

# Using VIDIX Microcomputers in High School and College Education

Branko Balon\* , Aleksandar Skendžić\* and Milenko Simić\*\*

\*College for Information Technologies, Zagreb, Croatia

\*\*The First Technical School Tesla, Zagreb, Croatia

[branko.balon@vsite.hr](mailto:branko.balon@vsite.hr), [aleksandar.skendzic@vsite.hr](mailto:aleksandar.skendzic@vsite.hr), [milenko.simic@skole.hr](mailto:milenko.simic@skole.hr)

**Abstract** - This paper describes the application of the VIDIX development microcomputer for educational purposes. VIDIX is a platform developed entirely in Croatia and another great way to popularize STEM and learn new skills. VIDIX is based on a dual-core ESP 32 processor and comes with a temperature sensor, a microphone, and a 2.8" touch screen. The possibilities of connection and application are enormous considering the diverse communication possibilities (Wi-Fi, Bluetooth, IR). VIDIX is a significantly more powerful platform than Arduino, and unlike the Raspberry Pi computer, it does not need an operating system, and it can be programmed on a Windows, Linux, or Mac OS computer. It is possible to work in Python, C, C++, JavaScript, and other popular programming languages. Our students first installed the Arduino IDE on their laptops, and then connected the laptops to VIDIX, and a series of exercises followed that combine the use of software and hardware. Our experience with this platform in the undergraduate computing curricula, at both the high school and college levels is presented here.

**Keywords** - VIDIX, ESP 32, STEM, Education,

## I. INTRODUCTION

VIDI Project X was presented on December 5, 2019 in Croatia at conference for innovative projects awards powered by VIDI magazine. The whole project was developed by the VIDI media company in cooperation with a number of Croatian technology companies that financed the project.

VIDIX is a microcomputer board that in its vision combines the "dream" and "realize" phases of the project, which we believe also requires innovation. The definition could be many, depending on the purpose you use it for. On VIDIX microcomputer it is possible to run the original Doom or Duke Nukem in the emulator. You can connect additional sensors and manage the smart home system, you can use its Wi-Fi and Bluetooth communication capabilities to connect to an external system.

VIDIX makes good use of the capabilities of the powerful dual-core ESP32 processor, so it can serve as a multifunctional microcomputer or as a development board,

as an efficient HUB for a cluster of sensors or for some completely new purpose that is expected from the community that will gather around it to design.

Why did we choose VIDIX microcomputer for education purpose at both the high school and college level? We wanted more powerful platform, totally new and completely developed in our country - Croatia. We already have experience with other widely used microcomputers boards like Arduino and Raspberry Pi microcomputers in education [4][6].

VIDIX is a significantly more powerful platform than Arduino, and unlike a Raspberry Pi computer, it does not need an operating system. To run, a power source is required via a 3xAAA battery or via USB cable, and it can be programmed on a computer with Windows, Linux or Mac OS system. Since its introduction, VIDIX soon became very popular in Croatia also in the education, especially in STEM field [1][7].

In II. chapter VIDIX hardware and programming environment is described in detail. The examples of VIDIX projects, that were introduced at laboratory exercise course in High school Tesla in Zagreb are shown in III. Chapter. The VIDIX micro server project, that was used for demonstration in the Computer Network course at the College for Information Technologies - VSITE in Zagreb is described in last chapter of this paper.

## II. VIDIX HARDWARE AND PROGRAMMING

The VIDIX development microcomputer is based on an ESP32 processor, a 2.8" integrated screen, a light sensor, an IR sensor, a temperature sensor, integrated speaker and the possibility of Wi-Fi, IrDA and Bluetooth connectivity.

Here is a quick overview of main parts of VIDIX microcomputer. The parts are numbered from 1 to 21 and are identified on the front and the back side of VIDIX as shown in Figure 1. and Figure 2.

# Using Microcomputers In School Administration

**SJ Ball**



## **Using Microcomputers In School Administration:**

If you ally obsession such a referred **Using Microcomputers In School Administration** book that will come up with the money for you worth, acquire the agreed best seller from us currently from several preferred authors. If you want to witty books, lots of novels, tale, jokes, and more fictions collections are furthermore launched, from best seller to one of the most current released.

You may not be perplexed to enjoy all books collections Using Microcomputers In School Administration that we will no question offer. It is not going on for the costs. Its practically what you obsession currently. This Using Microcomputers In School Administration, as one of the most committed sellers here will unquestionably be along with the best options to review.

[https://thebrandexperience.com/public/detail/index.jsp/roblox\\_survival\\_trending.pdf](https://thebrandexperience.com/public/detail/index.jsp/roblox_survival_trending.pdf)

## **Table of Contents Using Microcomputers In School Administration**

1. Understanding the eBook Using Microcomputers In School Administration
  - The Rise of Digital Reading Using Microcomputers In School Administration
  - Advantages of eBooks Over Traditional Books
2. Identifying Using Microcomputers In School Administration
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Using Microcomputers In School Administration
  - User-Friendly Interface
4. Exploring eBook Recommendations from Using Microcomputers In School Administration
  - Personalized Recommendations
  - Using Microcomputers In School Administration User Reviews and Ratings

- Using Microcomputers In School Administration and Bestseller Lists
- 5. Accessing Using Microcomputers In School Administration Free and Paid eBooks
  - Using Microcomputers In School Administration Public Domain eBooks
  - Using Microcomputers In School Administration eBook Subscription Services
  - Using Microcomputers In School Administration Budget-Friendly Options
- 6. Navigating Using Microcomputers In School Administration eBook Formats
  - ePub, PDF, MOBI, and More
  - Using Microcomputers In School Administration Compatibility with Devices
  - Using Microcomputers In School Administration Enhanced eBook Features
- 7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of Using Microcomputers In School Administration
  - Highlighting and Note-Taking Using Microcomputers In School Administration
  - Interactive Elements Using Microcomputers In School Administration
- 8. Staying Engaged with Using Microcomputers In School Administration
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers Using Microcomputers In School Administration
- 9. Balancing eBooks and Physical Books Using Microcomputers In School Administration
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection Using Microcomputers In School Administration
- 10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
- 11. Cultivating a Reading Routine Using Microcomputers In School Administration
  - Setting Reading Goals Using Microcomputers In School Administration
  - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Using Microcomputers In School Administration
  - Fact-Checking eBook Content of Using Microcomputers In School Administration
  - Distinguishing Credible Sources

13. Promoting Lifelong Learning
  - Utilizing eBooks for Skill Development
  - Exploring Educational eBooks
14. Embracing eBook Trends
  - Integration of Multimedia Elements
  - Interactive and Gamified eBooks

### **Using Microcomputers In School Administration Introduction**

Using Microcomputers In School Administration Offers over 60,000 free eBooks, including many classics that are in the public domain. Open Library: Provides access to over 1 million free eBooks, including classic literature and contemporary works. Using Microcomputers In School Administration Offers a vast collection of books, some of which are available for free as PDF downloads, particularly older books in the public domain. Using Microcomputers In School Administration : This website hosts a vast collection of scientific articles, books, and textbooks. While it operates in a legal gray area due to copyright issues, its a popular resource for finding various publications. Internet Archive for Using Microcomputers In School Administration : Has an extensive collection of digital content, including books, articles, videos, and more. It has a massive library of free downloadable books. Free-eBooks Using Microcomputers In School Administration Offers a diverse range of free eBooks across various genres. Using Microcomputers In School Administration Focuses mainly on educational books, textbooks, and business books. It offers free PDF downloads for educational purposes. Using Microcomputers In School Administration Provides a large selection of free eBooks in different genres, which are available for download in various formats, including PDF. Finding specific Using Microcomputers In School Administration, especially related to Using Microcomputers In School Administration, might be challenging as theyre often artistic creations rather than practical blueprints. However, you can explore the following steps to search for or create your own Online Searches: Look for websites, forums, or blogs dedicated to Using Microcomputers In School Administration, Sometimes enthusiasts share their designs or concepts in PDF format. Books and Magazines Some Using Microcomputers In School Administration books or magazines might include. Look for these in online stores or libraries. Remember that while Using Microcomputers In School Administration, sharing copyrighted material without permission is not legal. Always ensure youre either creating your own or obtaining them from legitimate sources that allow sharing and downloading. Library Check if your local library offers eBook lending services. Many libraries have digital catalogs where you can borrow Using Microcomputers In School Administration eBooks for free, including popular titles. Online Retailers: Websites like Amazon, Google Books, or Apple Books often sell eBooks. Sometimes, authors or publishers offer promotions or free periods for certain books. Authors Website

Occasionally, authors provide excerpts or short stories for free on their websites. While this might not be the Using Microcomputers In School Administration full book, it can give you a taste of the authors writing style. Subscription Services Platforms like Kindle Unlimited or Scribd offer subscription-based access to a wide range of Using Microcomputers In School Administration eBooks, including some popular titles.

### **FAQs About Using Microcomputers In School Administration Books**

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer webbased readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Using Microcomputers In School Administration is one of the best book in our library for free trial. We provide copy of Using Microcomputers In School Administration in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Using Microcomputers In School Administration. Where to download Using Microcomputers In School Administration online for free? Are you looking for Using Microcomputers In School Administration PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another Using Microcomputers In School Administration. This method for see exactly what may be included and adopt these ideas to your book. This site will almost certainly help you save time and effort, money and stress. If you are looking for free books then you really should consider finding to assist you try this. Several of Using Microcomputers In School Administration are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access online library for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different

product types or categories, brands or niches related with Using Microcomputers In School Administration. So depending on what exactly you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with Using Microcomputers In School Administration To get started finding Using Microcomputers In School Administration, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with Using Microcomputers In School Administration So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading Using Microcomputers In School Administration. Maybe you have knowledge that, people have search numerous times for their favorite readings like this Using Microcomputers In School Administration, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in the afternoon, instead they juggled with some harmful bugs inside their laptop. Using Microcomputers In School Administration is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one. Merely said, Using Microcomputers In School Administration is universally compatible with any devices to read.

### **Find Using Microcomputers In School Administration :**

#### **roblox survival trending**

[advanced roblox horror](#)

[roblox obby guide](#)

#### **roblox parkour ebook**

[roblox tycoon toolkit](#)

#### **trending roblox limiteds**

[roblox update trending](#)

[checklist roblox horror](#)

[roblox anime latest](#)

[roblox roleplay ebook](#)

[roblox marketplace ideas](#)

#### **advanced roblox adventure game**

[roblox adventure game top](#)

*toolkit roblox limiteds*  
roblox skins guide

### **Using Microcomputers In School Administration :**

Common SNMP Vulnerability: 9-Step Guide to Protect Your ... Common SNMP Vulnerability: 9-Step Guide to Protect Your ...  
SNMPv2 vs. SNMPv3: An SNMP Versions Comparison Table SNMPv1 has very basic security and doesn't include any encryption algorithms. In ... and internet-facing networks to protect against security risks and threats. What are the differences between SNMP v1, v2, and v3? The SNMPv3 architecture introduces the User-based Security Model (USM) for message security and the View-based Access Control Model (VACM) for access control. SNMPv1 vs. V2c vs. V3 - SNMP Versions Comparison Oct 10, 2022 — Because of its improved security, SNMPv3 is better suited for use on public and Internet-facing networks. V2 is best used only on low-risk, ... SNMPv3 with Security and Administration Security Threats and SNMPv3 Protection Verifies the identify of the message's origin by checking the integrity of the data. Thwarts accidental or intentional ... Security surprises with SNMP v3 Jan 3, 2020 — The lack of encryption in SNMP v1 and v2 allow attackers to capture credentials sent by management tools. Attackers can abuse the weak ... SNMP v2 vs v3 - what are the differences? - Blog - Domotz Feb 28, 2022 — With a focus on improving security, SNMP v3 goes the extra mile to address risks such as eavesdropping and tampering. And it does this ... The Benefits of Using SNMPv3 Over SNMPv2 Oct 4, 2023 — SNMPv3 is the most sophisticated and secure version. Although SNMPv2 - especially SNMPv2u - is advanced and offers enhanced security over SNMPv1 ... SNMP Security Best Practices Jan 9, 2023 — SNMPv2 primarily consists of performance enhancements over the older v1 protocol, but from a security perspective SNMPv1 and v2 are identical. SNMP v2 vs v3: Ensuring a Smooth Transition Sep 4, 2023 — The greatest advantage of SNMPv3, by far, is its vastly improved security features. SNMPv2 offered no encryption or authentication. In SNMPv1 ... Buell 1125R Motorcycle Forum - Ignition Wire - BadWeB Oct 22, 2017 — Easiest way to gain access is to trace the short wiring bundle from the ignition to it's plug and unplug it. The plug is likely tangled up/ ... 2009 Buell 1125 Electrical Diagnostics Manual Key switch fuse. 900 W electric with one-way clutch. Cooling fan fuse. Auxiliary power. Fuel pump. Table 1-6. Fuel Pump Pressure Specifications. AMPERES. 30. 15. 2008 Buell 1125R Electrical Diagnostic Manual 99949-08Y 1. With the ignition on and the security disarmed, press and hold the TOGGLE and MODE switches until the SETUP MENU is displayed. · 2. Press and release the MODE ... Electrical Protection: Buell 1125R Models See Figure 1. The vehicle's electrical system is protected with fuses. The fuse block is located under the seat on the left side of the vehicle. Motorcycle Electrical & Ignition Switches for Buell 1125R Get the best deals on Motorcycle Electrical & Ignition Switches for Buell 1125R when you shop the largest online selection at eBay.com. Ignition/Headlamp Key Switch - Buell P3 Service Manual Buell P3 Manual Online: Ignition/Headlamp Key Switch. GENERAL 11 1 WARNING The automatic-

on headlamp feature provides increased visibility of the rider to ... Un-do the "Harley fix" Mar 25, 2015 — I only had to figure out which connectors/wires the harley harness was tied into on the bikes main system, remove the harley harness and plug ... Buell 1125 R to CR Conversion Part 2 (Cable Routing, New ... Wiring Guru NEEDED Mar 13, 2012 — I've attaching the diagrams for the M-Lock, the wiring diagram and the connector I cut of the ignition. ... looking at the table for the ignition ... "Strangers" by Morrison (online) TONI MORRISON. STRANGERS. 161 signal line of "No Exit," "L'enfer, c'est les ... Do you agree that it may be ethically wrong to create stories about the strangers ... TONI MORRISON (p. 129) "STRANGERS" — essay written to accompany a collection of photographs. ○. Toni Morrison discusses a strange incident she had once with a quirky old ... Toni Morrison - Strangers analysis - Annie's English Journal Mar 5, 2015 — Morrison's short essay, Strangers, explores the preconceived notions that people make of others, and questions why this is. The narrator meets ... In a strangers hand - summary about the norton reader This essay is in some way saying that we are all the same. Toni Morrison wrote about strangers' identities and how they fit into this world. I see that many ... Toni Morrison | "Strangers" (1998) Toni Morrison has been awarded both the Nobel Prize for Literature and the Pulitzer Prize in Fiction, the latter for her novel Beloved (1987). Reflection on Strangers by Toni Morrison [1] - Personal Site Dec 23, 2013 — The writer Toni Morrison tells a story between a fisherwoman and her. Toni met this strange fisherwoman at the fence set between her house ... Strangers, By Toni Morrison - 245 Words In the story "Strangers," Toni Morrison writes about how we judge the people for how they look or what they wearing. She tries to explain how we immediately ... Stranger By Toni Morrison - 488 Words The world that has become apocalyptic, where only a few people are left alive. A father and a son struggling to survive, while other people commit inhuman ... Strangers by Toni Morrison Jan 1, 1998 — Her novels are known for their epic themes, vivid dialogue, and richly detailed African American characters; among the best known are her novels ... Toni Morrison on Creating the Connections We Long For Mar 10, 2016 — Several years ago, Morrison met a stranger--a woman--who was fishing near her property. They had a wonderful, 15-minute conversation about fish ...