

MVDIT

July 2009



# TECH BOOK

2nd Anniversery Special





# EDITORIAL

---

It is my pleasure to present to you this edition of my magazine to you.

This e-zine covers Lego Mindstorms NXT 2.0 releasing next month

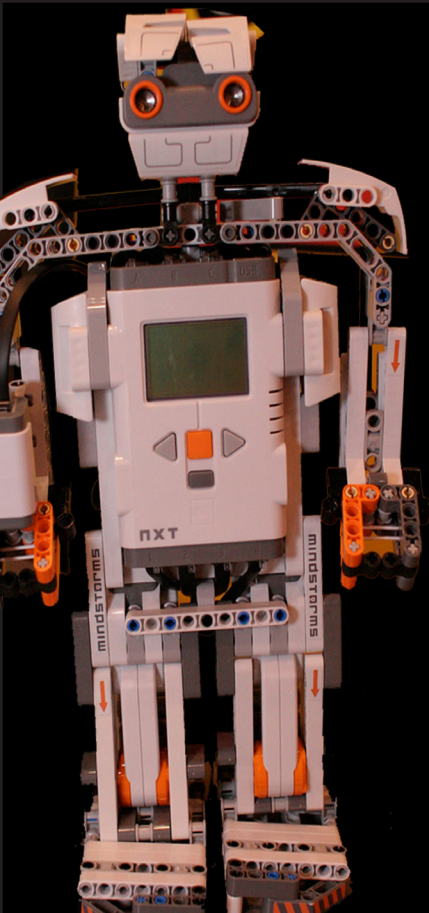
Taking the success of the magazine to a new dimension we now also have our youtube channel at [www.youtube.com/mvdittechbook](http://www.youtube.com/mvdittechbook) here you can check all the latest videos from the world of technology.

I am also pleased to announce that we are completing the second cycle of this magazine it has been two very valuable years.

The different editions for magazines are available for download at [www.mvdittechbook.co.nr](http://www.mvdittechbook.co.nr) in a pdf format. Suggestions are welcome for the improvement of the magazine.

Vidit Bhargava  
Editor MVDIT TECH BOOK





Cover Story  
LEGO MINDSTORMS NXT 2.0

# CONTENTS



Game Reviews

HARRY POTTER AND THE HALF BLOOD PRINCE : WORTH BUY FOR FANS

## Audit Technology Times

All the news and updates from the world of technology and games



Gaming

BLACK BOX DEVELOPES ANOTHER THRILLING NFS GAME FOR THIS FALL! SHIFTING THE GAME TO NFS SHIFT!

ALL LOGOS AND PICTURES OF OTHERS ARE PROPERTY OF OTHERS





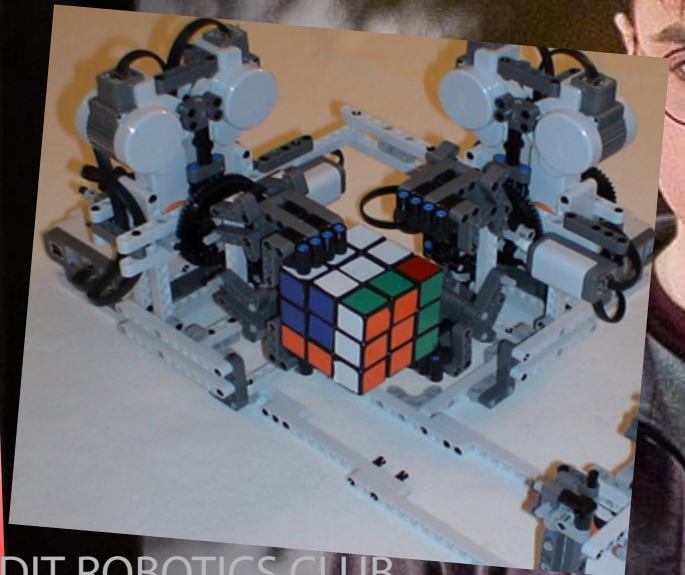
Game Reviews  
Harry Potter and the Half Blood Prince



iPhone Corner  
TOP APPS MUST BUY THIS MONTH



MOBILES  
GRET MOBILES TO BUY



MVDIT ROBOTICS CLUB  
LEGO MINDSTORMS RUBIKS SOLVER



Digital Gameras  
Sony T900



Mega Inventors  
Robert Dennard  
Inventor of the  
DRAM

MOVIE REVIEWS  
THE DARK FORCES RETURN  
TO HOGWARTS:  
HARRY POTTER AND THE  
HALF BLOOD PRINCE



# COVER STORY

## LEGO MINDSTORMS NXT 2.0

**VIDIT BHARGAVA**

Robots have been hard to make in the past, making your own robot can be very tough, firstly you need to buy microcontrollers, servos, dc motors, and the last thing is the body chisel material. All these would fine for a person has done masters in mechatronics, but for the teens its really very tough! Here comes mindstorms from lego. No, it's toy, but a full robot building kit!

MINDSTORMS NXT which had released in 2006 was much more easier than its predecessor and the 2.0 added to it has made it more customisable and teen oriented. The programming becomes much easier with this one, so all the robot fans now can get a lifetime experience of building a humanoid themselves in just US\$280.99. Releasing on 5th August 2009, it will be shipping in all major countries this year.

I Shall take you through the all new robot-models created by LEGO itself:

Shooterbot, a moving vehicle robot that can guard your room and will shoot balls at intruders!



Robogator is an animal robot that acts and moves like an alligator. It will protect its area and jumps forward and snap at anything that comes too near.

Colour Sorter is a robotic sorting machine that can sort different coloured objects and dispense them as you please. It can easily be modified with a catapult mechanism that can precisely shoot the different colours where you like.

Alpha Rex is your ultimate robot. It is a humanoid robot, easy to assemble and with multiple functions; it walks and turns, dances, talks, can see and avoid obstacles, can grab and distinguish between different coloured objects.



The ShooterBot will fire rapidly if it detects any danger, so watch out!



Robogator is like a real animal: It snaps its jaws and attacks anything that comes in its way!



The Colour Sorter sorts the different coloured balls - and shoots them where you want them to go!

Among the new software features there will be applications that makes it possible to make your robot display the images and play the sounds you want it to!

Here are some COOL NEW FEATURES AVAILABLE!

**Sound Editor:** is a new application that makes it possible to customize and personalize your robot by importing sound files – or record your own via a PC microphone (not included in set) and loading them onto the NXT micro-controller, making the robot speak with your own voice or a funny sound.

**Picture Editor:** is a new application that makes it possible to import picture files – or for you to draw your own and load them onto your NXT, to be shown in the display when you want!



**Remote Control:** allows for instant and direct control of your robot without any special programming needed. Just create a model that can move and you have direct control over it.

**Pack and Go:** the Pack and Go function makes it easy for you to share your programs with other users, as it packs the program with the images and sounds used in the program, so you do not have to think about it!

**Bluetooth Contact Block:** Now you can get your NXT to connect and dis-connect to multiple NXTs while running a program. The block allows the NXT to choose between many different NXTs, making it possible to make complex machines. Your NXT can be connected to up to 3 other NXTs at any given time.

The 619 piece, mindstorms nxt 2.0 comes with an nxt block, three servos, two touch sensors, one ultrasonic and one light sensor. Apart from the sensors and nxt the mindstorms will feature, 4 wheels, 12 balls, 2 catapult mechanisms, tank wheel tires, all the other chisel making lego parts will also be provided, with a usb cable to add files to the nxt.

All models explained above take maximum 30 minutes to be built, that's the least time one would take to build a humanoid.

If you are looking to make cool robots this summer without much a do to buy all the sensors from numerous shops, you could just buy the kit for a great robo- making experience, which you could preserve once built.



# Abditi Technology Times

28th July 2009 - Wednesday

## Canon Profit Slides on Downturn



TOKYO -- Canon Inc. said Tuesday that the sharp fall in global consumer demand for electronic products sliced nearly nine-tenths off its net profit in the second quarter ended June.

The Japanese maker of office products and digital cameras said its net profit for the second quarter was ¥15.6 billion (\$164 million), down 86% from ¥107.8 billion in the same period a year earlier.

## Upgrading to Windows 7, might be very tough

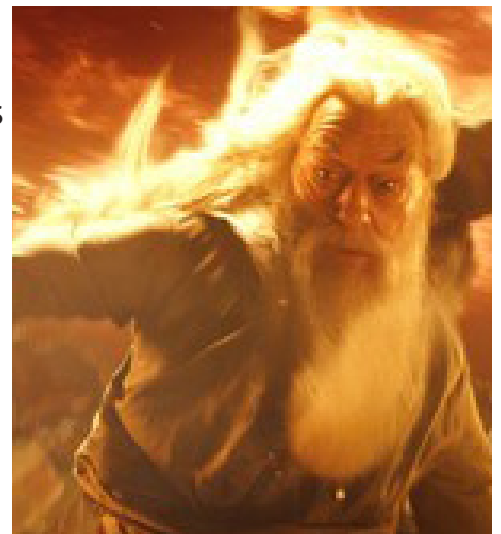
On October 22, Microsoft will finally release a new version of Windows that will be as good as the deeply disappointing Windows Vista should have been when it came out in January 2007. The new edition, called Windows 7, is a big improvement over both Vista and the sturdy, 2001-vintage Windows XP still widely in use. It will give Apple's long-superior Mac OS X operating system a run for its money (though Apple might maintain its edge with a new version, called Snow Leopard, due in September).

But how will Windows users transition their current computers to the new Windows 7? While this latest operating system stresses simplicity, the upgrade process will be anything but simple for the huge base of average consumers still using XP, who likely outnumber Vista users. It will be frustrating, tedious and labor-intensive.

## Film Effects Are Battleground Between Chip Rivals

In the film "Harry Potter and the Half-Blood Prince," the wizard Dumbledore conjures up a tornado of fire that marks a new feat in animation -- and a milestone for a breed of chips that are beginning to play broader roles in the computing world.

The simulation was created by Lucasfilm Ltd.'s Industrial Lighting & Magic unit, which developed software that exploited the collective power of graphics chips from Nvidia Corp. in dozens of computer workstations.



## Gaming

# Need For Speed : Shift



Shift into high gear! Designed to deliver a true driver's experience that reflects contemporary motorsports. Need for Speed™ Shift is built by racers for racers. Need for Speed Shift delivers an authentic and immersive driving experience developed by Slightly Mad Studios in collaboration with executive producer Michael Mann at Black Box and senior vice president Patrick Soderlund at EA Games Europe.

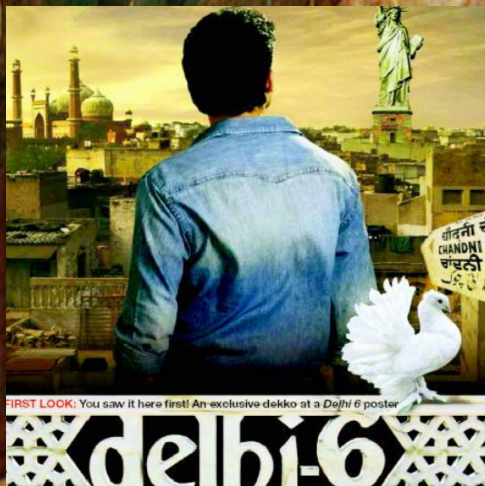
cates the true feeling of racing high-end performance cars like never before. Players are thrust into the heart of the action with immersive and exciting features including a stunningly realistic first-person cockpit view camera and an all-new crash mechanic, providing an unrivalled sensation of the speed and feeling of racing a car on the extreme edge of control.

Slightly Mad Studios includes developers and designers that worked on the critically acclaimed games GT Legends and GTR 2. Need for Speed Shift repli-



# READER'S PLAYLIST MUST BUY THIS MONTH

1. I gotta Feeling - Black Eyed Peas
2. Use Somebody - Kings of Leon
3. Jai Ho - Slumdog Millionaire
4. Jai Ho (You are my Destiny) - Pussycat Dolls
5. Masakalli - Delhi-6
6. Kabhi Kabhi Aditi - Jaane Tu Ya Jaane Na
7. Twist - Love Aaj Kal
8. Right Round - Flo Rida
9. The Unforgiven III - Death Magnet
10. Jiya Se Jiya - Connections
11. The Climb - Miley Cyrus
12. Emotional Attyachar - Dev D
13. Home Sweet Home - Carrie Underwood
14. Best I ever had - Drake
15. Aahun Aahun - Love Aaj Kal





# MOBILES

## BEST BUY MOBILES THIS MONTH

### MID RANGE MOBILES

#### SONY ERICSSON S302



Sony Ericsson S302 is a mid-range phone giving competition to Nokia's other phones like 6303 Classic. This one's a classic sony ericsson phone with the same traditional design they follow, what's good about the phone is that it has all the features one would dream of a mid-range phone, but you won't get a 3G phone in a price range of Rs 5000-7000.

Price: Rs 6400

Price: US\$ 131

Smart Phones

iPhone 3G S



Apple still leads this market. Not many of us know that iPhone has cleared all critic alligations of the phone not having some basic and some smart phone features. The new edition of the iPhone includes a mixure of luxuious camera features and all smart phone features you want from your iPhone + the powerfull app store where you may get any utility!

Price: Rs. 26,000

Price: US\$ 199

### BASIC MOBILES

#### VODAFONE MAGIC BOX



This basic phone has all the new features, these basic phones have never been considered for good features, always known as 'phones which can only call and recieve calls'. This Vodafone basic phone has even more at the same price. You get a VGA Camera, Music, Bluetooth, Basic web browsing on GPRS and a memory card slot.

Price: Rs 3499

Only Available in India





# CyberShot : Now recording in HD

Mudit Bhargava

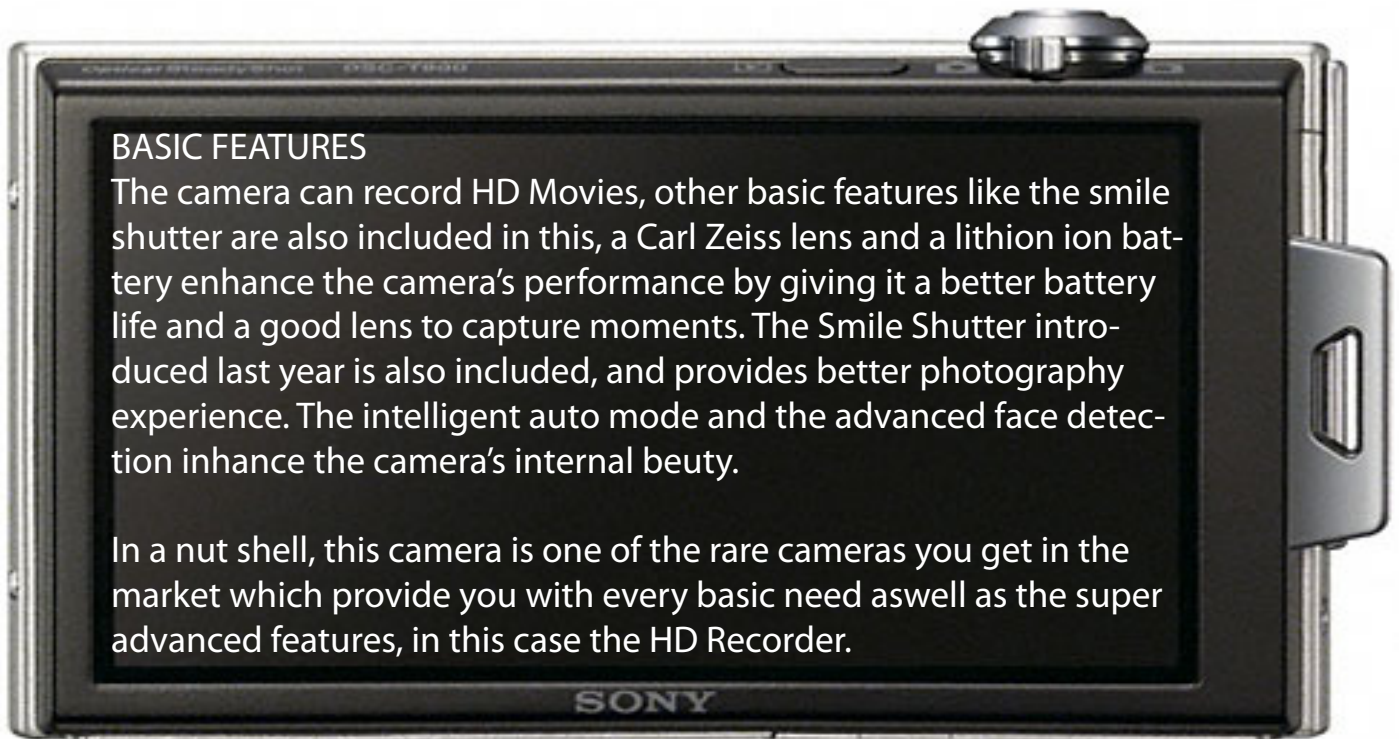
The new sony cybershot T900 which may look like a classic camera with just the features any other Cybershot has, it has actually more to offer. Recording a movie is no more the job of another camera. We all know how a digicam records a video and a cybershot records, but now there isn't a difference the new Cyber Shot T900 offers HD Video Recording. This 12 megapixel camera offers a dynamic 720p HD recording which is hard to find in anyother digital camera. It also offers a good LCD display besides that! You need to shell out Rs. 23,000 for this HD recorder.



## BASIC FEATURES

The camera can record HD Movies, other basic features like the smile shutter are also included in this, a Carl Zeiss lens and a lithion ion battery enhance the camera's performance by giving it a better battery life and a good lens to capture moments. The Smile Shutter introduced last year is also included, and provides better photography experience. The intelligent auto mode and the advanced face detection inhance the camera's internal beuty.

In a nut shell, this camera is one of the rare cameras you get in the market which provide you with every basic need aswell as the super advanced features, in this case the HD Recorder.



# TOP APPS : WORTH SPENDING MONEY ON!

Vidit Bhargava

GAMING

NEED FOR SPEED : UNDERCOVER

Ever imagined of playing a NFS game in just \$6.99. Yes this one is a full NFS game available to your iPhone in just 6.99 No more mobile graphics.

Rating : 4/5

UNO

It's simple, the most used card game in the world is now on your phone and has peer to peer gaming.

Just shell out \$4.99 .

Rating: 5/5



UTILITIES

Download Manager

This one's the best in app store, you could download files through the internet or even resume a paused download! That's quite cool & I haven't seen this in any phone. Quite worth in just \$1.99

Rating 4/5

JUMI CAM

Convert your phone into a web cam instantly and chat with friends. This is quite useful when you are hoping to get a video conference but don't have a web cam! Just \$1.99 and also available free(Lite version)

Rating 3.5/5

JUMI MOUSE

This one's free and allows you to control your PC creating iPhone a Mouse. Rating 4/5





## Game Reviews

# Harry Potter and the Half Blood Prince

Vidit Bhargava

Rating: ★★★★★

This month the potter mania was on its all time high, with the 6th of the potter movies arriving in theaters near you! So as it was time for Potter fans to get their hands on the new Potter game available in the market by Electronic Arts. The 5th installment of the game had much greater than its earlier editions a better experience was expected with this one!.

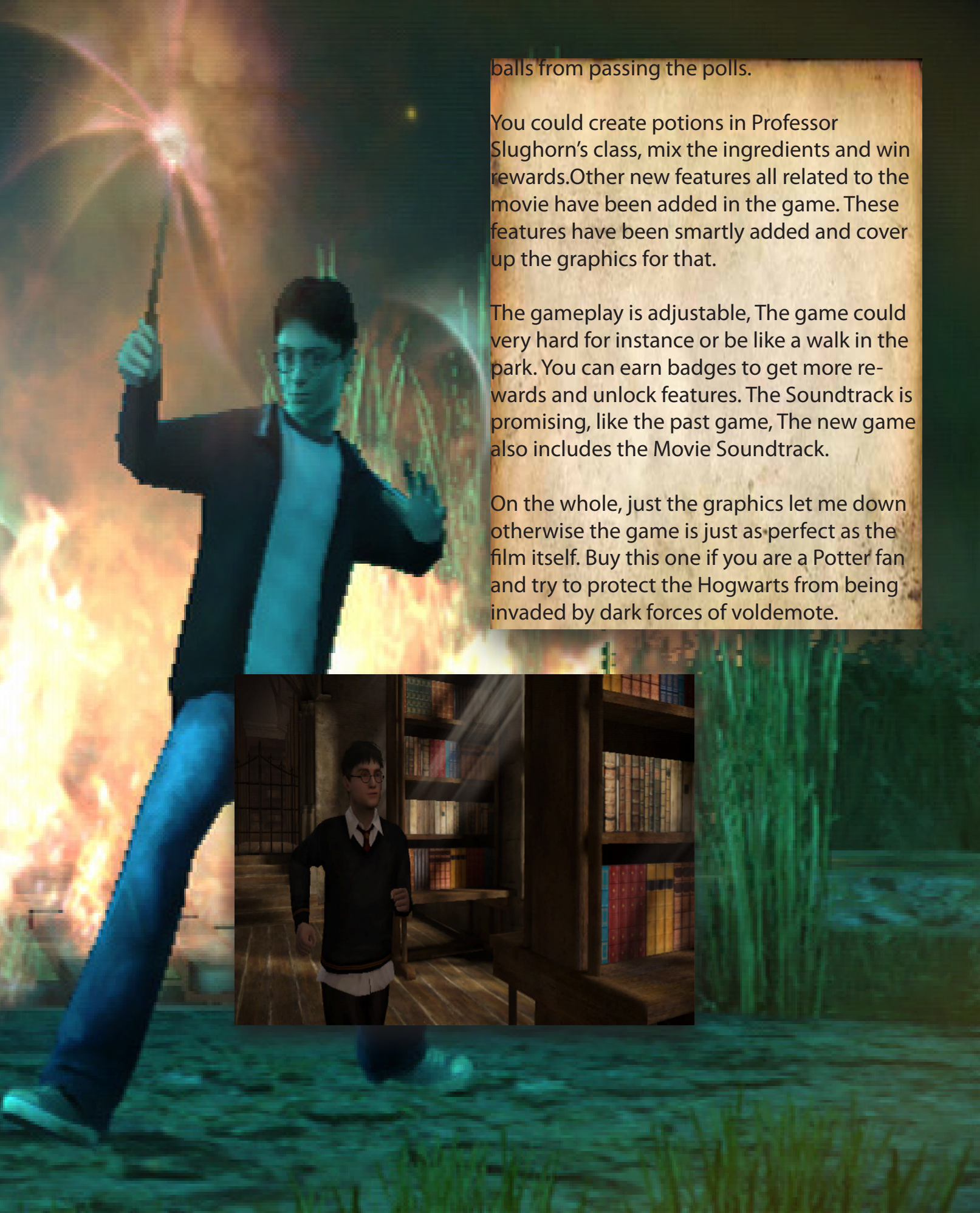
Having played all the earlier versions I knew the graphics engine wasn't to change much after the 2007 release, the same GFX was followed and no improvement in graphics had left me praying for the game to involve a few more features which would eventually cover all the GFX issues.

coming to my next point which indeed is features, The Duelling Club has been showcased in the game, but actually in the movie you



won't be experiencing much of that or rather in negligible amounts, still that one's a great feature added this time as now we can move around freely in the castle and cast spells on others.

The Quidditch Cup has been added for sport lovers, you could play as the captain of the team and as the seeker and try and win the cup for your house. Other than that you could play as Ginny and become the seeker when Harry is in detention or be Ron and save those



balls from passing the polls.

You could create potions in Professor Slughorn's class, mix the ingredients and win rewards. Other new features all related to the movie have been added in the game. These features have been smartly added and cover up the graphics for that.

The gameplay is adjustable, The game could very hard for instance or be like a walk in the park. You can earn badges to get more rewards and unlock features. The Soundtrack is promising, like the past game, The new game also includes the Movie Soundtrack.

On the whole, just the graphics let me down otherwise the game is just as perfect as the film itself. Buy this one if you are a Potter fan and try to protect the Hogwarts from being invaded by dark forces of voldemort.





## Movie Reviews

# Harry Potter and the Half Blood Prince

Vidit Bhargava

Rating: ★★★★★

Harry Potter and the Half Blood Prince is the latest edition of the potter movie series. Harry Potter is nearing his completion at Hogwarts, while his rival Voldemorte who is building his army & destroy the Dumbledore's Army (Harry Potter, Ron, Hermoine, And crew). The dark forces have envaded the actual world aswell, unusual events and disasters have become natural in Bretain. Dark forces tend to capture Harry, but



dumbledore is smartly helping him out, by sending him to save areas. They return at hogwarts and try to get the true memory from proffessor Slughorn which they could see and further try to find how to kill voldemote!

The special effects in the film are better than any of the other potter films. If you thought the last version of the film was the darkest yet, think again this one's the darkest yet. The first evidence of major core effects is seen when the dark lord greets the world from the clouds. Major special effects till the climax keep you to the edge of your seats till the credits roll. You want more of it even after the film ends.



I had given a brief discription of the sto-  
ry earlier the film becomes more engag-  
ing just because of it's powerful script  
nicely edited and croped by the writers  
from the book. The longest potter book  
couldn't be edited into a much smaller,  
as engaging & as exiting powerful story.

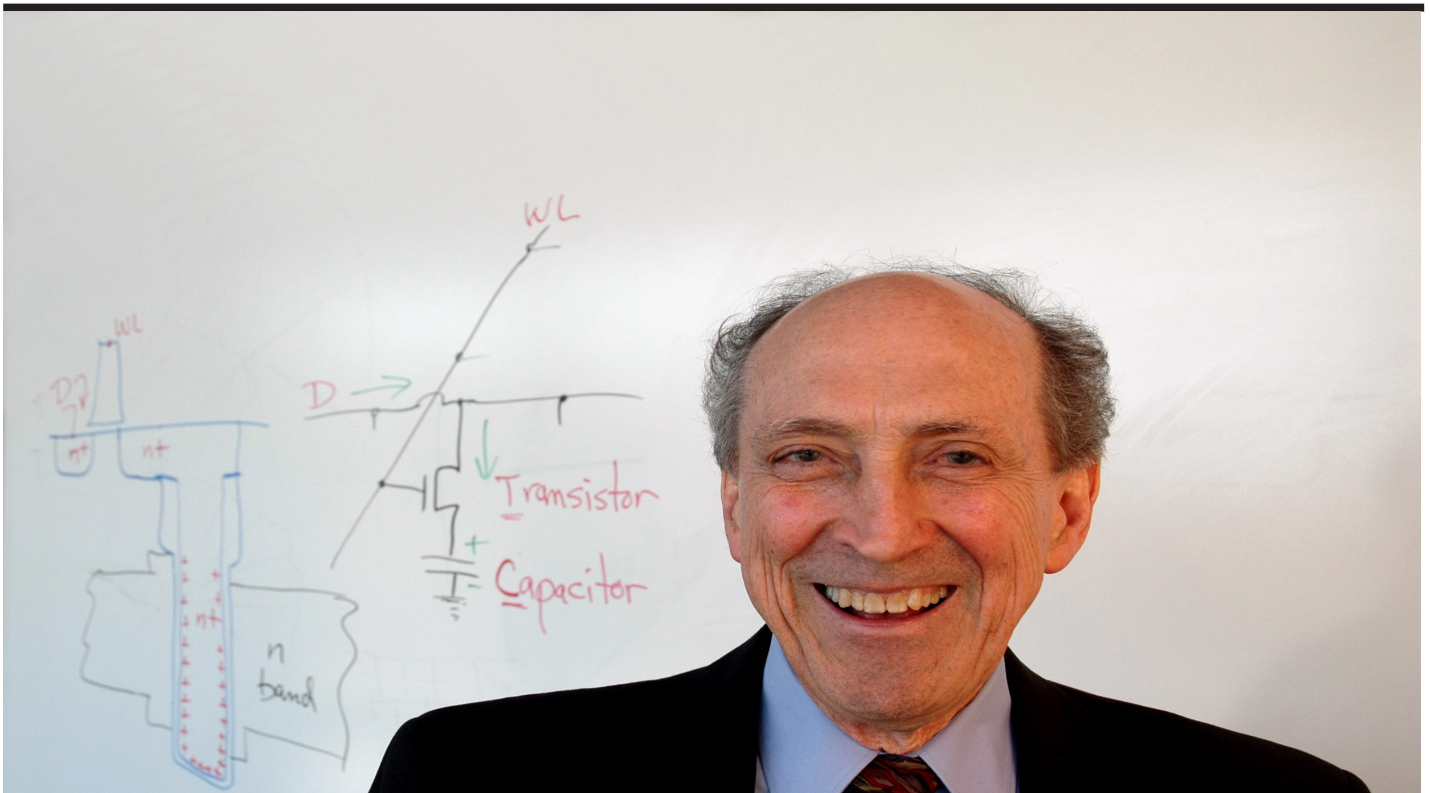
It's the film's powerful storyline & most  
importantly it's great special effects  
which make this one the best potter  
film of the series yet and indeed me  
writing this review.





## MEGA INVENTORS

# Robert Dennard: INVENTOR OF THE DRAM



Robert Dennard (born September 5, 1932) is an American electrical engineer and inventor. in 1974 essentially observed that MOSFETs would continue to function as voltage-controlled switches while all key figures of merit

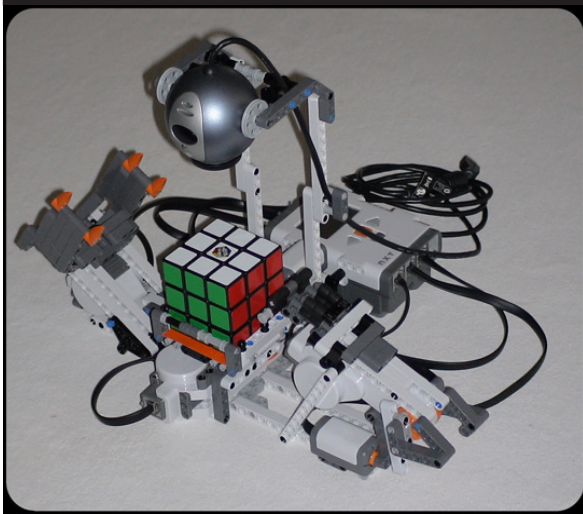
Dennard was born in Terrell, Texas, U.S.. He received his B.S. and M.S. degrees in Electrical Engineering from Southern Methodist University, Dallas, in 1954 and 1956, respectively. He earned a Ph.D. from Carnegie Institute of Technology in Pittsburgh, Pennsylvania, in 1958. His professional career was spent as a researcher for International Business Machines.

In 1968, he invented dynamic random access memory (DRAM). Dennard was also among the first to recognize the tremendous potential of downsizing MOSFETs. The scaling theory he and his colleagues formulated

such as layout density, operating speed, and energy efficiency would improve provided geometric dimensions, voltages, and doping concentrations were consistently scaled such as to maintain the same electric field. This property underlies Moore's Law and the evolution of microelectronics over the last few decades.



# MVDIT ROBO-CLUB



Rubik's cube solver robot.

The robot uses 3 motors:

- to push the cube aside
- to hold the upper layers
- to turn the bottom face

Also it uses

- touch sensor as pusher arm limit switch
- touch sensor as holder arm limit switch
- light sensor to find turntable zero position
- webcam to scan cube faces

The robot is given a cube and:

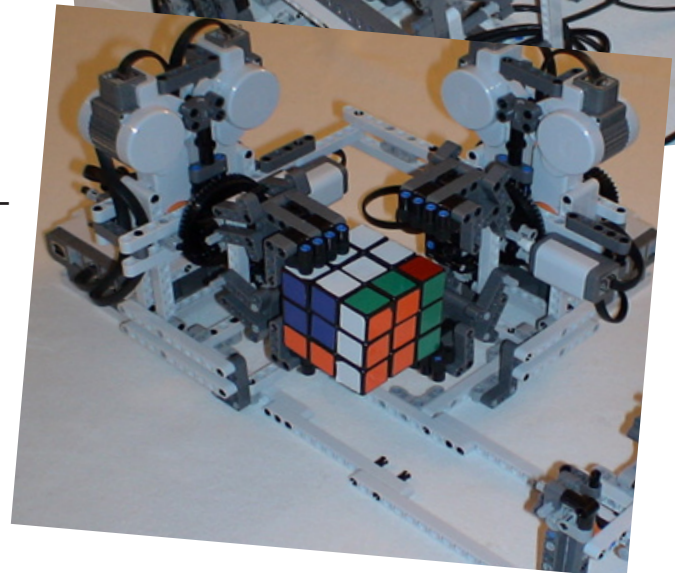
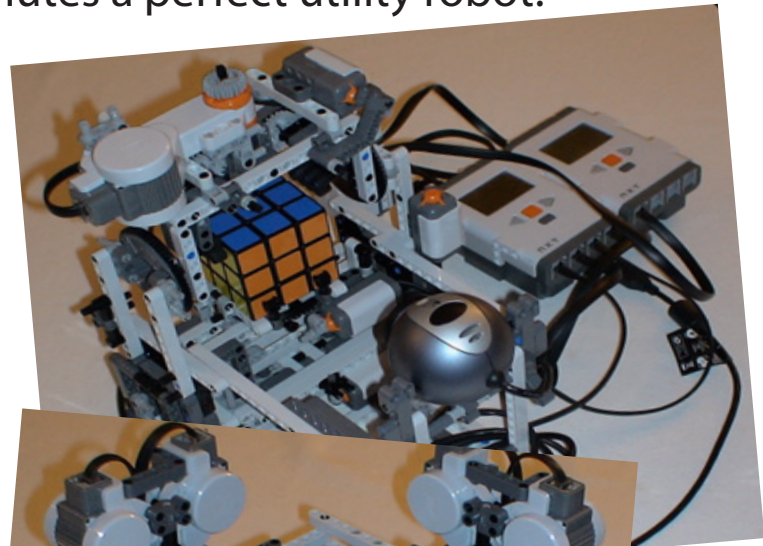
- scan all six faces, sending data to PC
- the PC software finds the optimal solution and sends the actions sequence back to robot
- the robot physically solves the cube

Lego Mindstorms NXT Rubik's Solver

By: Youtube user: Mentulatus

Rating: 4 Stars

Problem's Solving the Rubik's Cube, here's the solution. Lego Mindstorms NXT Rubik's Solver. Solves, the Cube in less than two minutes a perfect utility robot!



Watch it in Action

[www.mvdittechbook.co.nr](http://www.mvdittechbook.co.nr) > MVDIT ROBO CLUB