Using VIDI-X 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, aleksandar.skendzic@vsite.hr, milenko.simic@skole.hr

***Abstract* - This paper describes the application of the VIDI-X development microcomputer for educational purposes. VIDI-X is a platform developed entirely in Croatia and another great way to popularize STEM and learn new skills. VIDI-X 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). VIDI-X 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 VIDI-X, 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 - VIDI-X, 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.

VIDI-X 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 VIDI-X 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.

VIDI-X 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 VIDI-X microcomputer for education purpose at both the high school and college level? We wanted more powerfull platform, totaly new and completelly developed in our country - Croatia. We allready have experience with other widely used microcomputers boards like Arduino and Raspberry Pi microcomputers in education [4][6].

VIDI-X 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 3xAA battery or via USB cable, and it can be programmed on a computer with Windows, Linux or Mac OS system. Since its introduction, VIDI-X soon became very popular in Croatia also in the education, especially in STEM field [1] [7].

In II. chapter VIDI-X hardware and programming environment is described in detail. The examples of VIDI-X projects, that were introduced at laboratory exercise course in High school Tesla in Zagreb are shown in III. Chapter. The VIDI-X 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. VIDI-X HARDWARE AND PROGRAMMING

The VIDI-X 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 od VIDI-X microcomputer The parts are numbered from 1 to 21 and are indentified on the front and the back side of VIDI-X as shown in Figure 1. and Figure 2.

Using Microcomputers In School Administration

Lauren Gardner

Using Microcomputers In School Administration:

Enjoying the Tune of Term: An Emotional Symphony within **Using Microcomputers In School Administration**

In some sort of consumed by screens and the ceaseless chatter of fast transmission, the melodic splendor and mental symphony created by the prepared word frequently diminish in to the background, eclipsed by the constant sound and interruptions that permeate our lives. However, situated within the pages of **Using Microcomputers In School Administration** a charming fictional prize overflowing with fresh feelings, lies an immersive symphony waiting to be embraced. Constructed by a masterful composer of language, this captivating masterpiece conducts visitors on a mental journey, well unraveling the concealed songs and profound influence resonating within each cautiously crafted phrase. Within the depths of the moving examination, we can explore the book is central harmonies, analyze their enthralling publishing design, and surrender ourselves to the profound resonance that echoes in the depths of readers souls.

https://thebrandexperience.com/results/scholarship/Download_PDFS/best%20solar%20panels.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

In todays digital age, the availability of Using Microcomputers In School Administration books and manuals for download has revolutionized the way we access information. Gone are the days of physically flipping through pages and carrying heavy textbooks or manuals. With just a few clicks, we can now access a wealth of knowledge from the comfort of our own homes or on the go. This article will explore the advantages of Using Microcomputers In School Administration books and manuals for download, along with some popular platforms that offer these resources. One of the significant advantages of Using Microcomputers In School Administration books and manuals for download is the cost-saving aspect. Traditional books and manuals can be costly, especially if you need to purchase several of them for educational or professional purposes. By accessing Using Microcomputers In School Administration versions, you eliminate the need to spend money on physical copies. This not only saves you money but also reduces the environmental impact associated with book production and transportation. Furthermore, Using Microcomputers In School Administration books and manuals for download are incredibly convenient. With just a computer or smartphone and an internet connection, you can access a vast library of resources on any subject imaginable. Whether youre a student looking for textbooks, a professional seeking industry-specific manuals, or someone interested in self-improvement, these digital resources provide an efficient and accessible means of acquiring knowledge. Moreover, PDF books and manuals offer a range of benefits compared to other digital formats. PDF files are designed to retain their formatting regardless of the device used to open them. This ensures that the content appears exactly as intended by the author, with no loss of formatting or missing graphics. Additionally, PDF files can be easily annotated, bookmarked, and searched for specific terms, making them highly practical for studying or referencing. When it comes to accessing Using Microcomputers In School Administration books and manuals, several platforms offer an extensive collection of resources. One such platform is Project Gutenberg, a nonprofit organization that provides over 60,000 free eBooks. These books are primarily in the public domain, meaning they can be freely distributed and downloaded. Project Gutenberg offers a wide range of classic literature, making it an excellent resource for literature enthusiasts. Another

popular platform for Using Microcomputers In School Administration books and manuals is Open Library. Open Library is an initiative of the Internet Archive, a non-profit organization dedicated to digitizing cultural artifacts and making them accessible to the public. Open Library hosts millions of books, including both public domain works and contemporary titles. It also allows users to borrow digital copies of certain books for a limited period, similar to a library lending system. Additionally, many universities and educational institutions have their own digital libraries that provide free access to PDF books and manuals. These libraries often offer academic texts, research papers, and technical manuals, making them invaluable resources for students and researchers. Some notable examples include MIT OpenCourseWare, which offers free access to course materials from the Massachusetts Institute of Technology, and the Digital Public Library of America, which provides a vast collection of digitized books and historical documents. In conclusion, Using Microcomputers In School Administration books and manuals for download have transformed the way we access information. They provide a cost-effective and convenient means of acquiring knowledge, offering the ability to access a vast library of resources at our fingertips. With platforms like Project Gutenberg, Open Library, and various digital libraries offered by educational institutions, we have access to an ever-expanding collection of books and manuals. Whether for educational, professional, or personal purposes, these digital resources serve as valuable tools for continuous learning and self-improvement. So why not take advantage of the vast world of Using Microcomputers In School Administration books and manuals for download and embark on your journey of knowledge?

FAQs About Using Microcomputers In School Administration Books

1. Where can I buy Using Microcomputers In School Administration books? Bookstores: Physical bookstores like Barnes & Noble, Waterstones, and independent local stores. Online Retailers: Amazon, Book Depository, and various online bookstores offer a wide range of books in physical and digital formats.
2. What are the different book formats available? Hardcover: Sturdy and durable, usually more expensive. Paperback: Cheaper, lighter, and more portable than hardcovers. E-books: Digital books available for e-readers like Kindle or software like Apple Books, Kindle, and Google Play Books.
3. How do I choose a Using Microcomputers In School Administration book to read? Genres: Consider the genre you enjoy (fiction, non-fiction, mystery, sci-fi, etc.). Recommendations: Ask friends, join book clubs, or explore online reviews and recommendations. Author: If you like a particular author, you might enjoy more of their work.
4. How do I take care of Using Microcomputers In School Administration books? Storage: Keep them away from direct

sunlight and in a dry environment. Handling: Avoid folding pages, use bookmarks, and handle them with clean hands. Cleaning: Gently dust the covers and pages occasionally.

5. Can I borrow books without buying them? Public Libraries: Local libraries offer a wide range of books for borrowing. Book Swaps: Community book exchanges or online platforms where people exchange books.
6. How can I track my reading progress or manage my book collection? Book Tracking Apps: Goodreads, LibraryThing, and Book Catalogue are popular apps for tracking your reading progress and managing book collections. Spreadsheets: You can create your own spreadsheet to track books read, ratings, and other details.
7. What are Using Microcomputers In School Administration audiobooks, and where can I find them? Audiobooks: Audio recordings of books, perfect for listening while commuting or multitasking. Platforms: Audible, LibriVox, and Google Play Books offer a wide selection of audiobooks.
8. How do I support authors or the book industry? Buy Books: Purchase books from authors or independent bookstores. Reviews: Leave reviews on platforms like Goodreads or Amazon. Promotion: Share your favorite books on social media or recommend them to friends.
9. Are there book clubs or reading communities I can join? Local Clubs: Check for local book clubs in libraries or community centers. Online Communities: Platforms like Goodreads have virtual book clubs and discussion groups.
10. Can I read Using Microcomputers In School Administration books for free? Public Domain Books: Many classic books are available for free as theyre in the public domain. Free E-books: Some websites offer free e-books legally, like Project Gutenberg or Open Library.

Find Using Microcomputers In School Administration :

best solar panels
renewable energy pro
~~circular economy 2025 edition~~
sustainable fashion ideas
renewable energy checklist
upcycling ideas framework
best sustainable travel
guide circular economy
minimalist living planner

2025 edition plastic free
sustainable fashion best
green building tips
~~eco friendly products ebook~~
guide green building
green building 2025 edition

Using Microcomputers In School Administration :

Convince Them in 90 Seconds or Less: Make Instant ... But he doesn't stop there. This book shows how to turn those instant connections into long-lasting, productive business relationships."—Marty Edelston, ... Convince Them in 90 Seconds or Less: Make Instant ... Convince Them in 90 Seconds or Less: Make Instant Connections That Pay Off in Business and in Life · Paperback · $13.95. Convince Them in 90 Seconds or Less This book teaches you about the snap judgments that are made in those first few instants and how you can make them work to your advantage. Once you're past ... How to Persuade People in 90 Seconds or Less May 27, 2010 — "Just adjust to useful attitudes, as opposed to useless attitudes," he says. "Useful might be resourceful or welcoming, enthusiastic. Useless ... Convince Them in 90 Seconds Mar 11, 2021 — There are a number of rules to learn in order to establish a fruitful relationship. They are to make the other person talk, stay focused on what ... Book review: Convince them in 90 seconds Aug 31, 2010 — Successful leaders share three really useful attitudes. They're enthusiastic. They're curious. And they embrace humility, with a public persona ... Convince Them in 90 Seconds or Less Quotes It's much easier to be convincing if you care about your topic. Figure out what's important to you about your message and speak from the heart. Convince Them in 90 Seconds or Less: Make Instant ... May 26, 2010 — Convince Them in 90 Seconds or Less: Make Instant Connections That Pay Off in Business and in Life (Paperback). By Nicholas Boothman. $13.95. Convince Them in 90 Seconds or Less: Make Instant ... May 26, 2010 — Whether you're selling, negotiating, interviewing, networking, or leading a team, success depends on convincing other people - and ... Farming Systems Research into the 21st Century: The New ... by I Darnhofer · Cited by 131 — A comprehensive overview of systems approaches as applied to farming and rural development. Demonstrates the strengths of combining systems thinking, ... Farming Systems Research into the 21st Century: The New ... Farming Systems Research has three core characteristics: it builds on systems thinking, it depends on the close collaboration between social and biophysical ... Farming Systems Research into the 21st Century: The New ... It retraces the emergence and development of Farming Systems Research in Europe, summarises the state-of-the-art for key areas, and provides an outlook on new ... (PDF) Farming Systems Research into the 21st Century The adaptive approach in Farming Systems Research focuses on ensuring sufficient room to manoeuvre, identifying transition capabilities and

extending the ... Farming Systems Research Into the 21st Century Jun 11, 2014 — Farming Systems Research posits that to contribute towards sustainable rural development, both interdisciplinary collaborations and local actor ... Farming Systems Research into the 21st Century The New Dynamic. Page 4. Editors. Ika Darnhofer. BOKU – University of Natural ... parallels to the dynamic behaviours of farming systems; Chap. 16 assesses how. Farming Systems Research into the 21st Century: The New ... Part I: Farming Systems Research in Europe 1. Farming Systems Research: An approach to inquiry Ika Darnhofer, David Gibbon, and Benoit Dedieu 2. Farming Systems Research into the 21st Century: The New ... Farming Systems Research has three core characteristics: it builds on systems thinking, it depends on the close collaboration between social and biophysical ... Farming Systems Research into the 21st Century: The New ... Initially, Farming Systems Research took the farm as a starting point for an analysis of a broad range of issues linked to agricultural production. Farming Systems Research into the 21st Century Farming Systems Research has three core characteristics: it builds on systems thinking, it depends on the close collaboration between social and biophysical ... Sales Aptitude Test The Sales aptitude test evaluates a candidate's ability to complete the sale of goods or services on behalf of a company as well as aptitude for logical, ... Sales Aptitude Test: Practice Questions & Answers (2023) Applying for a sales role? Learn how to pass sales aptitude tests with 18 practice tests and 234 questions & answers written by experts. 30 Sales Skills Test Questions and Answers Jul 10, 2023 — Part 1: 30 multiple-choice questions about sales skills along with answers · 1. Which of the following is a key component of successful sales ... Sales Aptitude test | Pre-employment assessment Top five hard skills interview questions for Sales Aptitude · 1. Can you describe your experience with consultative selling and how you identify customer needs? Sales Aptitude Test Flashcards Study with Quizlet and memorize flashcards containing terms like successful selling is fundamentally about, when most people perceive they are being ... Sales Assessment Tests: What to Expect + How to Prepare Mar 2, 2023 — A sales assessment test is a standardized aptitude test that sales hiring managers and recruiters use to evaluate applicants' sales skills ... How to Pass Sales Assessment Testing for SDRs & AEs ... May 12, 2023 — While taking a sales personality test, it's important to take your time, read each question thoroughly, and answer honestly. Aptitude Test for Job: Free Sample Questions & Answers ... This is a complete guide for job aptitude tests. Try free sample questions with answers, access practice tests and get tips to help you pass the assessment.