

**COSMIC BOX: 3-DIMENSIONAL GAME WITH GAME
CONTROLLERS**

Project Report

Submitted in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

In

**COMPUTER SCIENCE &
ENGINEERING (III rd. SEMESTER)
2016 Batch**



**APJ ABDUL KALAM TECHNOLOGICAL
UNIVERSITY**

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NOVEMBER 2017

DEPARTMENT OF COMPUTER SCIENCE & ENGG.

**SAHRDAYA COLLEGE OF ENGINEERING AND
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BONAFIDE CERTIFICATE

This is to certify that the project report titled “COSMIC BOX” is the bonafide work of “AKHIL DEV MJ (SHR16CS02)” during his III semester, in partial fulfillment of the requirements of the APJ Abdul Kalam Technological University for the award of B. Tech Degree in Computer Science & Engineering, under our supervision.

PROJECT GUIDE

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DEPARTMENT VISION

To evolve as a national level center of excellence in academics and research with the aim of imparting contemporary knowledge in the field of Computer Science and Engineering.

DEPARTMENT MISSION

1. Have state of art infrastructure and resources for teaching and research.
2. Impart relevant technical knowledge, skills and attributes along with values and ethics.
3. Enhance research quality and creativity through innovative teaching learning methodologies.
4. Mold Computer Science Engineering Professionals in synchronization with the dynamic industry requirements, worldwide.
5. Inculcate essential leadership qualities coupled with commitment to the society.

DEPARTMENT PROGRAM EDUCATIONAL OBJECTIVES

On successful completion of the Program, the Graduates are expected to:

- 1) Take up challenging careers in suitable corporate, business or educational sectors across the world, in multi-cultural work environment.
- 2) Continuously strive for higher achievements in life keeping moral and ethical values such as honesty, loyalty, good relationship and best performance, aloft.
- 3) Be knowledgeable and responsible citizens with good team-work skills, competent leadership qualities and holistic values.

DEPARTMENT PROGRAM SPECIFIC OUTCOMES

- 1) To nurture students with technically inquisitive attitude so that any real-world problem could be tackled with a problem solving perspective, finding a suitable mathematical model with strong fundamental technological concepts to solve and apply to rapid growing arena of computer technology.
- 2) To develop professionals with excellent exposure to the latest technologies to design high quality products unique in innovation, technology, software, security, hardware and usefulness; making high impact on society, business and technology.
- 3) To enhance knowledge in practical implementation of technology with regard to parallelism, virtualization of networks, scientific analysis and modeling, visualization, natural language processing, digital synthesis of data and its manipulation, wireless and mobile communication, storage and retrieval of huge amount of data etc.

PROGRAM OUTCOMES (POs)

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

ACKNOWLEDGEMENT

First and foremost, we would like to thank our guide, Wilson Joseph C for the constant support and guidance. Thanks, are also due to Hemin Vincent for helping out with some of the protocol issues and design. We thank the SCS software which makes games for free controls which helped out to generate ideas for our project. We also thank Unity game development software which made our project possible.

ABSTRACT

Our work involves developing a Game console that can scale well to very large sessions. Our primary aim is to change the way of gaming from normal keyboard to very interactive gaming surrounding at maximum lowest price. Which help poor community peoples that are majority of peoples in India can experience the joy and freedom of gaming. The efficiency and durability are well and flexible to any devices, also enabling talented peoples to make their own community to build by them owns.

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CHAPTER 1

INTRODUCTION

i. General

A video game console is an electronic, digital or computer device that outputs a video signal or visual image to display a video game that one or more people can play.

The term "video game console" is primarily used to distinguish a console machine primarily designed for consumers to use for playing video games, in contrast to arcade machines or home computers.

An arcade machine consists of a video game computer, display, game controller (joystick, buttons, etc.) and speakers housed in large chassis.

A home computer is a personal computer designed for home use for a variety of purposes, such as bookkeeping, accessing the Internet and playing video games.

There are various types of video game consoles, including home video game consoles, handheld game consoles, micro consoles and dedicated consoles.

ii. History

There were several generations of gaming consoles. First generations were black and white games with buttons then came color displays joysticks and other controls. Now it is remotes and other modern devices

Some major gaming consoles are

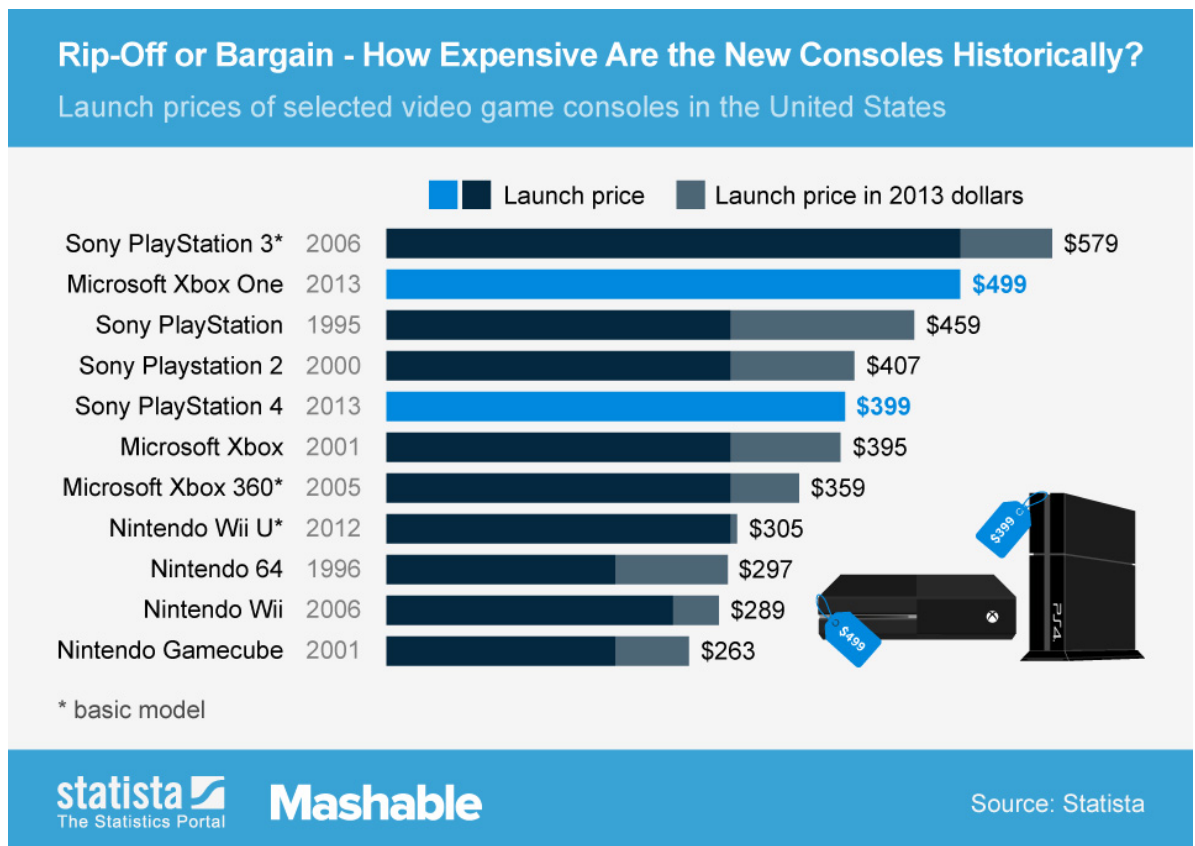
- 1) Microsoft Xbox One
- 2) PlayStation 4 Slim.
- 3) PlayStation 4 Pro.
- 4) Nintendo Switch. See Details Visit Site.
- 5) Nintendo 3DS XL. See Details Visit Site.
- 6) Sony PlayStation 4
- 7) PlayStation Vita Slim.

These are some of the gaming consoles, which are available in market.

CHAPTER 2

PROBLEM STATEMENT

In history already mentioned some video gaming consoles



Least price is \$263 that is 16985.92 and the price of Sony PlayStation 3 is 37394.14. Which is a large price hence it remains as a dream of buying a video game console. From survey it's found from peoples in our college, that 100% uses their laptops or personal computers to play game. And using keyboard and mouse. For them include us it's not practical to buy a console to play. The gaming experience in this 2017 era remains limited in keyboard and mouse.

CHAPTER 3

CUSTOMER NEED ANALYSIS

From the survey its understand that peoples need to change their surrounding of game play. They want to feel gaming with more advanced level. It's also found that 89% likes to play racing and vehicle simulation games. So, what they mainly needed is a real vehicle like surrounding to play those games at lowest price as possible. The major parts they need is steering, break, acceleration kind of things to be integrated with the console.

CHAPTER 4

EXISTING METHOD

There are some existing methods but they cost more than 25K which is very hard to get. So many of them are regionally restricted, not available to many countries. The price money for building such a surrounding is really costly. Hence, it's not practical in our atmosphere.

Peoples actually need a personal computer or laptop to do their works. So majority peoples buy laptops personal computers and when it comes to gaming they use the laptop or personal computer even though it provides a limited and restricted feel of gaming. So, peoples usually won't buy game consoles just simply for gaming.

CHAPTER 5

PROPOSED METHOD

i. CONCEPT GENERATION

The concept is generated using brainstorming. We had a brainstorming in our group and we came to the conclusion that to integrate the console things with laptops or personal computers making them flexible to use widely.

Majority peoples use their own laptops and personal computers for gaming, even if we introduce a new gaming console it won't be effective. So as to make it more flexible and effective in society we planned to design both blended.

ii. DESIGN

There are many games available on the internet most of them are costly and requires high amount of hardware specs, so we planned to make our own gaming community. Where others can find and download required games for free. We decided to build game as well as primary console exclusive for racing and simulations. The console controls include

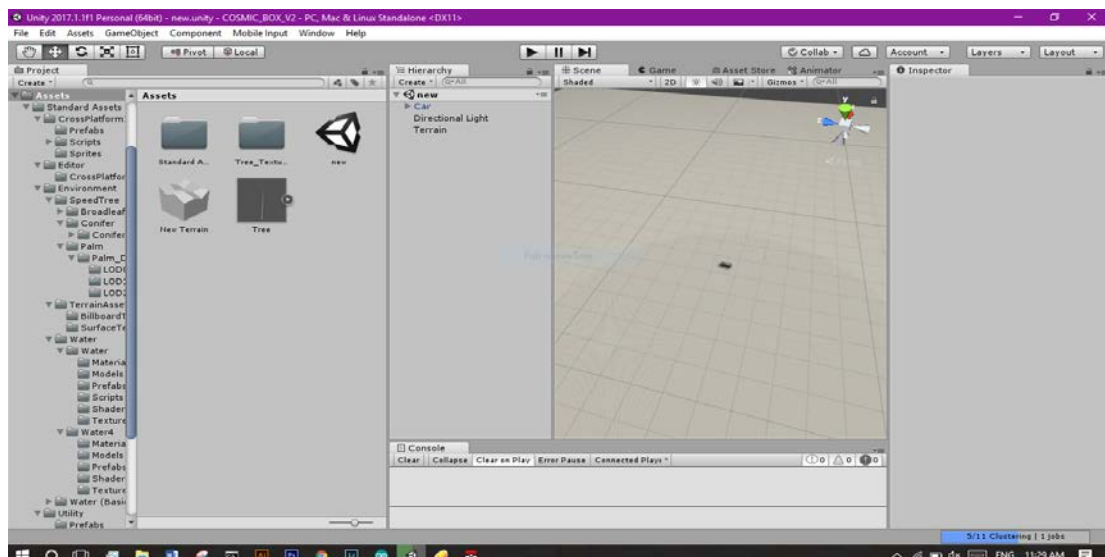
- 1) A vehicle steering
- 2) A break
- 3) An acceleration

iii. PROTOTYPE

Our prototyping section includes 2 parts

- 1) Software
- 2) Hardware

The software section is held on windows platform using unity game development

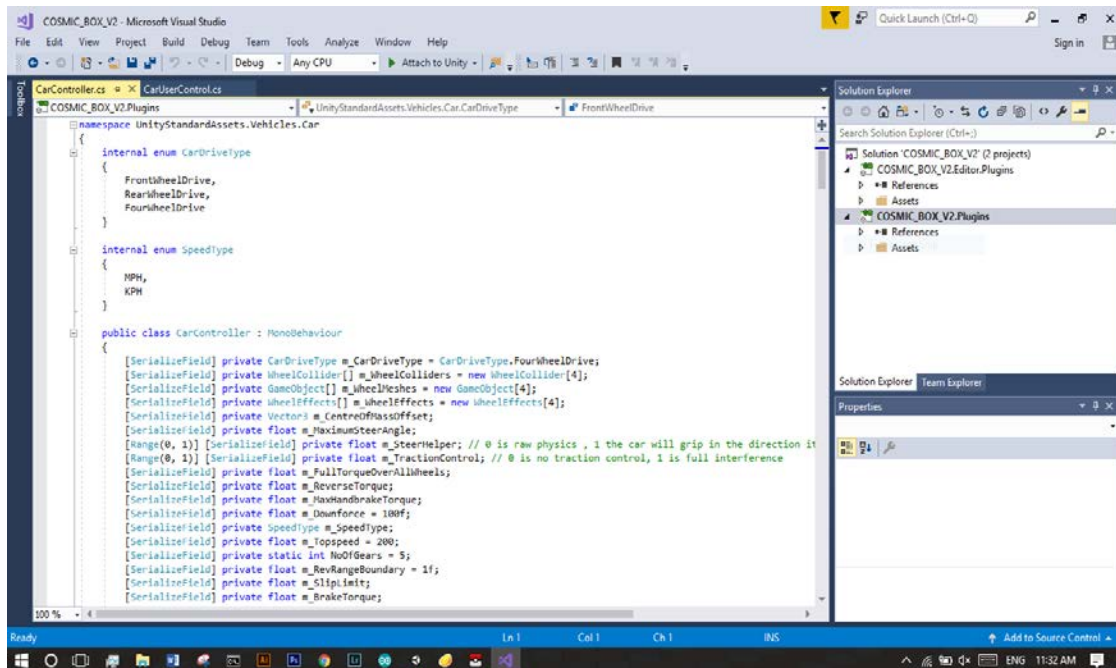


software

We downloaded unity personal edition to build the game.

In unity the language for game developing was c#. we learned c# and created game using it.

For coding visual studio 2017 for unity is downloaded.



The next section includes the design of hardware parts such as steering, acceleration, break. That is 100% handwork.

iv. MISCELLANEOUS

Furthermore, we attached a speaker to the game and also a sound sensor which inputs sound signals and coded in node-mcu to give an output of series of lights which blinks according to it.

The code is written in Arduino IDE and flashed to an Node-mcu Board using usb cable. A sound sensor attached, and led's attached which works according to the input obtained in sound sensor. This is to make it more attractive.

CHAPTER 6

BUSINESS PROPOSAL

We have our own company named “GRID ZYBE” which is a software-hardware blended company and our focus is to start a sub division of gaming and its community under this.

It will create more developers to create, develop more ideas and to make it as a successful field under the company.

It will attract more peoples to company which overall increases company's performance, name and profit.

CHAPTER 7

CONCLUSION

By developing this it will create more focus on this field of gaming hence creates a lot of opportunities. So, all peoples will get chance to enjoy gaming experience at lowest price possible. Giving another aspect to gaming creates more skills and develops lots of abilities.

It has a lot of variant field uses includes driving experience.

It comes with a steering break and acceleration it provides a real like experience of driving a vehicle. Which helps to drive confidentially on roads and to improve driving skills.

REFERENCE TABLE

No	Reference	Purpose
1	www.youtube.com	Learning c# and unity
2	www.google.com	Finding solution for errors in game development
3	www.wikipedia.com	For getting information about gaming consoles
4	https://images.google.com	For getting images related to project



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