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ITS



BYTES

An Initiative By



Department of Information Technology

#SATYAVACHAN

**THE REAL
MEASURE OF
YOUR WEALTH IS
HOW MUCH YOU'D
BE WORTH IF
YOU LOST ALL
YOUR MONEY..!!**

-GAUR GOPAL DAS

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Designed by Ms. Mudra Doshi & Mr. Akshay Agrawal

[What Is Extended Reality and What Can We Do with It?](#)

It hasn't been long since virtual reality (VR), augmented reality (AR) and mixed reality (MR) fired up our imagination, but a new family member — extended reality (XR) — has already come into general use.

The Genesis of Extended Reality

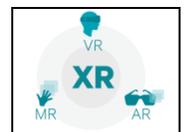
Extended reality is an umbrella term that encompasses virtual reality(VR), augmented reality(AR) and mixed reality(MR). That is why, to get a thorough understanding of this “platform” that fuses the three terms together, we need to look at each of them individually.

Virtual Reality

VR, a.k.a. the computer-simulated reality, is a technology that allows humans to immerse into a reality that is entirely different from a real one or that replicates reality. In other words, it builds a digital reality that replaces a user's real-world one. Enabled by specific headsets, virtual reality provides an environment with realistic images and sounds, while a comprehensive VR environment involves all five senses, including smell, taste and touch. This approach provides humans with an opportunity to gain new experiences and come to be in places where they are unable to be at a specific moment of time.

Augmented Reality

Unlike VR, augmented reality is not a world that is entirely different from a real one. This technology augments the existing physical environment with specific features by enriching it with graphics, video, sounds and other data. It can be said that AR exists “on top of” our reality, as it just adds some attributes but does not change it completely. At the same time, users cannot interact with a synthetic environment. In other words, it puts an “overlay” on our world. The cameras of mobile devices, as well as headsets, help humans put an overlay on their real world.



Mixed reality

As the name suggests, mixed reality combines elements of both real and virtual environments and creates a new world where physical and synthetic objects come together and interact. Also, these objects can react to each other on a real-time basis. Flexibility is a key characteristic of this type of reality. That is why “mixed” environments compile the best attributes of each of the worlds – real and synthetic. Also, it makes the best use of augmented reality and virtual reality. MR allows users to see the real world alongside with some virtual objects that are anchored to a certain real point, which enables users to treat them as real objects.

The Essence of Extended Reality

Extended reality stands on three pillars – VR, AR and MR, which is why it combines core features of each of them and everything between these interrelated phenomena. According to the extended reality definition, it incorporates real and virtual environments and concerns technologically powered interactions between humans and machines. Since XR depends on each of the underlying technologies, innovations that bring about changes also create new XR experiences.

The Advantages of XR Reality

Is extended reality good for business, or does it just improve user experience?

Companies that apply environments powered by the technology do get valuable benefits, such as:

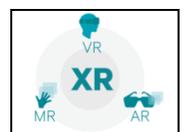
The provision of an unusual experience. A dive into a radically different reality allows companies to provide their users with the possibility of visiting places of interest or experiment something without leaving the house.

Efficient information uptake. XR provides its users with a more realistic view of their subject matter, which allows them to be trained in a more effective manner.

Safe training.

<https://www.sam-solutions.com/blog/what-is-extended-reality-and-what-can-we-do-with-it/>

- **MRS. SANKETI RAUT**



One-Time Passwords Do Not Provide Non-Repudiation

The title is obvious and it could've been a tweet rather than a blog post. OTP, or one-time password, used to be mainstream with online banking. You get a dedicated device that generates a 6-digit code which you enter into your online banking in order to login or confirm a transaction. The device (token) is air gapped (with no internet connection), and has a preinstalled secret key that cannot be leaked. This key is symmetric and is used to (depending on the algorithm used) encrypt the current time, strip most of the cipher text and turn the rest into 6 digits. The server owns the same secret key, does the same operation and compares the resulting 6 digits with the ones provided.

Non-repudiation is a property of, in this case, a cryptographic scheme, that means the author of a message cannot deny the authorship. In the banking scenario, this means you cannot dispute that it was indeed you who entered those 6 digits (because, allegedly, only you possess the secret key because only you possess the token).

Hardware tokens are going out of fashion and are being replaced by mobile apps that are much easier to use and still represent a hardware device. There is one major difference, though – the phone is connected to the internet, which introduces additional security risks. But if we try to ignore them, then it's fine to have the secret key on a smartphone, especially if it supports secure per-app storage, not accessible by 3rd party apps, or even hardware security module with encryption support, which the latest ones do.

Software “tokens” (mobile apps) often rely on OTPs as well, even though they don't display the code to the user. This makes little sense, as OTPs are short precisely because people need to enter them. If you send an OTP via a RESTful API, why not just send the whole cipher text? Or better – do a digital signature on a server-provided challenge.



But that's not the biggest problem with OTPs. They don't give the bank (or whoever decides to use them as a means to confirm transactions) non-repudiation. Because OTPs rely on a shared secret. This means the bank, and any (curious) admin knows the shared secret. Especially if the shared secret is dynamically generated based on some transaction-related data, as I've seen in some cases. A bank data breach or a malicious insider can easily generate the same 6 digits as you, with your secure token (dedicated hardware or mobile).

Of course, there are exceptions. Apparently there's ITU-T X.1156 – a non-repudiation framework for OTPs. It involves trusted 3rd parties, though, which is unlikely a bank scenario. There are also HSMs (server-side hardware security modules) that can store secret keys without any option to leak them to the outside world that support TOTP natively. So the device generates the next 6 digits. Someone with access to the HSM can still generate such a sequence, but hopefully audit trail would indicate that this happened, and it is far less of an issue than just a database breach. Obviously (or, hopefully?) secrets are not stored in plaintext even outside of HSMs, but chances are they can be wrapped with a master key in an HSM. Which means that someone can bulk-decrypt them and leak them.

And this “can” is very important. No matter how unlikely it is, due to internal security policies and whatnot, there is no cryptographic non - repudiation for OTPs.

A customer can easily deny entering the code to confirm a transaction. Whether this will hold in court is a complicated legal issue, where the processes in the bank can be audited to see if a breach is possible, whether any of the admins has a motive to abuse their privilege and so on, whether there's logs of the user activities that can be linked to their device based on network logs from internet carriers, and so on. So you can achieve some limited level of non-repudiation through proper procedures.

<https://www.javacodegeeks.com/2020/01/one-time-passwords-do-not-provide-non-repudiation.html>

- MRS. YOGITA MANE



UN hacked via unpatched SharePoint server!

The news emerged after an anonymous IT employee leaked the information to The New Humanitarian, which is a UN-founded publication that became independent in 2015 to report on the global aid community. According to the outlet, internal UN staffers announced the compromise on 30 August 2019, explaining that the “entire domain” was probably compromised by an attacker who was lurking on the UN’s networks. A confidential report sent to the publication without permission by a UN IT official revealed that the cyber attack had started in mid-July last year. The hackers had compromised dozens of servers including those in its highly sensitive human rights operation, along with its human resources department.

Stéphane Dujarric, spokesperson for the UN Secretary-General, explained to media in a briefing on Tuesday:

“Attempts to attack the UN IT infrastructure happen often. The attribution of any IT attack remains very fuzzy and uncertain. So, we are not able to pinpoint any specific potential attacker, but it was, from all accounts, a well-resourced attack”.

The Associated Press (AP), which has seen the report, said that system logs had been meticulously cleared during the attack.

The hackers targeted a total of 42 servers, compromising the Active Directory domains of UN offices in Geneva, Vienna, and at the Office of the High Commissioner for Human Rights, although an official told the AP that nothing at the latter location was compromised. The three hacked locations employ around 4,000 staff. Geneva was the hardest hit, with 33 hacked servers, according to The New Humanitarian. The attackers likely got in through an anti-corruption tracker at the UN Office of Drugs and Crime, reports said. The entry point was a flaw in Microsoft’s SharePoint software. Microsoft patched this in February 2019, but the UN hadn’t applied the fix.

<https://nakedsecurity.sophos.com>

- MR. MITIKSH SUTHAR

TOP 5 TECHNOLOGIES CES 2020

1. BrainCo Prosthetic Arm

BrainCo specializes in brain-machine interfaces (BMI), and used that expertise to create a prosthetic limb controlled entirely by the wearer's thoughts. The company's innovation was at CES 2019 as a prototype; this year, BrainCo said it is moving into production and anticipates Food and Drug Administration approval later this year.

A similar prosthetic arm from another company can cost around \$40,000/- but the Company President "Max Newlon" of BrainCo has announced that their product will cost \$10,000/-.

"This is not only cheap but life changing for certain people".



2. Damon Hypersport

While other companies were toying around with electric motorcycles, Damon was building the world's first shape-shifting motorcycle – which also happens to be electric.

"That sounds like hyperbole", The bike literally transforms underneath you, from a hunched-over sportbike to an easy-riding upright position.

On a press of button you can convert this bike from a sportbike to a touring bike.



3. Flodding Phones

Foldable displays have been the stuff of sci-fi legend for ages, but the time has come and we are witnessing the era of folding devices.



Last September Samsung launched its Galaxy fold(Global) And this year CES we have seen more folding devices from others like TCL, Lenovo, Microsoft, etc.

4.Light for dealing with dyslexia

French company Lexilife has invented a £549 smart light it says can relieve dyslexia. Research published in 2017 suggested that the condition may be caused by the pattern of cells in the eyes. In non-dyslexic people, one eye becomes dominant, allowing the brain to process one image. But for people with dyslexia, both eyes send information to the brain, creating the confusing mirror image problems which make reading difficult.



5.Samsung Neon

NEON, first artificial human is here. NEON is a computationally created virtual being that looks and behaves like a real human, with the ability to show emotions and intelligence. Neon works on coreR3 those are reality, real-time, response. Neon can create real life response with emotions and with latencies less than few micro second.



<https://nakedsecurity.sophos.com>

- MR. MITIKSH SUTHAR

Five Secrets of Resume Writing

1. Capture recruiter attention with imaginative design and flow

Inadequate attention to resume style and formatting are important factors which can severely detract from your resume value. But you need to be careful while finalizing your resume look and feel – you don't want your document to be all bling but neither do you want it to be unreadable. So keep a balance when you determine the amount of white space and font and color variations. Reverse chronology on education and work experience is the right way to go with crisp bullets or small paragraphs explaining your responsibilities and achievements.

2. Devil is in the Detail - Avoid pitfalls of Errors and Irrelevance

Spelling mistakes and grammatical errors can ruin all the hard work that goes in crafting a resume. The other blunder which is most common is “Information Overload”. Of course you want to paint a holistic picture of yourself in the hiring manager's eyes. But excessive and irrelevant information is not the key to success. Experienced professionals should try and compress their resume to ideally two pages. Bland listing of “Hobbies”, irrelevant addresses, family details and references are definite No-No. Another common mistake at the entry level is tacky email addresses and casual photographs. This is not college anymore and “fairyprincess@mail.com” doesn't cut much ice. It's also a good idea to then have your document reviewed by a friend or a professional resume writer as catching your own mistakes can be tough.

3. Career Summaries are the New Objective Statements

Objective Statements, once a standard feature, are now becoming obsolete. As the art of resume writing became more sophisticated, well crafted career summaries have gained in prominence. Hiring managers have zero interest in reading bland and generic statements stating what you want. Their interest is in what you have to offer and if it meets the requirements that they have at hand. So highlight your value proposition by creating crisp career summaries that encapsulate your competencies.

4. Tailoring to face the BOT Challenge

Most large organisations are increasingly investing in technology to improve hiring efficiencies. The Resume BOT with its key word based filtering mechanism is the latest challenge for aspiring candidates, with resumes not having requisite phrases and keywords being ruthlessly eliminated. a “one-size-fits-all” resume strategy is no longer a viable option. So tailor your resume for each opportunity – make sure your resume highlights the key words in the job description.

5. Let your Achievements Occupy the Real Estate

Hiring Managers will tell you that it is not just “what you have done” but “how well you have done it” is what counts. They want to get a sense of the depth of your exposure, the range of your strategic understanding and the impact you have created. So shy away from a bland listing of your activities and create an engaging narrative. Elaborate on your achievements, substantiate them with numbers and drive home your candidature.

<https://www.triedge.in>

- **MR. AKSHAY AGRAWAL**

RULES FOR USING ARTICLES A-AN

- 1** 'A' must be used before words which begin with a vowel symbol pronounced with the same sound as the 'y' or a 'w'-like sound.
E.g. a euro, a unicycle, a university, etc.
- 2** Sometimes, 'an' is found before words beginning with the letter 'h'.
E.g. an hour, an honor, an heir, etc.
- 3** We use 'an' before abbreviations that begin with a vowel sound.
E.g. an M.A., an M.Sc., an M.B.B.S., etc.
- 4** 'A' or 'an' must be used before a singular noun standing for things that can be counted.
E.g. a chair, a bottle, an umbrella, etc.
- 5** 'A' or 'an' must be used before the names of professions.
E.g. a director, an editor, a teacher, etc.
- 6** When you mean "a typical example", use "a" or "an."
E.g. A cat drinks milk.
- 7** Such + a/an + noun (or) Such + a/an + adjective + noun (rare)
E.g. Such a policy, such a long trip, such a great teacher, etc.
- 8** The following word has an indefinite article. so + adjective + a/an + noun.
E.g. So boring a book, So beautiful an actress, etc.
- 9** 'Few' and 'Little' are negative in meaning. 'A few' and 'a little' are positive and mean 'some'.
E.g. He is young and has little experience of life.
- 10** In its original numerical sense of one.
E.g.
• Not a word was said.
• Twelve inches make a foot.
- 11** A, an = one thing or person.
E.g.
• She works in a hospital.
• I've got a puppy.
- 12** We use a/an when we say what a thing or a person is.
E.g.
• "Coca Cola" is a beverage.
• A dog is a domestic animal.

Articles are used before nouns or noun equivalents and are a type of adjective. The definite article (the) is used before a noun to indicate that the identity of the noun is known to the reader. The indefinite article (a, an) is used before a noun that is general or when its identity is not known.

<https://garfinkleexecutivecoaching.com/articles/improve-your-communication-skills/9-tips-for-improving-your-communications-skills>

- **MRS. ADITI MALKAR**

9 Tips for Improving Your Communications Skills

Here are the 9 Tips for Improving Your Communication Skills:

- 1. Make communication a priority.** Take classes, read books, magazine articles or learn from successful communicators around you. Seek a mentor or coach.
- 2. Simplify and stay on message.** Use simple, straightforward language. Remember that Lincoln's Gettysburg Address was 286 words, about two minutes long.
- 3. Engage your listeners or readers.** Draw your listeners and readers into the conversation. Ask questions and invite opinions. Solicit their feedback.
- 4. Take time to respond.** After you've listened (and understood) take time to "draft" in your head what you want to say.
- 5. Make sure you are understood.** Don't blame the other person for not understanding. Instead, look for ways to clarify or rephrase what you are trying to say so it can be understood.
- 6. Develop your listening skills, too.** The best communicators are almost always the best listeners. Listen without judgment and don't be distracted by thinking about what you want to say next. Then, respond, not react.
- 7. Body language is important.** Studies show that 65% of all communication is non-verbal. Watch for visual signs that your listener understands, agrees or disagrees with your message. And be aware that your body is sending signals, too.
- 8. Maintain eye contact.** Whether speaking to a crowd or one-on-one, maintaining eye contact builds credibility and demonstrates you care about your listeners.
- 9. Respect your audience.** Recognize your message is not just about you or what you want. You should sincerely care about the needs and the unique perspectives of those to whom you are communicating. One of the best ways to show your respect is simply by paying attention to what they say.

<https://garfinkleexecutivecoaching.com/articles/improve-your-communication-skills/9-tips-for-improving-your-communications-skills>

- MRS. ROVINA DBRITTO

GLIMPSE OF CONVOCATION CEREMONY – 04TH JANUARY, 2020





TOPPER'S
HEARTIEST CONGRATULATIONS..!!!



FINAL YEAR



Pranita Darveshi
Pointer : 9.15 SGPI



Akshay Kotian
Pointer : 9.00 SGPI



Rमित Jain
Pointer : 8.92 SGPI



THIRD YEAR



Shaily Ashutosh
Pointer : 9.50 SGPI



Aparna Sudhir
Pointer : 9.23 SGPI



Moksha Gala
Pointer : 8.92 SGPI



SECOND YEAR



Kaushal Singh
Pointer : 9.42 SGPI



Mohini Kathrotiya
Pointer : 9.38 SGPI



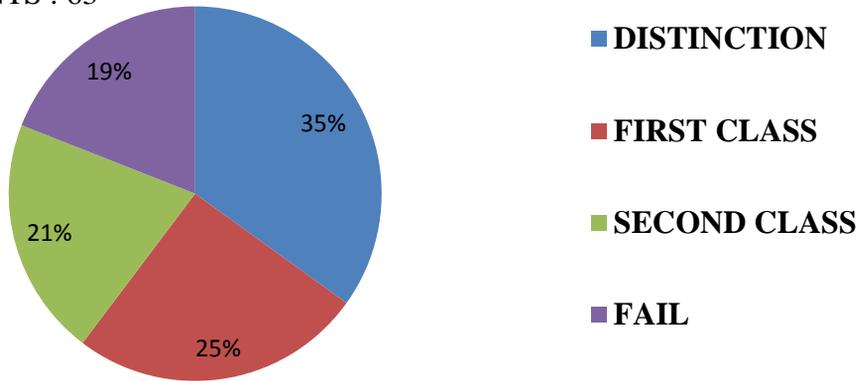
Zeba Quershi
Pointer : 9.23 SGPI

RESULT ANALYSIS FOR NOV/DEC 2019

EXAMINATION

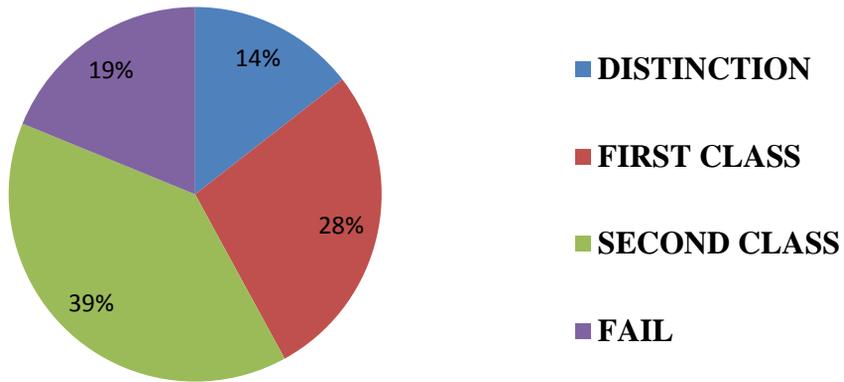
SECOND YEAR

TOTAL STUDENTS : 63
PASSED : 51



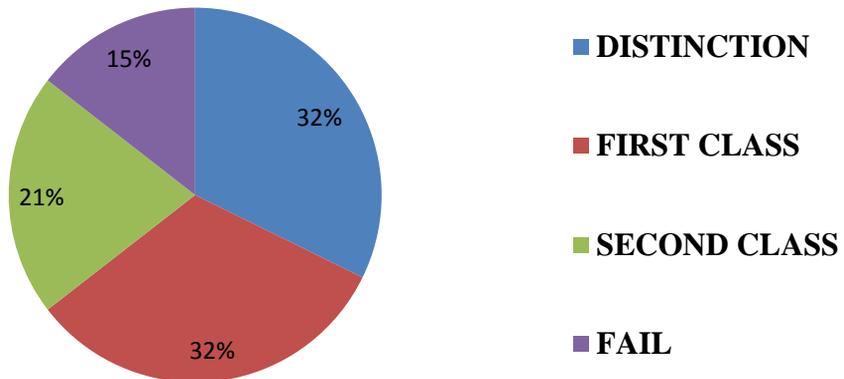
THIRD YEAR

TOTAL STUDENTS : 69
PASSED : 56



FINAL YEAR

TOTAL STUDENTS : 62
PASSED : 53





STUDENT'S ACHIEVEMENT



HEARTIEST CONGRATULATIONS..!!!



MS. RESHMA K., T.E. (IT) HOLDS A RUNNER UP POSITION IN 100 M SPRINT AT AURORA.



MS. SARITA SHETTY, T.E. (IT) SECURED 1ST POSITION IN COOKING WITHOUT FIRE EVENT AT AURORA.



MR. PRINCE PATEL., T.E. (IT) SECURED 1ST POSITION IN CHESS EVENT AT AURORA.



MR. KUNAL VISHWASRAO, S.E. (IT) SECURED 1ST POSITION IN SHOT-PUT EVENT AT AURORA.



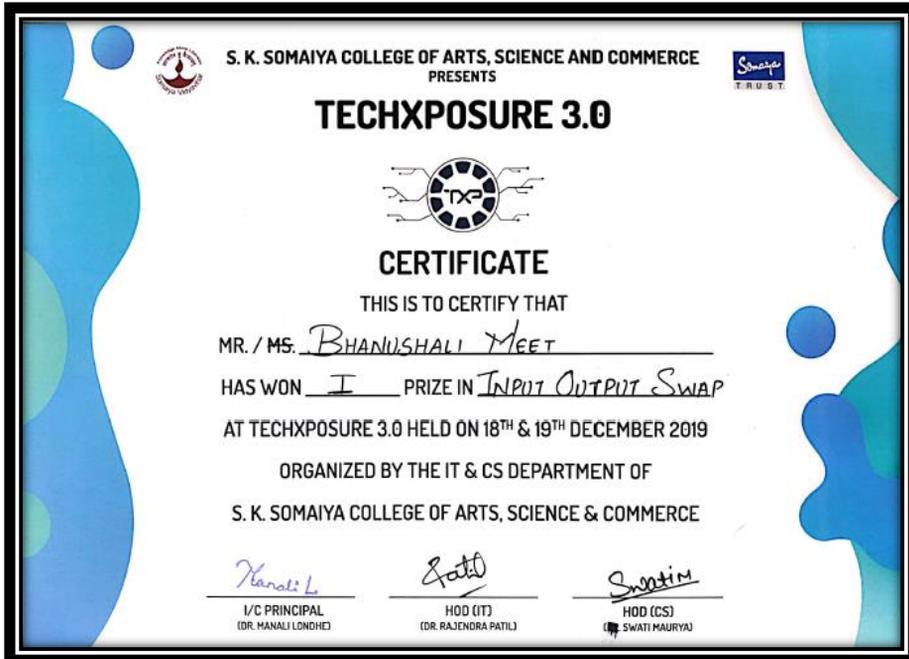
MS. APARNA SUDHIR, T.E. (IT) HOLDS A RUNNER UP POSITION IN SOLO SINGING EVENT AT AURORA.



MR. PRANAV UPADHYAY & MS. JINAL PADHIAR, S.E. (IT) HOLDS A RUNNER UP POSITION IN DEBATE COMPETITION EVENT AT AURORA.

STUDENT'S ACHIEVEMENT

HEARTIEST CONGRATULATIONS..!!!



MR. MEET BHANUSHALI, T.E. (IT) WON 1ST PRIZE
IN "INPUT OUTPUT SWAP" AT TECHXPOSURE 3.0
AND SUCCESSFULLY COMPLETED TRAINING ON
"PYTHON PROGRAMMING LANGUAGE".



UPCOMING EVENTS

#VYRO - 2020

Vidya Vikas Education Trust's
Universal College of Engineering
Near Bhajansons and Purnadham, Kaman Bhiwandi Road, Vasai, Palghar-401208.
(Permanently Unaided | Approved by AICTE, DTE & Affiliated to University of Mumbai)
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invites you to participate in

VYRO₂₀₂₀



VYRO

A National Level
Inter-Collegiate Techfest

13th Feb, 2020
(Thursday)

**Trophies & Cash Prizes
worth ₹ 1 lakh**

REGISTER FOR
VYRO 2020

<https://tinyurl.com/uzbqpo8>



REGISTER FOR
HACKSTOMP

<https://bit.ly/30N0qgl>

STAY TUNED!!

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COMPS / IT

SPEED DEBUGGING
BLIND CODE
N-CODE
MEMORY CODE

CIVIL

RAPID SURVEY
BRIDGE IT
BALSA WOOD TOWER
PLOT IT OUT

EXTC / ETRX

ROBO RACE
ROBO OBSTACLE
ROBO SOCCER
ROBO CARROM

LAN GAMING

COUNTER STRIKE 1.6
FIFA 11
NFS MOST WANTED
PUBG MOBILE
CALL OF DUTY MOBILE

HACK-STOMP

<A 24 hour codefest>
by ITSA

FUN EVENTS

BOX CRICKET
RINK FOOTBALL
TREASURE HUNT
SELFIE MANIA
NEON MAZE RUNNER
TOUCH ME NOT

CONTACT US

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HACKSTOMP

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UNIVERSAL COLLEGE OF ENGINEERING PRESENTS A NATIONAL LEVEL INTER COLLEGIATE FEST VYRO -2K20 WHICH PROVIDES STUDENTS A GREAT PLATFORM TO COMPETE AND SHOWCASE THEIR POTENTIAL AND TALENT AMONGST VARIOUS COLLEGES.

Spread the word
13th Feb 2k20

UPCOMING EVENTS



DEPARTMENT OF INFORMATION TECHNOLOGY

Under **ITSA** Presents



HACK STOMP

2019-20

FEB 13-14

#INNOVATIONFORINDIA

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<https://bit.ly/2um7syt>

SCAN QR CODE
FOR REGISTRATION



Hack for 24hrs
PRIZES WORTH RS.10000
AND MORE

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Microsoft



UPCOMING EVENTS

ITSA in association with TECHUSTAAD are organizing “CAREER SKILLS PROGRAM”.

Sr. No.	Date	Class	Contents	Duration
1	15-02-2020	S.E., T.E.& B.E.	IT Industry and Project Lifecycle	2 hours
2	15-02-2020	B.E	Resume Writing	2 hours
3	15-02-2020	S.E., T.E.& B.E	Email Writing	1-2 hours
4	12-09-2020	S.E., T.E.& B.E	Financial Literacy	2 hours
5	12-09-2020	B.E	Interview Skills	2 hours
6	12-09-2020	S.E., T.E.& B.E	Other Soft Skills (Presentation, Communication, Phone)	1-2 hours

Scan for previous edition



You can send your articles to the following email id's:
mudra.doshi@universal.edu.in or akshay.agarwal@universal.edu.in

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Taluka: Vasai, District: Palghar – 401208. Contact No.: +91 800 7000 755**