Digital White Board

A Major Project Synopsis Submitted to

Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal Towards Partial Fulfillment for the Award of

Bachelor of Technology (Computer Science and Engineering)

Under the Supervision of
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1. Abstract

This Project is developed keeping in mind the effect of the pandemic situation on our educational system. As Everything is going online so we decide to make this project which can be used by teachers to teach their students online easily. "Digital White Board" is a real time application that allows user to draw/ write important points during a meeting and can also be used for teaching purposes while it helps the teacher to explain the topic in detail while taking the classes online. It has an intuitive interface that allows user to share ideas in real time.

2. Introduction of the Project

Digital White Board is a desktop application build on Qt 5.14.2 using C++. This application will provide various features like drawing shapes (such as a line , rectangle , circle) , a freehand tool for writing , grouping/ungrouping of shapes drawn , inserting images, clearing the canvas ,save/open files that are drawn on the canvas. It can used in a variety of settings, including classrooms at all levels of education, in corporate board rooms and work groups, in training rooms for professional sports coaching, in broadcasting studios, and others.

3. Objective

It doesn't matter whether you're working individually or as part of a team—an online digital white board can help you jot down and organize your ideas faster. With templates, freehand drawing, sticky notes, and other intuitive features, you can easily participate in a variety of creative brainstorming activities. Our infinite canvas lets you and your collaborators spread out over different areas of the board so everyone has enough space to present their ideas.

> - There will be a virtual white board available on which user can write and draw with the help of free hand tool.
> - There will be a feature to draw shapes such as circle, rectangle and line.
> - There will be a feature by which user can select the drawing components.
> - There will be a feature of drag and drop by which user can move components.
> - There will be a feature of resizing components.
> - There will be a feature of inserting images on virtual board and also have feature of clearing the virtual white board canvas.
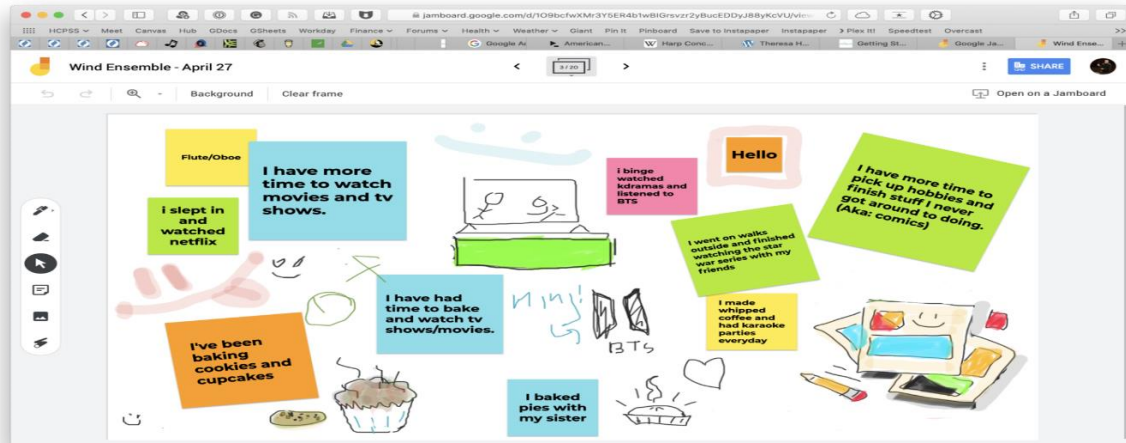
4. Scope

As the world is moving forward towards digitalization so keeping the education as 1st priority for students as well as the faculties. So, keeping all the scenarios in mind the currently available digital white board are somehow difficult to use for normal people. Since the pandemic happened everything is going online, including online classes for students and there are very limited number of resources available for the teachers to teach students digitally without a physical board so for this we are creating a digital white board which is much easier as compared to other existing tools so that teachers can use this tool for teaching students digitally.

Our digital whiteboard takes you a step beyond basic ideation by helping you organize and synthesize information. Use assisted grouping to gather similar ideas together or use tags to label and organize different items based on whatever identifier you choose. With containers for shapes

and sticky notes, you can ensure that your ideas are as clearly visualized on your whiteboard as they are in your head.

5. Study of Existing System

There are several tools available such as paint, google meet and zoom for digital education which contains pen with different colors and sizes can insert images and shapes but they also comes with some disadvantages such as these tools does not contains subject specific teaching assistance.
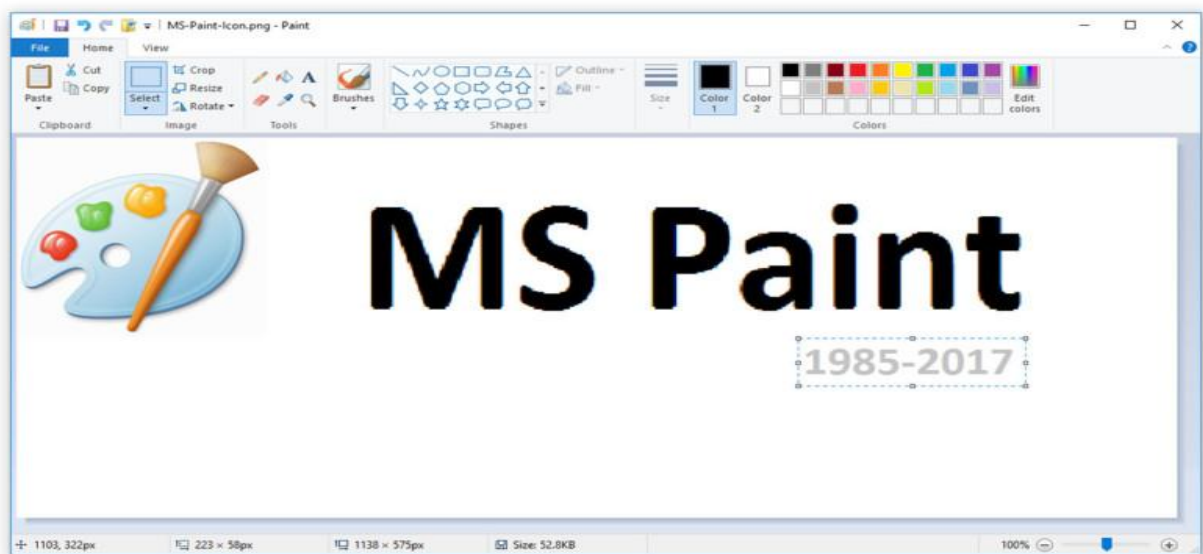

Google Jam Board

 Zoom Whiteboard

Amazon White Board

6. Project Description

As COVID-19 is continuing to impact people around the world, thousands of schools and teachers are using Whiteboard as a key tool to provide the best remote learning experience and to help students stay engaged during remote learning. With everyone staying and working from home these days, due to the COVID-19 lockdowns, the amount of online meetings and video conferences have skyrocketed. Many schools and design companies require systems that allow for collaborative sessions. Major problem with the available online whiteboards is that most of the boards are locked behind a money vault or most of the features of the whiteboard are needed to be purchased, which makes it difficult for small organizations to afford the board. Hence making it difficult for virtual interactions and idea sharing. Our whiteboard strives to solve these problems. Taking the magical simplicity of an analog whiteboard and adding interactive, collaborative technology, our Whiteboard gives the whole class a new space to engage, ideate, and create in real time. It will a free to use online whiteboard that anyone can use without paying huge sums of money. As the world is moving forward towards digitalization so keeping the education as 1st priority for students as well as the faculties. So, keeping all the scenarios in mind the currently available digital education tools are somehow difficult to use for normal people. Since the pandemic happened everything is going online, including online classes for students and there are very limited number of resources available for the teachers to teach students digitally without a physical board so for this we are creating a digital white board which is much easier as compared to other existing tools so that teachers can use this tool for teaching students digitally.

7. Methodology/Planning of the Project work

- ➜ First we will create a white board, so that the user can write, and draw shapes according to his/her needs.
- ➜ Then we will create a tool box which contains several components such as drag and drop, resize the shape, insert images, to save option, clear the board deleting the component and selecting and highlighting a particular component etc.
- ➜ On the right hand side of the white board there will be a section which contains the name of the drawable component and if user wants then he/she can also edit the name of the drawable component.
- ➜ There is a particular section available in which we can change the size of the pen.
- ➜ There is a particular section available in which we can change the color of the pen.

8. Expected Outcome

- ➜ It provides an excellent opportunity to teachers to impart knowledge to students and at the same time it also simplifies the teaching-learning process for students and teachers.
- ➜ Improved thoughtful skills: It shifts the classroom experience to a more collaborative environment so that learners start thinking in more logical and improved way.
- ➜ Increased Student involvement: Students who normally do not raise their hands in class or the back-benchers, or somewhat if they are weak, now can take interest to learn something

new as these modern age tools provide more understanding to them as all the senses are involved in the connected class rooms. By fostering discussions and developing new and out-of-the-box ideas, technology also helps improve the student- teacher bond.

➔ Wide connectivity in different fields and locations: Interactive technology tools and techniques allow for wide connectivity in various locations, making ideal linkages and collaboration and also provides distance learning environment.

➔ Updating with online information: Teachers can utilize various online information such as knowledge databases, online audio-video and worldwide resources to strengthen their lessons and classroom teaching. Students and learners can quickly access the wide range of powerful and resourceful tools in their respective fields and resources to conduct their academics.

➔ Teachers can experiment in pedagogy: As an academic professional, teaches learn more about how to effectively design and execute a class guided with technology. Whether it's a dramatic change, such as teaching with a blended or flipped-classroom, or just adopting a single tool for a specific project or term, he will learn something new in modern academia. Being well-versed in technology can also help build his credibility with students, and even with fellow colleagues.

9. Resources and Limitations

Resources - Laptop or Desktop having windows 7 or above, Visual Studio Code, QT 5.14.2
Processor Core i3 or above.

Limitations - Every good thing comes with a limitation and in this application it is built-in screen recording in the application, but we will overcome this in a very short period of time.

10. Conclusion

Online Whiteboard is an application that allows user to draw/ write important points during a meeting and can also be used for teaching purposes while it helps the teacher to explain the topic in detail while taking the classes online. It can be used in meeting and corporate discussions to provide a streamlined work management. The whiteboard can be used in development cycles in firms to share and collaborate, to make mind maps and increase efficiency. The uses of an online whiteboard are as limited as your imagination. Learning tools and technology allow students to grow effective self-directed learning skills. The students are capable of analyzing what they require to learn to search and use online resources. Digital learning enlarges their efficiency and productivity. Furthermore, to appealing students, digital learning tools, and technology sharpen critical thinking skills which are the basis for the growth of systematic reasoning. Students also develop positive feelings of exploitation by mastering new knowledge and skills using digitized learning tools, offering them the confidence they require to want to learn even more new things.
One of the major advantages of digital learning is it expanded learning opportunities for students. The digital learning is extending learning opportunities so the students can grasp the fact that learning occurs various times and in several places, and digital learning will allow this varied learning opportunity. Students learn many new things from digital tools and technology.

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