International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

COPY RIGHT

ELSEVIER SSRN

IJIEMR Transactions, online available on 30th Jul 2022. Link :http://www.ijiemr.org/downloads.php?vol=Volume-11&issue= Spl Issue 06

DOI: 10.48047/IJIEMR/V11/SPL ISSUE 06/26

Title **ELECTRONIC DEVICE AND TOURIST GUIDER IN MULTIPLE LANGUAGES FOR MUSEUMS AND EXHIBITIONS**

Volume 11, SPL ISSUE 06, Pages: 143-147

Paper Authors
Rama vasundhara , G Rachana, P Bharath Kumar, S Sai Rajesh

USE THIS BARCODE TO ACCESS YOUR ONLINE PAPER

To Secure Your Paper As Per UGC Guidelines We Are Providing A Electronic Bar Code

International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

ELECTRONIC DEVICE AND TOURIST GUIDER IN MULTIPLE LANGUAGES FOR MUSEUMS AND EXHIBITIONS

Rama vasundhara
UG Student Dep of Electronics &Communication Engineering *Balaji institute of technology and science*
Warangal,Telangana,India
Vasundharar28@gmail.com
G Rachana
UG Student Dep of Electronics &Communication Engineering *Balaji institute of technology and science*
Warangal,Telangana,India
P Bharath Kumar
UG Student Dep of Electronics &Communication Engineering *Balaji institute of technology and science*
Warangal,Telangana,India
S Sai Rajesh
UG Student Dep of Electronics & Communication Engineering *Balaji institute of technology and science*
Warangal,Telangana,India

***Abstract*— It's a voice enabled device that speaks out as the tourist is travelling from places to places (museum). As it is known fact that museums are explored by different people from different logistics. So in order to increase user experience in museums it is required to equip museum with staff whose are multilingual to speak and explain to every tourist. But this approach requires staff and not economically efficient. So in order to compensate this problem we are designing this project to reduce human intervention and ease of access to visitor via their mobile phone.**

I. INTRODUCTION

In recent years, the development of worldwide travel has been outstanding. At the same time, due to the fast development of the travel business, it is important to offer tourists an enhanced travel platform. Most museums still use narrators to do presentations about exhibitions [1]. In order to support museums to provide service in various ways, online products are essential. The existing system in museums offer only in local recognized languages and requires human intervention for additional support which can be more costly to the budget travelers [2]. So to eliminate these problems we need to design a hassle free and easy system**.** Here we need to implement a multilingual audio explanation system which can be used and autonomously operated by the individual with multiple buttons to choose language [3].

FEATURES OF THE NODEMCU

- Microcontroller: Ten silica 32-bit RISC CPU Xtensa LX106
- Operating Voltage: 3.3V
- Input Voltage: 7-12V
- Digital I/O Pins (DIO): 16
- Analog Input Pins (ADC): 1
- UARTs: 1
- SPIs: 1
- I2Cs: 1
- Flash Memory: 4 MB
- SRAM: 64 KB
- Clock Speed: 80 MHz
- USB-TTL based on CP2102 is included onboard, Enabling Plug n Play

AMPLIFIER (DF PLAYER MODULE):

The Flayer is a small and low price MP3 module with a simplified output directly to the speaker [4]. The module can be used as a standalone module with attached battery, speaker and push buttons or used in combination with any controller with RX/TX capabilities [5].

International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

This module takes audio clip from controller and amplifies it to drive the speaker.

The Flayer Mini MP3 Player For Arduino is a small and low price MP3 module with a simplified output directly to the speaker. The module can be used as a standalone module with attached battery, speaker and push buttons or used in combination with an Arduino UNO or any other with RX/TX capabilities [6].

Speaker

Speaker takes the amplified audio out signal and converts that electrical signal into sound waves a speaker (also sometimes called a speaker driver or, especially if audible at a distance, a **l**oudspeaker) is an electroacoustic transducer, that is, a device that converts an electrical audio signal into a corresponding sound. A *speaker system*, also often simply referred to as a "speaker" or "loudspeaker", comprises one or more such speaker *drivers* (above definition), an enclosure, and electrical connections possibly including a crossover network [7]. The speaker driver can be viewed as a linear motor attached to a diaphragm which couples that motor's movement to motion of air, that is, sound. An audio signal, typically from a microphone, recording, or radio broadcast, is amplified electronically to a power level capable of driving that motor in order to reproduce the sound corresponding to the original unamplified electronic signal [8]. This is thus the opposite function to the microphone, and indeed the *dynamic speaker* driver, by far the most common type, is a linear motor in the same basic configuration as the dynamic microphone which uses such a motor in reverse, as a generator [9].

Storage:

As for storage we use SD card to store all audio clipping in the form of mp3 format to play in multi state [10].

A **memory card** is an electronic data storage device used for storing digital information, typically using flash memory. These are commonly used in portable electronic devices, such as digital cameras, mobile phones, laptop computers, tablets, PDAs, portable media players, video game consoles, synthesizers, electronic keyboards and digital pianos, and allow adding memory to such devices without compromising ergonomic, as the card is usually contained within the device rather than protruding like USB flash drives [11].

WEB SERVER:

A web server is computer software and underlying hardware that accepts requests via HTTP (the network protocol created to distribute web content) or its secure variant HTTPS. A user agent, commonly a web browser or web crawler, initiates communication by making a request for a web page or other resource using HTTP, and the server responds with the content of that resource or an error message [12]. A web server can also accept and store resources sent from the user agent if configured to do so. The hardware used to run a web server can vary according to the volume of requests that it needs to handle [13]. At the low end of the range are embedded systems, such as a router that runs a small web server as its configuration interface [14]. A high-traffic Internet website might handle requests with hundreds of servers that run on racks of high-speed computers [15].

A resource sent from a web server can be a preexisting file (static content) available to the web server, or it can be generated at the time of the request (dynamic content) by another program that communicates with the server software. The former usually can be served faster and can be more easily cached for repeated requests, while the latter supports a broader range of applications [16].

Technologies such as REST and SOAP, which use HTTP as a basis for general computer-to-computer communication, as well as support for WebDAV extensions, have extended the application of web servers well beyond their original purpose of serving human-readable pages. The following technical overview should be considered only as an attempt to give a few very *limited examples* about *some* features that may be implemented in a web server and *some* of the tasks that it may perform in order to have a sufficiently wide scenario about the topic. A web server program plays the role of a server in a client–server model by implementing one or more versions of HTTP protocol, often including the HTTPS secure variant and other features and extensions that are considered useful for its planned usage[17].

COMMON TASKS:

A web server program, when it is running, usually performs several general tasks, (e.g.):starts, optionally reads and applies settings found in its configuration file(s) or elsewhere, optionally opens log file, starts listening to client connections / requests;

- optionally tries to adapt its general behavior according to its settings and its current operating conditions;
- manages client connection(s) (accepting new ones or closing the existing ones as required);
- receives client requests (by reading HTTP messages):

International Journal for Innovative Engineering and Management Research
A Peer Revieved Open Access International Journal
www.ijiemr.org

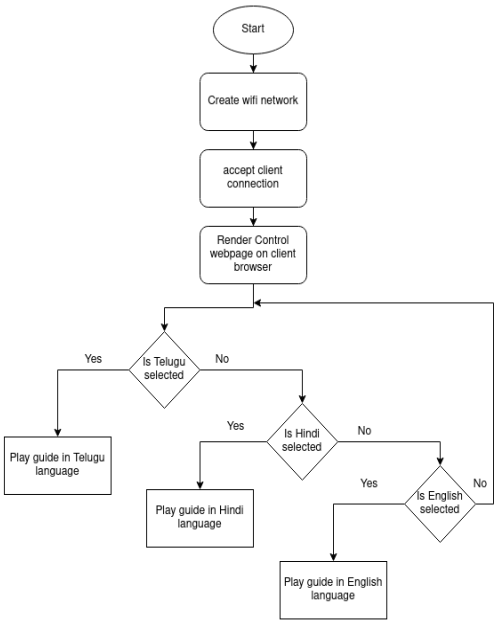
- reads and verify each HTTP request message;
- usually performs URL normalization;
- usually performs URL mapping (which may default to URL path translation);
- usually performs URL path translation along with various security checks;

Executes or refuses requested HTTP method:

- Optionally manages URL authorizations;
- Optionally manages URL redirections;
- Optionally manages requests for static resources (file contents):
- Optionally manages directory index files;
- Optionally manages regular files;
- Optionally manages requests for dynamic resources:
- Optionally manages directory listings;
- Optionally manages program or module processing, checking the availability, the start and eventually the stop of the execution of external programs used to generate dynamic content;
- Optionally manages the communications with external programs / internal modules used to generate dynamic content;
- replies to client requests sending proper HTTP responses (e.g. requested resources or error messages) eventually verifying or adding HTTP headers to those sent by dynamic programs / modules;
- Optionally logs (partially or totally) client requests and/or its responses to an external user log file or to a system log file by syslog, usually using common log format;
- optionally logs process messages about detected anomalies or other notable events (e.g. in client requests or in its internal functioning) using syslog or some other system facilities; these log messages usually have a debug, warning, error, alert level which can be filtered (not logged) depending on some settings, see also severity level;
- optionally generates statistics about web traffic managed and/or its performances;

Other custom tasks.

2.WORK FLOW



A resource sent from a web server can be a preexisting file (static content) available to the web server, or it can be generated at the time of the request (dynamic content) by another program that communicates with the server software. The former usually can be served faster and can be more easily cached for repeated requests, while the latter supports a broader range of applications.

Technologies such as REST and SOAP, which use HTTP as a basis for general computer-to-computer communication, as well as support for WebDAV extensions, have extended the

application of web servers well beyond their original purpose of serving human-readable pages.The following technical overview should be considered only as an attempt to give a few very limited examples about some features that may be implemented in a web server and some of the tasks that it may perform in order to have a sufficiently wide scenario about the topic. A web server program plays the role of a server in a client–server model by implementing one or more versions of HTTP protocol, often including the HTTPS secure variant and other features and extensions that are considered useful for its planned usage.

3. PROPOSED SYSTEM

1) **Step 1:** First we create a wifi network To connect to our web server
2) **Step 2:** Then we accept connections
3) clients(users/tourists mobiles)
4) **Step 3:** Upon connecting to wifi network we give them an ip address or a QR to type into browser
5) **Step 4:** Once user enters ip in browser then it redirected to our web page which consist of all data regarding artefacts in museum
6) **Step 5:** In web page we give three different language audio option below each artefact description once user clicks on telugu the telugu audio will be played
7) **Step 6:** Else if user clicks hindi the audio in hindi will be played
8) **Step 7:** Else if user clicks on english audio in english will be played on the browser

4. RESULT

The above figures show the end output web page of the project where the top is the title located and then followed by images and explanation content. After that we give an audio file option which gives options for the user to play a respective explanation based on the user's preferred selection language.

In this phase of the project, we successfully completed the project with desired output and acquired a physical working system.
We got to know how to host web pages on cheap node MCU and how audio amplifiers work.

5. CONCLUSION

Hence we successfully obtained desired results from Electronic tourist guide project and completed physical working model of the project

REFERENCES

[1] Karthik Kumar Vaigandla, Dr.N.Venu, " Survey on Massive MIMO: Technology, Challenges, Opportunities and Benefits," YMER, VOLUME 20 : ISSUE 11 (Nov) - 2021, Page No:271-282.
[2] Karthik Kumar Vaigandla and Dr.N.Venu, "A Survey on Future Generation Wireless Communications - 5G : Multiple Access Techniques, Physical Layer Security, Beamforming Approach", *Journal of Information and Computational Science*, Volume 11 Issue 9, 2021, pp.449-474.
[3] Karthik Kumar Vaigandla and Dr.N.Venu, "BER, SNR and PAPR Analysis of OFDMA and SC-FDMA," GIS SCIENCE JOURNAL, ISSN NO : 1869-9391, VOLUME 8, ISSUE 9, 2021, pp.970-977.
[4] Dr.Nookala Venu, Dr.A.ArunKumar and Karthik Kumar Vaigandla. Review of Internet of Things (IoT) for Future Generation Wireless Communications. International Journal for Modern Trends in Science and Technology 2022, 8(03), pp. 01-08.
[5] A.V.L.N.Sujith, R. Swathi, R. Venkatasubramanian, Nookala Venu, S.Hemalatha, Tony George, A. Hemlathadhevi, P. Madhu, Alagar Karthick, M. Muhibbullah, Sameh M. Osman, "Integrating Nanomaterial and High-Performance Fuzzy-Based Machine Learning Approach for Green Energy Conversion" Journal of Nanomaterials, ISSN: 1687-4129,Volume 2022,PP:1-11.

[6] Nookala Venu, D. Yuvaraj, J. Barnabas Paul Glady, Omkar Pattnaik, Gurpreet Singh, Mahesh Singh, and Amsalu Gosu Adigo, "Execution of Multitarget Node Selection Scheme for Target Position Alteration Monitoring in MANET", Wireless Communications and Mobile Computing, ISSN:1530- 8669, Volume 2022, PP: 1-9.

[7] Nookala Venu, R.Swathi, Sanjaya Kumar Sarangi, V. Subashini, D. Arulkumar, Shimpy Ralhan, Baru Debtera, "Optimization of Hello Message Broadcasting Prediction Model for Stability Analysis", Wireless Communications and Mobile Computing, ISSN:1530- 8669, Volume 2022, PP: 1-9.

[8] Dr.Nookala Venu, Karthik Kumar Vaigandla, Dr.A.ArunKumar, "Investigations of Internet of Things (IoT): Technologies, Challenges and Applications in healthcare", International Journal of Research (IJR), ISSN: 2236-6124, Volume XI, Issue II, Feb 2022, PP: 143-153
[9] Dr.Nookala Venu, "Analysis of Xtrinsic Sense MEMS Sensors" International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (IJAREEIE), ISSN:2278-8875 Vol 4, Issue:8, August 2015, PP: 7228-7234.
[10] Dr. Nookala Venu, B.Anuradha, "Local Mesh Patterns for Medical Image Segmentation" Asian Pacific Journal of Health Sciences (APJHS), e-ISSN: 2349-0659 p-ISSN: 2350-0964, Vol. 5, Issue 1, March 2018, PP: 123-127.
[11] Dr. Nookala Venu, B.Anuradha "Local Maximum Edge Binary Patterns for Medical Image Segmentation, International Journal of Engineering and Techniques (IJET), ISSN: 2395-1303, Volume 4 Issue 1, Jan- Feb 2018, PP:504-509.
[12] Dr. Nookala Venu, B.Anuradha, "Comparison of Traditional Method with watershed threshold segmentation Technique", International Journal of Analytical and Experimental Analysis (IJAEMA),ISSN: 0886-9367, Volume XIII, Issue 1, January- 2021, PP: 181-187.

[13] Nookala Venu, B.Anuradha, "Multi-Kernels Integration for FCM algorithm for Medical Image Segmentation Using Histogram Analysis" Indian Journal of Science and Technology (IJST), ISSN (Print): 0974-6846 ISSN (Online): 0974-5645, Vol 8 (34), December 2015, PP: 1-8.
[14] Venu N and Anuradha B, " Integration of Hyperbolic Tangent and Gaussian Kernels for Fuzzy C-means Algorithm with Spatial Information for MRI Segmentation", Fifth International Conference on Advanced Computing (ICoAC 2013), Anna University, Chennai, India, 2013.

[15] Nookala Venu, "Performance and Evaluation of Gaussian Kernels for FCM Algorithm with Mean Filtering Based De-noising For MRI Segmentation", PP: 1680-1685. Fifth International Conference on Communication and Signal Processing (ICCSP), India (IEEE/ICCSP) – 2014, Adhi Parasakthi Engineering College, Tamil Nadu April 3-5, 2014.
[16] Nookala Venu, B.Anuradha, Two Different Multi-Kernels Integration with Spatial Information in Fuzzy C-means Algorithm for Medical Image Segmentation, PP: 0020-0025. Sixth International Conference on Communication and Signal Processing, (ICCSP), India (IEEE/ICCSP) - 2015; Adhi Parasakthi Engineering College, Tamil Nadu 2-4 April 2015.
[17] Nookala Venu, B.Anuradha, "Multi-Hyperbolic Tangent Fuzzy C-means Algorithm for MRI Segmentation", Proceedings of International Conference on Advances in Communication, Network and Computing (CNC-2014), Elsevier, 22-24 Feb,2014, India. PP.333-341.

[18] Karne, RadhaKrishna, and T. K. Sreeja. "ROUTING PROTOCOLS IN VEHICULAR ADHOC NETWORKS (VANETs)." *International Journal of Early Childhood* 14.03: 2022.
[19] Karne, RadhaKrishna, et al. "Optimization of WSN using Honey Bee Algorithm."
[20] RadhaKrishna Karne, Dr TK. "COINV-Chances and Obstacles Interpretation to Carry new approaches in the VANET Communications." *Design Engineering* (2021): 10346-10361.
[21] Karne, RadhaKrishna, et al. "Simulation of ACO for Shortest Path Finding Using NS2." (2021): 12866-12873.
[22] RadhaKrishna Karne, Dr TK. "Review On Vanet Architecture And Applications." *Turkish Journal of Computer and Mathematics Education (TURCOMAT)* 12.4 (2021): 1745-1749.
[23] Karne, Radha Krishna, et al. "GENETIC ALGORITHM FOR WIRELESS SENSOR NETWORKS."