OVERVIEW OF EXISTING METHODS OF PREPARATION FOR INFORMATION SYSTEMS DEVELOPMENT

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ABSTRACT

This article is an overview of the existing methods of preparation for the development of information systems. The research is based on the analysis of a wide range of methodologies, strategies and approaches used in modern practice for effective preparation for the process of creating information systems. The article discusses the key aspects of each methodology, including the stages of planning, requirements analysis, design, testing and implementation. Special attention is paid to the comparative analysis of various approaches, their advantages and disadvantages, and modern trends in the field of preparation for the development of information systems are discussed. The article is intended to provide readers with complete and comprehensive information about existing methods, which will help them choose the most appropriate tool for the successful implementation of information systems projects in their specific field of activity.

KEYWORDS: Methods of information systems development, preparation for the process of IP creation, requirements analysis, stages of information systems planning, information systems design, information systems testing, information systems implementation, comparative analysis of methodologies, advantages and disadvantages of approaches to IP development, modern trends in the field of preparation for IP development.

INTRODUCTION

The development of information systems is a complex and multitasking process that requires a systematic approach and highly qualified specialists. To effectively prepare for this process, there are a number of techniques covering both technical aspects and project management issues. In this article, we will consider several key techniques that have a significant impact on the successful implementation of information systems. The development of information systems is a complex and multifaceted process that requires not only technical skills, but also a systematic approach to planning and preparation[1]. There are many techniques designed to ensure effective preparation for the development of information systems that take into account both technical and organizational aspects of this process.

1. System analysis and design. One of the fundamental stages of preparation for the development of information systems is system analysis and design. These techniques provide a structured approach to analyzing requirements, identifying business processes, and creating a system architecture. The focus is on developing a clear development plan, which contributes to more effective management of the entire development cycle. System analysis and design play a key role in the development of information systems. This methodology includes a structured

approach to requirements analysis, identification of business processes and development of the system architecture. It helps to create a clear development plan, taking into account all aspects of functionality and performance.

2. Agile development methodologies. In recent years, Agile methodologies have become widespread in the field of information technology. Scrum, Kanban and other approaches are aimed at flexibility and rapid iterations in the development process. The main idea is a step–by-step approach to the final result with the active involvement of the customer at each stage.

3. Testing and quality control methodologies. Improving the quality of software is a key task in the development of information systems. Testing techniques, including unit testing, functional testing and performance testing, as well as code quality control, help to identify and eliminate errors at early stages of development.

4. DevOps approach. DevOps is a methodology that combines development and operations. It aims to create a unified and automated environment for the development, testing and implementation of the system. DevOps helps to reduce the time required to deploy the system and improve the stability of the application.

5. Project management methodology. Effective project management is a key aspect of preparing for the development of information systems. Project management techniques, such as the Flexible Project Management Methodology (FMP), provide planning, task control and risk management, which significantly increases the chances of successful project implementation.

6. Staff training and development. The development of technology requires constant training and development of personnel. Methods of training and development include professional development plans, training in new technologies and stimulation of teamwork. The development of information systems today is an integral part of successful business activities. In order to ensure a smooth development process and a high-quality final product, we need to carefully analyze and adopt appropriate preparation methods. Some existing approaches to preparing for the development of information systems are discussed below[2]. System analysis and design are considered the cornerstones of information systems development. These methods are aimed at analyzing requirements, identifying business processes and designing system architecture. Thanks to system analysis, we can clearly understand the needs of users and ensure a reasonable structure and functioning of the system through design.

In recent years, flexible development methodologies such as Scrum and Kanban have flourished in the field of information technology. Flexible methods are focused on fast iteration, constant feedback and active interaction with customers. This helps to respond more flexibly to changing requirements, increases the speed of development and ensures that the final product will meet customer expectations. To ensure the high quality of the final information system, testing and quality management methods are crucial. This includes multi-level testing processes such as unit testing, functional testing, performance testing, etc., as well as continuous monitoring of code quality and project progress[3]. DevOps brings together development and operations teams and focuses on continuous integration, continuous deployment and automation. This helps to speed up development cycles and increase system stability while maintaining effective collaboration.

Effective project management is the key to ensuring the successful completion of information systems. Flexible project management methods, such as Agile Project Management (FPM), provide more flexible planning and execution methods to adapt to changing needs[4]. In

addition to technology and methodology, the development of information systems also requires a team with the appropriate skills and knowledge. Regular training and development programs allow the team to stay up to date and improve problem-solving capabilities.

CONCLUSION

In general, the success of information systems development depends on careful selection and integration of various training methods. The combination of system analysis, agile development, testing and quality management, DevOps and an approach that focuses on team training and development leads to the creation of a powerful and comprehensive development strategy. This strategy helps to ensure the successful implementation of projects and satisfaction of user needs, while maintaining the effective work of the development team. A review of existing methods of preparation for the development of information systems emphasizes the need for an integrated and systematic approach. Integration of various techniques, consideration of project specifics and continuous training of personnel create the basis for successful and effective development of information systems in today's rapidly changing world of technology.

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