



## DIGITIZATION OF EDUCATIONAL PROCESSES IN HIGHER EDUCATION INSTITUTIONS (The Example of the “HEMIS Mobile” Application)

Qurbonov ulug'bekmirzo olimjon o'g'li  
Independent researcher, Uzbekistan

### ABSTRACT

This research paper discusses the level of demand and need for the creation of a mobile application that allows creating a number of conveniences in using the “Higher Education Process Management – HEMIS” information system. It also discusses the capabilities and digital services of the “Higher Education Process Management – HEMIS” information system mobile application.

**KEYWORDS:** Hemis mobile, application, database, information system, deadline, student, electronic contract, rating notebook, unilibrary.

### INTRODUCTION

Digitization of the Education System: The Role of the HEMIS Information System in Uzbekistan  
The digitization of education has become a global trend. In Uzbekistan, the “Higher Education Management Information System – HEMIS” has been introduced to establish a quality management system in higher education institutions and automate educational processes. The advantages and conveniences of this system have been widely acknowledged by many higher education organizations.

The HEMIS information system, which manages educational processes in higher education institutions, has become highly active in recent times. This system encompasses modules such as “Administrative Management,” “Educational Processes,” “Scientific Activities,” and “Financial Management.”

#### Significance of the HEMIS System

HEMIS not only simplifies management for higher education institutions but also plays a critical role in enhancing the efficiency of the entire education ecosystem. The system’s key advantages include:

Transparency in Educational Processes: Students, faculty members, and administrative staff can monitor all processes in real time, contributing to improved educational quality.

Digital Management: HEMIS digitizes all processes, significantly reducing the need for paper-based operations.

User-Friendliness: The system allows students and staff to access documents, view information, and actively participate in management processes.

Based on International Experience: The HEMIS system is developed with insights from international practices, aligning it with global standards.

#### Development of the HEMIS Mobile Application

To further enhance the HEMIS information system and create additional convenience for students, a mobile application for HEMIS has been developed. Today, the importance of the HEMIS mobile application is steadily increasing.

#### Features and Technological Approaches of the HEMIS Mobile Application

The mobile application enables users to stay informed about educational processes anytime and anywhere, fostering increased interest in education among students. The main technological approaches of the mobile application include:

**Cloud-Based Operation:** This approach ensures the stability and efficiency of the mobile application.

**Integration:** The mobile app is fully integrated with the HEMIS system, allowing users to access real-time information.

**Security System:** The app employs modern encryption technologies to securely store user data. The mobile application is integrated with the "Higher Education Management — HEMIS" system, specifically the part designed for higher education institutions (HEIs). To use the mobile application, students need to select their respective higher education institution and log in using their HEMIS system credentials (username and password). Once the authorization process is successfully completed, the student's personal dashboard is unlocked, granting full access to the app's functionalities.

The HEMIS mobile application operates in parallel with the HEMIS information system, utilizing a unified technological approach. Therefore, all data in the HEMIS system is automatically reflected in the mobile app, eliminating the need to create a separate database or allocate additional resources for the mobile platform.

This seamless integration ensures that the mobile application functions as an extension of the HEMIS system, providing users with a reliable and efficient tool for managing their educational processes.

The mobile application is composed of the following sections: Assignments, Timetable, Subjects, References, and Profile.

#### Assignments Section

This section provides information about tasks and assignments given by professors within specific subjects. It includes details such as deadlines, the maximum scores for assignments, and any requirements or comments provided by the instructor.

#### Timetable Section

In this section, students can view a weekly schedule of past and upcoming subjects for each semester. It includes information on the start and end times of classes, the name of the instructor, and the type of session.



### Subjects Section

The Subjects section contains details about course names, lecture hours, resources (books, lecture notes, presentations, glossaries, etc.), the student's performance and progress in each subject, and rescheduling hours (if available).

### References Section

This section provides electronic versions of the Student ID, contracts, grade books, study sheets, exam schedules, attendance records, official orders, and other relevant information.

Currently, the HEMIS mobile application is used by over 850,000 users, reflecting its widespread adoption and effectiveness in enhancing the educational process.

### \*\*Profile Section and Features of the HEMIS Mobile Application\*\*

#### 5. \*\*Profile Section\*\*

This section contains the student's personal and academic information, as well as settings for the mobile application.

### \*\*Available Features in the HEMIS Mobile Application\*\*

- Electronic Student ID card.
- The ability to request an academic reference document.
- Option to download the payment contract.
- Access to download an electronic diploma and its supplement.
- Ability to download documents related to the student.
- View and download the grade book.
- Monitor academic performance.
- Download official orders.
- Track attendance records.
- Access and review the class timetable.
- View the exam schedule.
- Access the list of subjects.
- Download subject assignments and submit completed tasks to professors.
- Utilize subject resources such as lecture notes, presentations, and books.
- Access to the Unilibrary electronic library.
- Other features.

The comprehensive features of the HEMIS mobile application make it a vital tool for students to manage and engage with their educational processes efficiently.

#### Enhanced Features and Benefits of the HEMIS Mobile Application

The HEMIS system allows students to utilize its features for each semester, enabling them to conveniently track all necessary information about their academic journey. For instance, assignments provided by subject instructors are displayed individually for each course within the system. Students can complete and submit these assignments within the specified deadlines.

#### Advantages of Using the Mobile Application for Assignments

- Viewing Grades:

After submitting assignments, students can view their grades in real-time as provided by their instructors. This feature helps students analyze their performance and identify areas for improvement in future tasks.

- Reading Comments:

Along with grades, instructors provide comments on the assignments. These comments offer constructive feedback, help students address their shortcomings, and provide guidance on how to improve their work. This contributes to the student's overall growth and skill development.

- Receiving Notifications:

The system automatically notifies students about assignment deadlines, which is crucial for timely submissions and reduces the risk of missed deadlines. Notifications are sent via both written messages and the mobile application.

- Statistical Tracking:

Students can access statistical data on their assignments, allowing them to monitor their progress. For example, they can see how many tasks they have completed, how many are pending, and their grades for each assignment.

#### Profile Management Features

Through the "Profile" menu, students can manage their personal and academic information. This menu allows them to:

- Access Course and Specialization Details:

Students can view detailed information about their current course and familiarize themselves with the curriculum of their specialization.

- Change Login Credentials:

Students can update their system login and password for security or personal preference, ensuring the protection of their personal data.

- Adjust Profile Settings:

Students can modify their profile settings, such as changing the interface language, managing notification preferences, and configuring other important settings.

#### Comprehensive Accessibility via Mobile Application

The HEMIS system provides all its functionalities conveniently through its mobile application. This enables students to manage their educational processes from anywhere at any time. Specifically, through the mobile app, students can:

- Quickly contact their instructors.
- Download necessary documents.
- Track assignment progress.

The HEMIS system and its mobile application are built on modern technologies, offering not only the automation of educational processes but also enhancing communication between students and instructors. This contributes to improved education quality and creates a more convenient and efficient learning environment for students.

## CONCLUSION

In conclusion, the HEMIS system, developed based on modern information technologies, has become a reliable and efficient tool for managing education. Its mobile application further extends the system's capabilities, bringing speed and convenience to all aspects of the

educational process. Through HEMIS and its mobile application, higher education institutions are effectively implementing the digitization process, providing modern services to students and staff. Such systems will undoubtedly contribute to improving the quality of education and ensuring global competitiveness in the future.

## REFERENCES

1. Khamdamov U., Abdullayev A., Elov J., Sultanov D. Conceptual Model of the Education Management Information System for Higher Education Institutions. *International Journal of Advanced Trends in Computer Science and Engineering*, 2020, Volume 9, No.5.
2. Jamshid Elov, Utkir Khamdamov. Development of a database of higher education process management information system based on the relational model , *International Conference of Information science and communications technologies applications, trends and opportunities ICISCT 2021. 3-5 November, 2021. Tashkent, Uzbekistan*, 5p
3. Abdullaev A., Khamdamov U. The concept of development of information systems and services in the system of higher education of the Republic of Uzbekistan. // EU-01- 002070 "Asian Intellectual Property" LLC, 2018.
4. U. Khamdamov, K. Sultanov, D. Sultanov and A. Abdullayev, "Designing client-server and service oriented architecture of the distance learning system," 2020 *International Conference on Information Science and Communications Technologies (ICISCT)*, Tashkent, Uzbekistan, 2020, pp. 1-4, doi: 10.1109/ICISCT50599.2020. 9351455.
5. U.R. Xamdamov, "Oliy ta'lim tizimidagi axborot tizimlari va jarayonlari", "Ijtimoiy sohalarni raqamlashtirishda innovatsion texnologiyalarning o'рни va ahamiyati" Respublika ilmiy-amaliy anjumani. 2020. 29-30-aprel, — B. 231-233.
6. Utkir Khamdamov, Alisher Abdullaev, Khurshid Sultanov, Jamshid Elov "Models of integration of higher education management information systems", *International Conference of Information science and communications technologies applications, trends and opportunities ICISCT 2021. 3-5 November, 2021. Tashkent, Uzbekistan*, 4p.

