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Image Editor for Digital Images

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ABSTRACT: In today's world, images are being generated at a very fast rate. The purpose of this project is to create an image processor where we can input an image, perform various operations on images like adjusting the width and height, brightness and a variety of operations can be performed on images. It contains separate modules in order to perform different operations on images thus enhancing the image quality and image characteristics. It can be used in a variety of industries like medical imaging, technical industry and financial industry.

I. INTRODUCTION

There are many problems that can be fixed or elements that can be enhanced with photo editing software. Most editing programs employ the features and tools that we'll encounter in this project listed below. Some examples of photo editing programs are Adobe Photoshop, iPhoto, Corel Paint shop, Photo scape, Google Picasa and GIMP, to name a few. Don't worry if you're using a different program or your software's features have different names than what I've listed below. It's all basically the same concept. It is exploring some of these tools in greater detail in the coming units, so consider this an introduction to all the handy tools you can use to edit your photos. The best way to find the specific tool in your program is to search for the term (for example, "cropping") in the program's "Help" section.

Rotate: When you take a vertical photo, sometimes your computer mistakes it for a horizontal photo when you load it into your editing program. For example, you may have taken a photo of the CN Tower, but when you view it on your computer, it looks like it fell over. No problem! With the handy "rotate" tool, which often looks like a rounded arrow, you can turn the photo at 90-degree increments until you get it perfect.

Straightening: Occasionally, we take photos that we think are straight, and then when we see them in our computer we notice that they're a bit off-kilter. Ever taken a photo of a friend only to see that it looks like they're leaning? No problem! Use your straightening tool. The straightening tool can look like a ruler or a grid. Open the tool and find something in your photo that has a nice straight line (like the horizon or a building). Click on either end of the parallel line (making a straight line) and your straightening tool should automatically adjust your photo to get that perfect 90-degree angle. What if you want your photo to be off-kilter but you actually shot it straight? Just use that straightening tool the same way, but use your mouse to make a line on an angle. This should tilt your photo as much or as little as you want. Does it make your photo more interesting?

Cropping: Cropping allows you to create a new image by isolating a portion of your existing photo and cutting out unwanted areas. The cropping tool usually looks like a box formed by a dotted line. Click this tool and drag your mouse across the photo creating a dotted line box around the area you'd like to keep and then clicking "apply" or "crop". For example, think about a photo of a group of your friends taken from a distance so you can see their legs. Cropping allows you to cut out all but their heads and shoulders, turning that distance shot into a close-up of their heads and shoulders. Cropping a really small section of your photo may reduce its overall resolution (the size and clarity of the photo when enlarged), so this technique is best used on high-resolution photographs (more about that later). Remember to crop your photo using the "rule of thirds" that you learned in your Digital Photography Project. If you didn't take that project, search "Rule of thirds" on your computer and you'll find a lot of websites that easily explain the concept.

Selection Tools: These tools are used to do just what you'd think: select parts of the photo. Using selection tools, you can apply changes of colour, focus and exposure to only the area of the photo that you choose. These tools can be the "marquee", which is used to select rectangular or other shapes with straight lines, the "lasso" tool, which allows you to select your area by freehand, and the "magic wand" tool, which selects only a certain colour in your photo (like a uniformly blue sky or the brown colour of someone's hair). These tools often look like a mouse cursor or a pen drawing a line, and you use them by clicking along the whole outer edge of the object you want to select with your mouse.



Layers: The best way to think about layers is to imagine them as many sheets of photo paper stacked one on top of the other on top of your photograph. You can make changes to each of these individual sheets, without having any effect on the sheet below, and they all add up to affect your photo. Layers make it easy to make subtle edits to different sections of your photo without drastically changing your original file. Layers are very powerful tools that have innumerable abilities to fix your photos, but explaining all the amazing things you can do with layers would take a whole reference book in itself. If you want more information on how to work with layers,

Understanding File Types: RAW, TIFF, JPEG

Do you know what they are all for or how they perform best? If you’re going to be working with digital photo editing software, it helps to have an understanding of when to use each file type. Whether you’re shooting or editing, you should be thinking about what you want the end use of your photo to be, and that will determine the file type you want to use. Ultimately, do you want to use your photo on the web and only the web? Then definitely shoot and edit with JPEG. But if you want to be able to print your photos, consider shooting and editing in the larger formats, like RAW and TIFF. These formats use less compression (digitally reducing the file size of an image in order to save space), so there is more information in the file, which makes it better for using in larger file applications. The drawback to formats that don’t use a lot of compression is that your file sizes will often be huge. Don’t worry if JPEG is the only option you have with your camera. JPEG can still be used to take (and print!) amazing shots. Here is a pretty handy guide (from www.HP.com) for determining what type of file to use and when: Some programs will allow you to easily convert amongst the file types. If you shoot your photo in JPEG format, you should be able to easily save as a TIFF. When you go to save your photo, your program should ask how you would like it to save your file. Most programs give several options for saving photos. You could even consider saving your photo as a PDF (Portable Document Format), which is similar to a TIFF in that it can save at a reasonably high resolution and be easily printed at your local printing shop. Look through the different options your program allows you to save. Play around with them to see what each does for your photo’s resolution and file size

What to use it for	Some photo editing software programs can accommodate the RAW format. The RAW file format is best for archiving because it retains the most digital information.	The TIFF file format is ideal for editing and making large prints because it still retains a large amount of image information (almost as much as RAW).	For most printing jobs and sharing through email and over the Internet, JPEG is the perfect file format.
Pros	No compression has been applied. Every bit of information collected from the camera has been preserved.	TIFF supports layered files, which allows you to edit images in software programs that use layers. TIFFs retain colour information while being much smaller than RAW. TIFF files can be saved with very little compression making it ideal for printing large sized high- resolution photos.	JPEG has the highest compression of the three and therefore offers the smallest file size. It is also the most common file format in use. Just about every photo editing program supports it.



<p>Cons</p>	<p>RAW files can be very large, easily upwards of 40 to 50MB per photo with a high-megapixel camera.</p> <p>Once a RAW image has been manipulated, a copy has to be saved in another form, such as a TIFF or JPEG.</p>	<p>Though they are smaller than RAW files. TIFF files are not small. Depending on the resolution of your camera, you could easily end up with files in the 5 to 15 MB range.</p> <p>TIFFs are not widely supported by Web browsers, which make them a poor choice for online use.</p>	<p>Unlike RAW and TIFF formats, a JPEG will degrade each time you save it. That's why it's important to save a high-quality original and then edit copies of that file.</p>
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Objectives:

- Have a basic working knowledge of digital photo editing.
- Edit good photos into great photos.
- Create visually interesting photos of people, places and things.
- Feel comfortable experimenting with their editing skills to improve photos.
- Identify opportunities for creatively editing photos.
- Use digital photography editing to communicate with people/the world.
- Identify editing techniques that have been applied to photos.

II. EXISTING SYSTEM

Currently, in the existing system, they have used different methods and algorithms are used in order to perform different types of operations on images . The aim of any type of system is to minimize the error (protect the image quality) while performing any type of operations on images. Different types of image processing algorithms like image segmentation, feature detection algorithms are used in order to improve the quality of images

Disadvantages:

- Some of the image features are lost while improving the quality of images .
- Not suitable for all types of images

III. PROPOSED SYSTEM

The main aim of this project is to enhance certain features of image like image contrast , brightness , apply some binarization properties on images , filtering some images ,performing some other operations like addition and subtraction of images . Different java libraries like java swing and other libraries are used in order to perform different type of operation on images. The project contains the following modules :

- Edit
- Mode
- Configuration
- Surf

Advantages:

- Various properties of images can be enhanced like image colour , brightness , binarization and other properties.
- Image quality is improved

Modules:

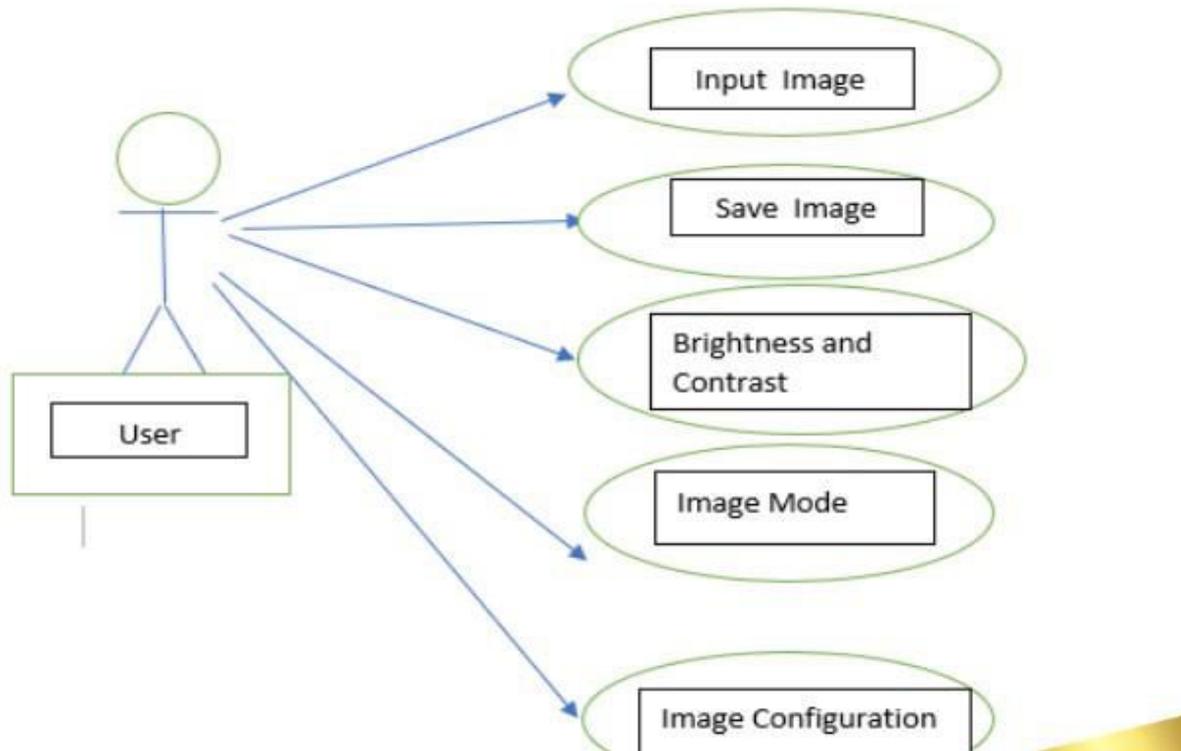
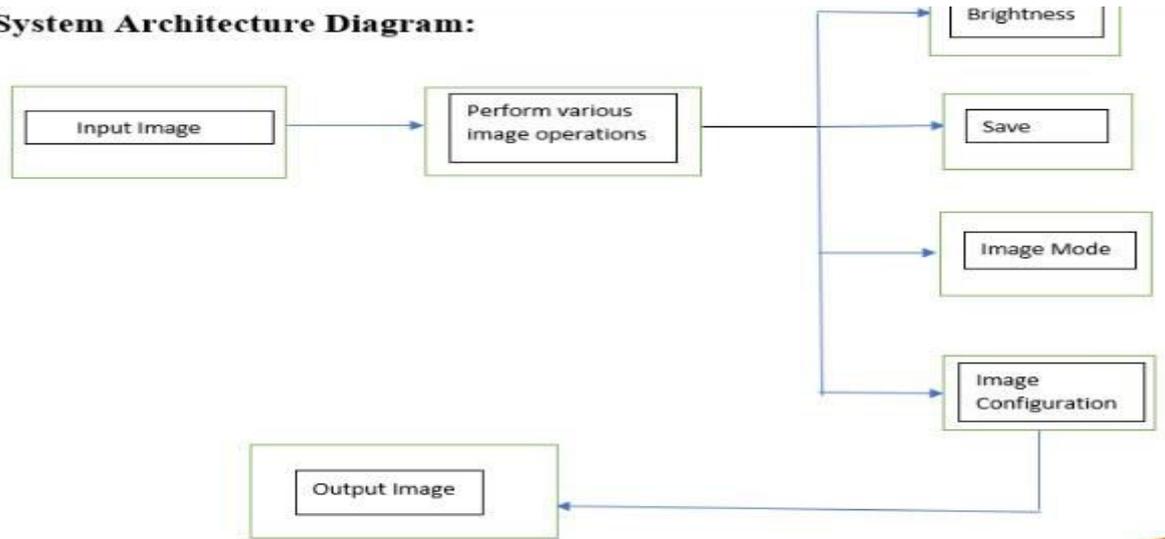
Open Image : This is the image loading image . It opens and loads an image.

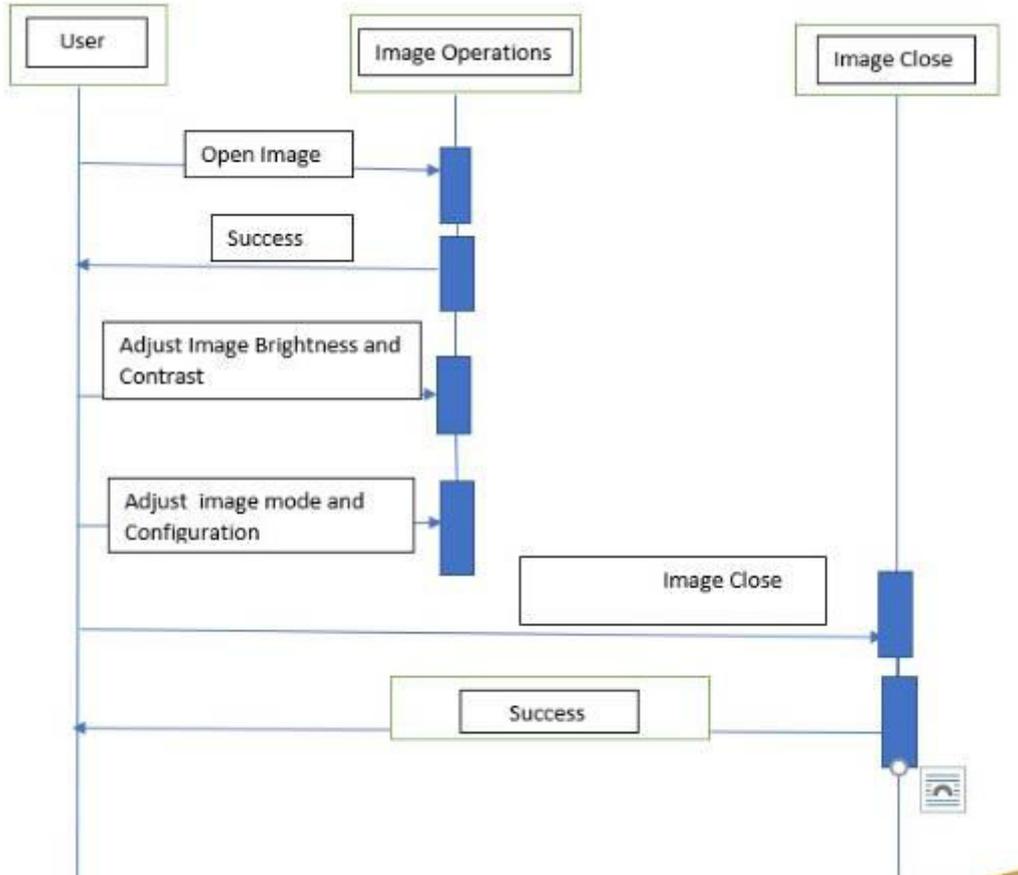
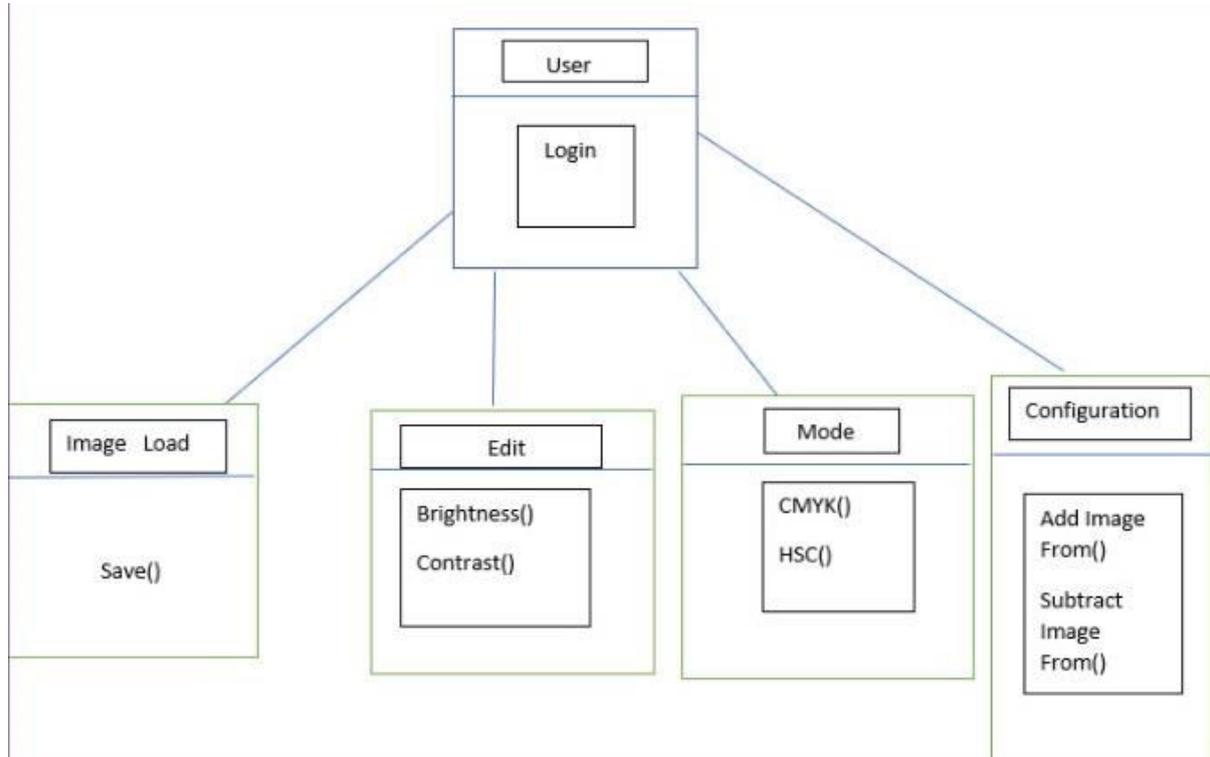
Image Edit : Different types of operations can be performed on images like image edit , adjusting the image contrast and brightness.

Image Mode : There are different modes of images like CMYK and HIS.

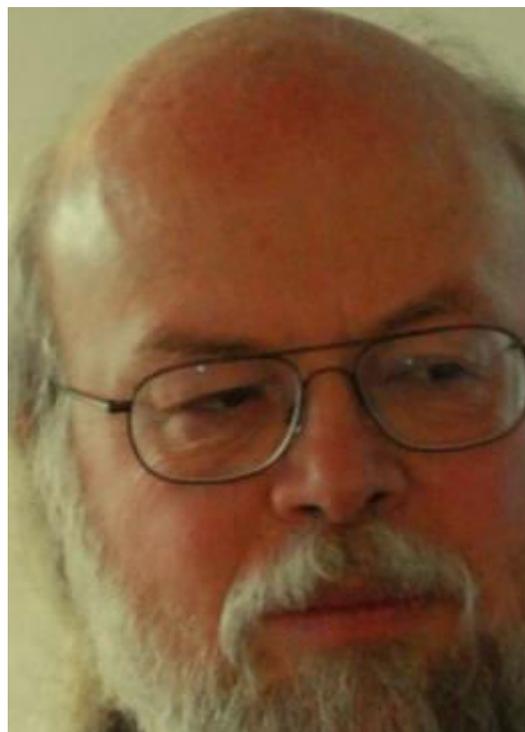
Image Configuration: Different operations can be performed on images like adding and subtracting images.

System Architecture Diagram:





IV. RESULTS



V. CONCLUSION

Thus , through this project , different types of operations are performed on images . An image has been loaded , different image features like contrast , brightness and other features are changed and the corresponding results are obtained through this image editor project.

VI. FUTURE SCOPE

The future of image editing will involve scanning the heavens for other intelligent life out in space. Also new intelligent, digital species created entirely by research scientists in various nations of the world will include advances in image processing applications. Due to advances in image processing and related technologies there will be millions and millions of robots in the world in a few decades time, transforming the way the world is managed

REFERENCES

- [1] stable-diffusion-xl-base-1.0. <https://huggingface.co/stability-ai/stable-diffusion-xl-base-1.0>. Accessed: 2023-08-29. 7
- [2] Stable diffusion image variation. <https://huggingface.co/spaces/lambdalabs/stable-diffusion-image-variations>. 3
- [3] Eric R Chan, Connor Z Lin, Matthew A Chan, Koki Nagano, Boxiao Pan, Shalini De Mello, Orazio Gallo, Leonidas J Guibas, Jonathan Tremblay, Sameh Khamis, et al. Efficient geometry-aware 3d generative adversarial networks. In CVPR, 2022. 3
- [4] Eric R. Chan, Koki Nagano, Matthew A. Chan, Alexander W. Bergman, Jeong Joon Park, Axel Levy, Miika Aittala, Shalini De Mello, Tero Karras, and Gordon Wetzstein. GeNVS: Generative novel view synthesis with 3D-aware diffusion models. In arXiv, 2023. 3
- [5] Angel X Chang, Thomas Funkhouser, Leonidas Guibas, Pat Hanrahan, Qixing Huang, Zimo Li, Silvio Savarese, Manolis Savva, Shuran Song, Hao Su, et al. Shapenet: An information-rich 3d model repository. arXiv preprint arXiv:1512.03012, 2015. 3, 7
- [6] Rui Chen, Yongwei Chen, Ningxin Jiao, and Kui Jia. Fantasia3d: Disentangling geometry and appearance for high quality text-to-3d content creation. arXiv:2303.13873, 2023. 3
- [7] Matt Deitke, Ruoshi Liu, Matthew Wallingford, Huong Ngo, Oscar Michel, Aditya Kusupati, Alan Fan, Christian Laforte, Vikram Voleti, Samir Yitzhak Gadre, Eli VanderBilt, Aniruddha Kembhavi, Carl Vondrick, Georgia Gkioxari, Kiana Ehsani, Ludwig Schmidt, and Ali Farhadi. Objaverse-xl: A universe of 10m+ 3d objects. 2023. 7, 8
- [8] Matt Deitke, Dustin Schwenk, Jordi Salvador, Luca Weihs, Oscar Michel, Eli VanderBilt, Ludwig Schmidt, Kiana Ehsani, Aniruddha Kembhavi, and Ali Farhadi. Objaverse: A universe of annotated 3d objects. In CVPR, pages 13142–13153, 2023. 4, 7
- [9] Yu Deng, Jiaolong Yang, Jianfeng Xiang, and Xin Tong. Gram: Generative radiance manifolds for 3d-aware image generation. In CVPR, pages 10673–10683, 2022. 3
- [10] Jun Gao, Tianchang Shen, Zian Wang, Wenzheng Chen, Kangxue Yin, Daiqing Li, Or Litany, Zan Gojcic, and Sanja Fidler. Get3d: A generative model of high quality 3d textured shapes learned from images. NeurIPS, 2022. 3
- [11] Paul Henderson and Vittorio Ferrari. Learning single-image 3d reconstruction by generative modelling of shape, pose and shading. International Journal of Computer Vision, 2020. 3
- [12] Paul Henderson, Vagia Tsiminaki, and Christoph H Lampert. Leveraging 2d data to learn textured 3d mesh generation. In CVPR, 2020. 3
- [13] Yukun Huang, Jianan Wang, Yukai Shi, Xianbiao Qi, Zheng-Jun Zha, and Lei Zhang. Dreamtime: An improved optimization strategy for text-to-3d content creation. arXiv:2306.12422, 2023. 3
- [14] Heewoo Jun and Alex Nichol. Shap-e: Generating conditional 3d implicit functions. arXiv:2305.02463, 2023. 3
- [15] Lowlesh Yadav and Asha Ambhaikar, "IOHT based Tele-Healthcare Support System for Feasibility and performance analysis," Journal of Electrical Systems, vol. 20, no. 3s, pp. 844–850, Apr. 2024, doi: 10.52783/jes.1382.
- [16] L. Yadav and A. Ambhaikar, "Feasibility and Deployment Challenges of Data Analysis in Tele-Healthcare System," 2023 International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIIHI), Raipur, India, 2023, pp. 1-5, doi: 10.1109/ICAIIHI57871.2023.10489389.
- [17] L. Yadav and A. Ambhaikar, "Approach Towards Development of Portable Multi-Model Tele-Healthcare System," 2023 International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIIHI), Raipur, India, 2023, pp. 1-6, doi: 10.1109/ICAIIHI57871.2023.10489468.
- [18] Lowlesh Yadav and Asha Ambhaikar, Exploring Portable Multi-Modal Telehealth Solutions: A Development Approach. International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC), vol. 11, no. 10, pp. 873–879, Mar. 2024.11(10), 873–879, DOI: 10.13140/RG.2.2.15400.99846.
- [19] Lowlesh Yadav, Predictive Acknowledgement using TRE System to reduce cost and Bandwidth, March 2019. International Journal of Research in Electronics and Computer Engineering (IJRECE), VOL. 7 ISSUE 1 (JANUARY-MARCH 2019) ISSN: 2393-9028 (PRINT) | ISSN: 2348-2281 (ONLINE).



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