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# Mini Projector

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**Abstract:** A Projector has become an inseparable part of offices, schools and universities. One cannot imagine a presentation without the use of projector. Almost all presentation rooms have projectors installed. In this post we will discuss about what is Projector, how it works, its various types (CRT, LCD and DLP), applications, advantages and disadvantages.

**Keywords:** Activity Recognition, Smartphone, contextual app.

## I. INTRODUCTION

Before understanding the concept and working of a Projector, one should know what projection is. Projecting things or images onto a display screen is nothing new. All children enjoy Shadow play and though it is simple, yet it figures as the basis for projection technology. Let's understand how it works. Put an object or image in front of a light source and an obscure dim image of the object can be seen onto the wall or display screen. If you move object, it's called an animated image. In simple language, a projector basically adopts the operational principal of image projection whereby the projector accepts a video/image input, processes it with the assistance of its inbuilt optical projection system consisting of a lens & optical source and projects the enhanced output on the Projection screen.

### A. Project Overview

A projector or image projector is a visual device that projects moving images onto a surface, very often a projection screen. Most of the projectors create an image by shining a light through a small transparent lens, but some new types of projectors can project the image directly, by using lasers.

### B. Objectives

- 1) To collect information from the sensors of mobile phone to identify the activity that the user of the application is performing.
- 2) To use the collected information from the user (age, sex, height, eye no etc.) to give appropriate health tips to the user.
- 3) To collect information of the various activity performed by the user for a predetermined period of time and perform analysis over the information.
- 4) To Focus mainly on activities that consume lots of calories and thus have an effect over the health.
- 5) To suggest suitable lifestyle changes based on medically approved values like ideal heart rate and BMI (Body Mass Index).

### C. Need of the Project

#### 1) In Classrooms

Projectors are used in schooling area for describing a topic. With the aid of a projector, videos or photograph become more enjoyable and children can easily learn by fun way. Further, we can easily zoom-in or zoom-out the image to clear the vision and to search minor points.

#### 2) In Companies

Projectors are used in big MNC's and enterprises for meeting, presentation and conference purposes.

#### 3) At Home

Projectors are even used as home theaters that permit you to see the movie or any serial on a massive display with a first-rate sound nice, which makes you feel like you are staring at live.

#### 4) In Companies

Projectors are used in big MNC's and enterprises for meeting, presentation and conference purposes.

#### D. Advantages of Projector

LCD screen experience of a business film theatre in your own pictures at sizes of 90" to 120" diagonal, which is far large than something you can get with flat screen TVs or -projection TVs. **Large Picturing** projectors generate the largest viable photo size. You can use them to create very large home. Most projectors produce stunning

#### E. Best Alternative for Large Screen Television

A projector is a cheaper substitute for a 60" plasma TV. The projected picture is typically very bright and projectors can be used with some of the room lights on.

#### F. Low Cost

Front projectors can be the least high-priced alternative for big display screen video in your home. Some projectors are constructed for devoted domestic theater and they have now dropped below \$1,000, this price makes a good deal; less steeply priced than flat screen TVs or rear-projection TVs.

Given the low price of many entry-level projectors, this is the least expensive way to get a big screen experience at your home. Though you may have to attach an additional speaker, yet the experience you get is much better compared to price.

#### G. Space Saving

A small projector that is set on a rear shelf or bookcase or on the ceiling takes up no floor space in the room. When not in operating mode, it is hardly visible.

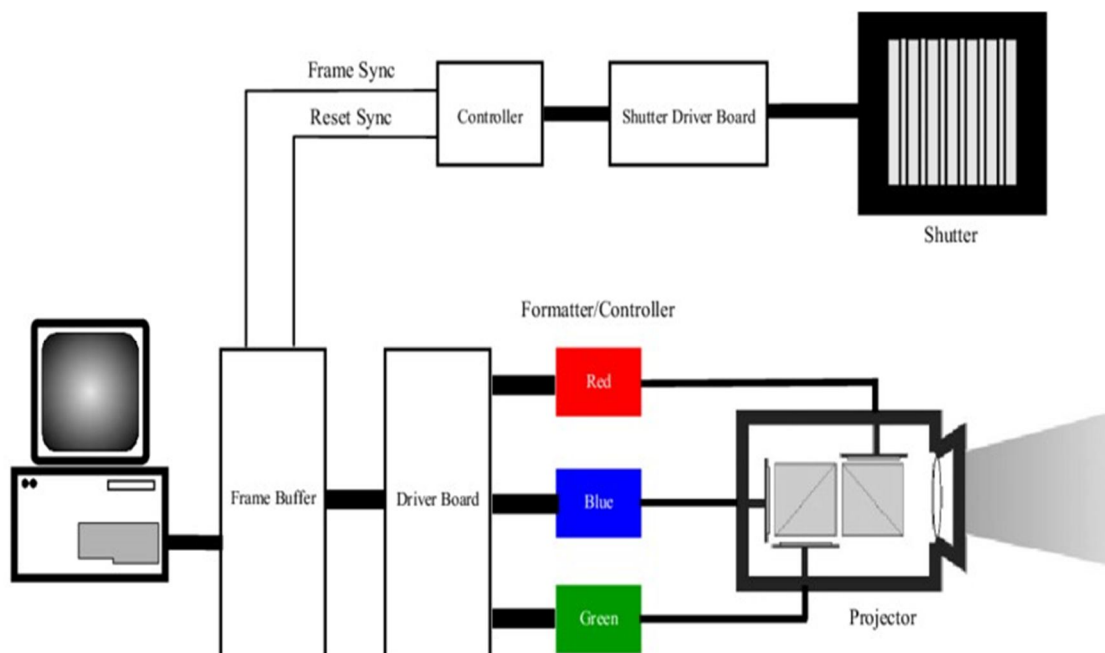
#### H. Easy To Install

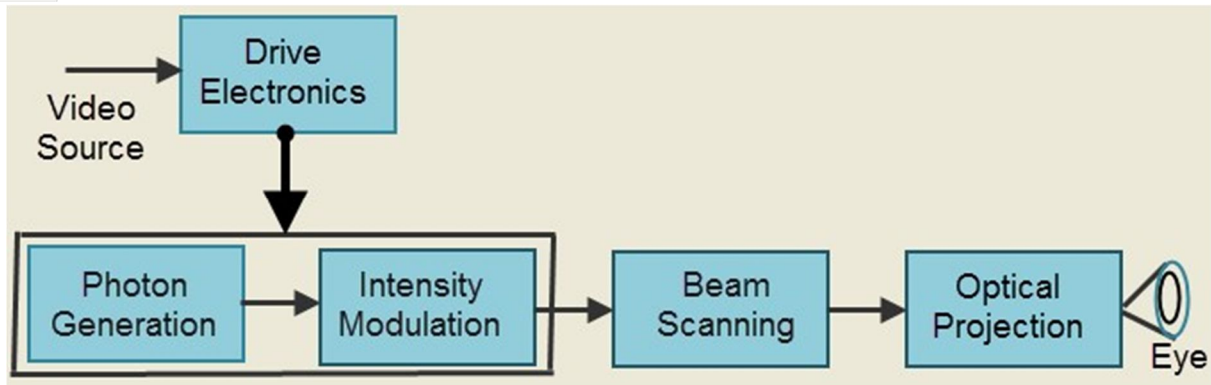
They are lightweight, and one person can pull it out of the box, hook it up and get an image on the wall with little trouble.

#### I. Disadvantages of a Projector

The disadvantages of Projectors include:

- 1) A dark room is very often required to use a projector.
- 2) It requires maintenance on regular intervals.
- 3) Installation Cost can be more in some cases as it depends upon how you get it installed.
- 4) Most of the projectors need a separate audio system.





### J. Technologies & Programming Tools Used

Software requirements:

Development platform: Microsoft Windows.

Deployment platform: C and C++

### K. Introduction to Programming Tools

#### 1) C

C is a general-purpose computer programming language. C's features cleanly reflect the capabilities of the targeted CPUs. It has found lasting use in operating systems, device drivers, protocol stacks, though decreasingly for application software, and is common in computer architectures that range from the largest supercomputers to the smallest microcontrollers and embedded systems. C is an imperative procedural language supporting structured programming, lexical variable scope, and recursion, with a static type system. It was designed to be compiled to provide low-level access to memory and language constructs that map efficiently to machine instructions, all with minimal runtime support. Despite its low-level capabilities, the language was designed to encourage cross-platform programming. A standards-compliant C program written with portability in mind can be compiled for a wide variety of computer platforms and operating systems with few changes to its source code.

#### 2) C++

C++ is a powerful general-purpose programming language. It can be used to develop operating systems, browsers, games, and so on. C++ supports different ways of programming like procedural, object-oriented, functional, and so on. This makes C++ powerful as well as flexible. C++ gives programmers a high level of control over system resources and memory. C++ is one of the world's most popular programming languages. C++ can be found in today's operating systems, Graphical User Interfaces, and embedded systems. C++ is an object-oriented programming language which gives a clear structure to programs and allows code to be reused, lowering development costs.

## II. CONCLUSION

The uses of projector in daily life are concerned, they depend on the kind of projector you have. Sometimes, the type of projector actually assists in helping you figure out what they're being used for while other projector types can be utilized for multiple tasks



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