it also helps improve the overall look and feel of the mobile app. In fact, understanding the target market and data analysis also helps in designing and coding a mobile application solution.

Conclusion

Artificial intelligence is the key to creating intelligent and self-sustaining mobile app solutions that can improve the user experience. They help you automate decisions, make recommendations, and develop informed decisions that can be based on an idea you've tested. You need to plan your solution with proper implementation of artificial intelligence in order to improve the mobile application you are developing for end users. Take into account every desire and need of the user before planning and strategizing. A clear plan will help you develop a design that will grab attention.

REFERENCES:

1. Mikkonen T. Programming mobile devices: an introduction for practitioners. - London: John Wiley & Sons Ltd., 2007. - 245 p.

2. Paavilainen J. Mobile business strategies - understanding the technologies and opportunities. - London: IT Press, 2002. - 257 p.

3. Lee V., Schneider H., Schell R. Mobile Applications: architecture, design, and development. - Prentice Hall, 2004. - 368 p.

4. Nodirbek Y., Gulyamov S., Doshchanova M. Neuro-fuzzy modeling for predictive control systems with complex technological processes and production //Chemical Technology, Control and Management. – 2020. – Т. 2020. – №. 1. – С. 73-83.

5. Doshanova M., Dilmurodov T., Karimov M. Problems of adaptive neuro-fuzzy modeling of complex objects //International Scientific and Practical Conference on Algorithms and Current Problems of Programming. – 2023.

6. Zheng P., Lionel N. Smart Phone and next-generation mobile computing. - Morgan Kaufmann, 2005. - 350 p.

7. Babamukhamedova M.Z., Doshchanova M.Y., Djangazova K.A. Intellectual means of automation of management of training //Открытые семантические технологии проектирования интеллектуальных систем. – 2015. – №. 5. – С. 369-373.

8. DiMarzio J.F. Android: a programmer's guide. - McGraw-Hill Osborne Media, 2008. - 400 p.

9. Topley K. J2ME in a nutshell. - O'Reilly, 2002. - 478 p.

10. Yuan M.J. Enterprise J2ME: Developing Mobile Java Applications. - Prentice Hall PTR, 2003. - 480 p.

11. Verbraeck A. Designing mobile service systems. - Amsterdam: IOS Press, 2007. - 249 p.

12. Friesen J. Learn Java for Android development. - Apress, 2010. - 656 p.

13. Jackson W. Android apps for absolute beginners. - Apress, 2011. - 344 p.

14. Burnette E. Hello, Android: introducing Google's mobile development platform. - Pragmatic Bookshelf, 2010. - 300 p.

15. Ableson W.F., Sen R., King C. Android in action. - Manning Publications, 2011. - 592 p.

16. Rogers R., Lombardo J., Mednieks Z., G. Blake Meike. Android application development: programming with the Google SDK. - O'Reilly Media, 2009. - 336 p.

17. Murphy M.L. Android programming tutorials. - CommonsWare, 201L- 334 p.

18. Meier R. Professional Android 2 application development. - Wrox, 2010. - 576 p.

19. Sayed Y. Hashimi. Pro Android 2. - Apress, 2010. - 500 p.

20. Conder S., Darcey L. Android wireless application development. - Addison-Wesley Professional, 2009. - 600 p.

21. To N., Steele J. The Android developer's cookbook: building applications with the Android SDK (Developer's Library). - Addison- Wesley Professional, 2010. - 400 p.