

source, making it ideal for WordPress . Like PHP, MySQL is supported by most web hosts . So, you can install WordPress on almost any host .

WordPress uses many other small PHP and Javascript libraries in its core. In addition, when installing plug-ins, they can also include the library itself.

### **Conclusions**

The introduction and use of web resources for learning is already an integral part of education, and development trends show great prospects at the level of traditional forms of learning. The biggest advantage of online learning is accessibility for everyone, regardless of location. Flexibility in planning and creating individual schedules and approaches to learning. Everyone can create comfortable working conditions for themselves, which can help improve the quality of education. The main negative factor in the use of Internet resources as tools for learning may be the lack of interest and motivation of students to learn independently. Therefore, the introduction of new clear and simple online resources for education can help solve these problems.

### **Literature**

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**DEVELOPMENT OF SOFTWARE FOR DETERMINATION OF  
ECOSYSTEM INDICATORS IN INDOOR**

АСТІСТОВА Т.І., КОЧУК Д.М.  
**РОЗРОБКА ПРОГРАМНОГО ЗАБЕЗПЕЧЕННЯ ДЛЯ ВИЗНАЧЕННЯ  
ПОКАЗНИКІВ ЕКОСИСТЕМИ В ПРИМІЩЕННІ**

*Annotation.* У даній роботі розглянуто використання цифрових технологій у сфері освіти на прикладі розробки програмного комплексу для автоматизації внутрішньо університетських процесів, а саме в гуртожитку. В основу розробки модулю було покладено ідею розробки програмної реалізації модулю моніторингу.

У роботі проаналізовано існуючі канали та методи передачі даних від датчиків для збору та накопичення інформаційних потоків екосистеми гуртожитку. На основі отриманих даних розроблено логіку роботи модулів моніторингу з різними типами датчиків та протоколів їх комунікації. впроваджено та побудовано систему моніторингу з інтерфейсом користувача з чат-ботом.

*Keywords:* microprocessor, sensors, internet of things, Processing, TelegramBot, Wi-Fi, interface.

## Introduction

Today, digital technologies are being actively introduced into people's daily lives. Every day more and more attention is paid to digitalization in all spheres of our life. Now more and more different niches require the use of digital and web - technologies.

## Main part

The main purpose of the work was to develop a module of monitoring indicators of the ecosystem in the room .

were used to implement this task the following development components :

### 1. Language of programming - Processing

Processing is an open source programming language based on Java . It is an easy and fast toolkit for people who want to program images , animations and interfaces .

Processing is built on Java , so the Processing source code has a similar syntax to Java . The Processing window is actually a Java program called PApplet , which is a Java class . Before release Processing 3 ( in 2015 ) is possible to embed PApplet in the program Java . Dependence applets was removed in Processing 3.0, so now needed additional code for embedding PA weaves into programs Java .

He created to study the basics of computer programming in the visual context and serves as landscape software ( meaning that each \* . The pde file of the Processing visual shell is separate image or animation ) and a professional production tool .

Below is a snippet of code written in languages programming *Processing*.

```
// - Initial name of the Thing. Used eg as SSID of the own Access Point.  
const char thingName [] = " sensorBoard ";
```

*// - Initial password to connect to the Thing, when it creates an own Access Point.*

```
const char wifiInitialApPassword [] = "deathTHNG8266";
```

```
#define STRING_LEN 128
```

*// - Configuration specific key. The value should be modified if config structure was changed.*

```
#define CONFIG_VERSION "board1"
```

2. Elements of the subsystem.

Monitoring module represented by two sensors: one (digital) - Bosch BME 280, which is designed for measurement temperature, humidity and atmospheric pressure from; other sensor GYL 8511 - analog for measurement ultraviolet radiation .

ESP 8266 microcontroller was chosen to develop an electronic base, which is currently one of the highly integrated solutions for working with Wi – Fi.\_

A user- friendly interface is required for the full operation of any automated database . As \_ interface for storing informational data TelegramBot system was selected .

The telegram bot simplifies the conversation between the user and the machine. This helps to collect, store and transmit data to the user. (Fig.1)

Chat-bot collects information about such indicators as: level CO<sub>2</sub> concentration , change temperature in the dormitory rooms , no authorized use of heaters and other devices that could result in a hazardous situation and further transmits this data, respectively, upon request, to the user.

3. Software development environment (software ) for microcontrollers ;

In progress solution the tasks were analyzed Arduino microcontrollers UNO , Arduino Nano , MEGA , Espresso . On the basics We chose a microcontroller for analysis wireless communication that can be set to intelligent device . A smart device is a device that can be controlled over a Wi-Fi network.

Algorithm mode testing basic functions systems. To start, a wireless access point is created and the module connects to Wi - Fi . The next step is to configure the monitoring module , including: installation interval data exchange , choice server to send data. Next you need to set up communication with the telegram bot. To start work and information about indicators it is necessary to write / start and everything will function normally . Immediately you will see a custom keyboard with commands to help you configure the user to communicate with the system.

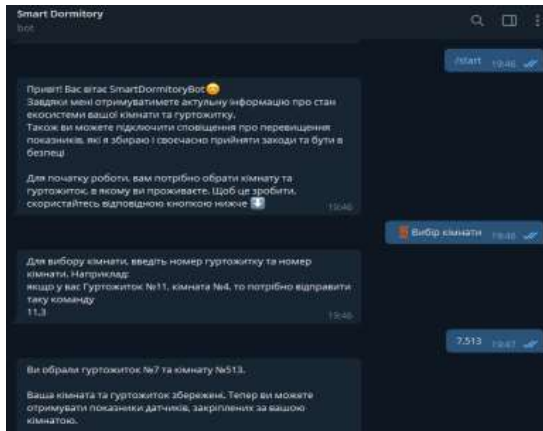


Fig. 1 - Example of using a chat-bot, based on the definition of indicators in the dormitory room

## Conclusions

In this work, the topic of digitalization in the field of educational process was considered and researched, on the basis of the development of the monitoring module, the indicator in the air in the room. It was realized logic work modules monitoring with different types of sensors and their communication protocols.

Developed model, use of chatbot and application languages programming processing allows to carry out optimization internal processes during the educational programs and more. This development it is possible to adapt under different spheres of our life.

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**ANALYSIS AND CHARACTERISTICS OF ONLINE CURRENCY  
EXCHANGE PLATFORMS**

АСТІСТОВА Т. І., ЧАУС О.О.  
**АНАЛІЗ ТА ХАРАКТЕРИСТИКА ОНЛАЙН ПЛАТФОРМ ДЛЯ ОБМІНУ  
ВАЛЮТ**

*Анотація. У статті представлено аналіз та характеристики онлайн-платформ для обміну валютою.*

*Обмін валюти онлайн – це зручна та безпечна послуга для клієнтів, крім того, що вона вигідна – вона економить час та гроші, адже обмін валюти відбувається за вигідним курсом онлайн та без додаткових комісій.*

*Онлайн-платформа обміну валютою може зробити життя кожного кращим. Усі операції з обміну валютою будуть здійснюватися за допомогою онлайн-платформи, де ви зможете вибрати потрібні валюти та здійснити обмін за 5 хвилин, не виходячи з дому.*

*Ключові слова: Інтернет-платформа, валюта, обмін валютою.*

### **Introduction**

Websites or web applications are very common today. Almost every organization has its own web resource that contains company news, promotions, contact information and other useful information.

In addition to the purely informative component, some pages have useful features, such as built-in image processing software or online calculators for currency exchange. The introduction of such useful functional elements increases the number of visitors, as well as automates certain processes, such as booking money at a favorable rate.