NITTE (Deemed to be University) | NMAM INSTITUTE OF TECHNOLOGY | FINITE LOOP CLUB

PRESENTS

inFinite Insider

Edition 1 | News for today | 2024-25

Finite Loop Club's first official magazine, set to bring you some BREAKING NEWS!

RETROFUTURISM : HACK THE TIME STREAM

A world where past visions of the future collide with today's cutting-edge, transformative scientific advancements and breakthrough technologies, provided the perfect backdrop for Hackfest, the exhilarating 3-day, elite innovation-driven national-level hackathon held from April 5th to 7th, 2024, at the esteemed NMAM Institute of Technology in Nitte. Under the theme 'Retrofuturism: Hack the Timestream', this dynamic event, hosted by the Finite Loop Club, attracted bright minds from across the country. Participants came together to push the boundaries of innovation and showcase their technical prowess. Competing teams were challenged to develop

groundbreaking projects that not only honored the past but also paved the way for future advancements. The event was a resounding success, fostering a spirit of innovation and among the brightest minds . . . Pg. No 26

FINANCIAL REVOLUTION SET TO WREAK HAVOC

Blockchain technology is set to revolutionize the banking sector. This insider cover explores the ways innovative decentralized banking can bring about unprecedented levels of transparency, security, and efficiency. Imagine sending large sums of money effortlessly and instantly, directly, and without the high fees that banks charge. Blockchain isn't just about cutting costs—it's about transforming financial transactions and eliminating the need for intermediaries. . . . Pg. No 36

REAL STORIES, REAL IMPACT: MEMBER TESTIMONIALS

Dive into the personal journeys of our tech club members as they share their stories of growth, challenges, milestones and achievements. These testimonials highlight the significant impact of our community, showcasing how solid collaboration, innovation, guidance and mentorship have shaped their paths in the tech world. Be inspired by real experiences that underscore the power of our supportive and dynamic environment, featuring insights from former club presidents, dedicated members, and esteemed professors.

. . . Pg. No 9

A LOOKBACK ON ACHIEVEMENTS AND PROJECTS DONE BY FLC

This retrospective highlights our club's most significant achievements, showcasing their innovative solutions, collaborative efforts, and the dedication of our talented members. Celebrate the epic brief journey and be inspired by the exceptional work that defines FLC's legacy. From pioneering tech-driven solutions to collaborative innovations, this piece celebrates the dedication and creativity of our members . . . Pg. No 49

Finite Loop
Inspire the Real

PREFACE

As we prepare this preface for the inaugural edition of inFinite Insider, we are truly overwhelmed with immense enthusiasm and pride. This magazine marks a new chapter, born from the creativity and dedication of our spirited community at Finite Loop Club, a club that has been cultivating its roots since 2016 at our beloved university, NMAM Institute of Technology. inFinite Insider is more than a compilation of articles; it stands as a shining testament to the groundbreaking spirit of innovation and unwavering commitment of our fellow members that propels Finite Loop Club forward.

Our club has always been a nurturing ground for creativity and curiosity, where innovative projects are collaboratively built and students are encouraged to explore and delve into the vast technological landscape around us. Our motto, "Inspire the Rest", guides us in fostering an environment that is both dynamic and inclusive, perfect for exploration, learning, and collaboration.

Through inFinite Insider, this is exactly what we strive to showcase and encapsulate. As you delve into the pages of inFinite Insider, we hope that you discover something that resonates deeply with you: perhaps a groundbreaking technology that sparks your curiosity, an insightful analysis that broadens your horizons, or a project that fuels your innovative ideas. Every idea holds value, as long as the spirit of innovation burns brightly within you.

To innovate. To inspire. To implement. To guide us towards a future illuminated by pioneering technological advancements and endless advancements. This edition is dedicated to the young and bold minds who dare to dream, to those who tirelessly work to bring their ideas into reality, and to everyone who believes in the transformative potential of technology. Together, we move towards a world where technology enhances and enriches our lives in ways we are only beginning to envision.

This endeavor would not have been possible without the unwavering support of our esteemed Principal, Dr. Niranjan N. Chiplunkar, Vice Principal, Dr. I.R. Mithanthaya, Controller of Examinations, Dr. Shrinivasa Rao B.R., and Dean-Student Welfare, Dr. Narasimha K. Bailkeri, whose financial and thoughtful support has enabled us to conduct impactful workshops and events. We extend our deepest gratitude to Dr. Shashank Shetty and Mr. Puneeth R.P., the pillars of our club, whose relentless support has nurtured our growth from a humble beginning to what is now recognized as the premier coding club in our esteemed institution.

We are profoundly grateful for the opportunity to present the collective achievements of our club through this first edition of inFinite Insider. We also extend our heartfelt thanks to each of our brilliant club members, whose passion and dedication propel us to reach greater heights. This club thrives because of you.

Finite Loop

Inspire the Rest

With warm regards and boundless enthusiasm,
The Editorial Team of inFinite Insider
Finite Loop Club

INSIDE THE LOOP

EDITORIAL

Greetings, fellow coders and tech enthusiasts!

I'm Sinchana S H, and with immense excitement and a touch of geeky joy, I present to you the very first edition of our annual magazine, inFinite Insider. This magazine is all about our amazing journey at the Finite Loop Club and the cool stuff we've been up to.

First and foremost, I thank the entire FLC team for giving me the opportunity to serve as the editor of this magazine. This role has been both humbling and exhilarating, made possible by the unwavering support and collaboration of our incredibly dedicated team. Opening the time capsule, our beloved FLC started as a spark of an idea in 2016, ignited by our visionary faculty coordinators—Dr. Shashank Shetty, Mr. Puneeth alongside Prof. Krishna Prasad Rao and Prof. Anantha Murthy — and fueled by the passion of NMAMIT students. What began with a handful of tech enthusiasts has blossomed into a vibrant community. While many technical clubs have come and gone, FLC has not only endured but soared to new heights each year, gaining the title of one of the best technical clubs within our college. inFinite Insider is a reflection of FLC's enduring success and the collaborative efforts of many. As the first editor of this magazine, I want to extend my heartfelt thanks to all the core committee members from 2016 to 2024, whose hard work and passion have laid a strong foundation for the club. Special recognition goes to the leadership and core teams of FLC throughout the years. I also deeply admire the combined efforts of the Core Team 2023-24. Their creativity and dedication have truly brought this magazine to life, earning my utmost respect and admiration.

As you turn the pages of inFinite Insider, I hope you feel the same pride and excitement that we do. This magazine is more than a collection of articles; it is a celebration of our journey, our achievements, and our dreams for the future.

With gratitude and excitement,
Sinchana S H
Secretary, Finite Loop Club
2024-25

From the Faculty: Celebrating the Club's Past Achievements and Fond Memories

I am very happy to note the very vibrant activities of the Finite Loop Club (FLC). I am aware about various student-led workshops, coding events, hackathons etc which were conducted during previous academic year through FLC. A sizeable number of student volunteers of this club under the able leadership of faculty coordinators have organized seminars in the latest trending topics of Generative AI and applications. I am sure that many students have utilized this forum for learning new things from industry experts. My hearty congratulations to all student members of FLC and wish a productive and eventful year ahead.

Dr. Niranjan N Chiplunkar
Principal

Finite Loop Club is one the unique clubs of NMAMIT, Nitte, which focuses on students who are interested in coding. This club has been one of the active clubs of the institution and promotes competitive programming skills in the student community and inspires them to contribute something to the society. NMAMIT provides a wonderful platform to the students to explore their hidden talent and skills. I am happy to note that this club is planning to come up with its own technical magazine, inFinite Insider. I appreciate the efforts of the team for taking up such an initiative.

This will help the team to showcase their skills, talents and achievements among their peers, faculty and general public. I am sure this inaugural issue will be very exciting to read. The profile of the club as is evident from their website looks very vibrant and active and I am sure along with many useful and meaningful activities conducted by this club, this will be an additional feature of the club. I congratulate the faculty and student team for their efforts. Let this magazine be an eye-opener to all and also motivate all other clubs to start such initiatives in the future.

Since documentation of the activities is one of the foremost requirements in the general scheme of things and this effort will go a long way. I once again congratulate the entire team and wish them good luck. Happy reading!

Dr. Shrinivasa Rao B R
Vice Principal & CoE

I am very glad to know that the most active technical club of NMAMIT - Finite Loop Club is releasing its first edition of magazine - 'inFinite Insider'. I am sure that this will provide a proper forum for all the enthusiasts of agile software development. I congratulate all the members and the faculty coordinator of the editorial team for their efforts in bringing this magazine and wish them good luck in their future endeavors.

Dr. Narasimha K Bailkeri
Dean Student Welfare

It gives me immense pride and pleasure to witness the release of the inaugural edition of "inFinite Inside", the annual technical magazine of the Finite Loop Club (FLC) at NMAM Institute of Technology, Nitte. As one of the founding faculty coordinators, I have had the unique opportunity to watch the club evolve from a small gathering of enthusiastic coders into a vibrant community of innovators and problem solvers. The Finite Loop Club was established in 2016 with a clear vision: to build a thriving coding community on our campus. Alongside my esteemed colleagues, Mr. Puneeth R P and Mr. Krishna Prasad Rao, and with the support of around 17 passionate students, we embarked on this journey. Today, I am thrilled to share that our community has grown exponentially to over 220 members, each contributing to the club's dynamic environment of learning and innovation. FLC has always emphasized the importance of practical experience. Our members have successfully developed real-time projects that have significantly improved campus operations.

Among our earliest achievements were the automation of the exam duty allocation system, the semester-end marks entry portal, a centralized data capturing system for collecting accreditation details, and the revaluation application system. These initial projects set the stage for the club's continued success, and today, we proudly offer many web, mobile, and other software applications.

Our commitment to skill development extends well beyond project work. We conduct a diverse array of coding and technical workshops, covering topics such as web and mobile app development, software frameworks, DevOps practices, blockchain technology, data science, artificial intelligence, and machine learning.

Our flagship events, such as the National Level 36-H hackathon, provide students with an immersive environment to apply their knowledge and push their creative boundaries. Additionally, our DSA sprints and month-long internal hackathons ensure that our members are well-prepared for placements, equipping them with the skills necessary to excel in their careers.

The publication of "inFinite Insider" is a testament to the hard work, passion, and intellectual curiosity of our members.

This magazine showcases a diverse array of articles, reflecting the varied interests and expertise within our community. From cutting-edge technologies and programming paradigms to insightful case studies and thought-provoking essays, each piece offers a glimpse into the innovative spirit that defines FLC.

Congratulations to everyone involved in the creation of "inFinite Insider", May this magazine inspire, educate, and ignite the spark of curiosity in all who read it.

Congratulations to everyone involved in the creation of "inFinite Insider", May this magazine inspire, educate, and ignite the spark of curiosity in all who read it.

Dr. Shashank Shetty
Assistant Professor, Dept. of CSE
Faculty Coordinator

It has been my privilege to be a part of this enthusiastic and vibrant club since its inception. Finite Loop Club was the first coding club to be introduced at our college, and it has been embraced wholeheartedly by students over the years. As a learner, I have gained a lot from the club. Working with such a bright and enthusiastic team always makes me feel young and inspired. I am incredibly proud of what we have accomplished together and look forward to continuing this journey of learning and innovation.

Finite Loop Club is not just a club, it is a family where every member is encouraged to dream big and achieve their full potential.

Mr. Puneeth RP
Assistant Professor, Dept. of CSE
Faculty Coordinator

Testimonials Highlight: 'Unparalleled Opportunities and Lifelong Connections!'

Members share their amazing experiences throughout their time in FLC

"My life at NMAMIT wouldn't have been worthwhile if I had missed the opportunity to join the Finite Loop Club. Apart from being an active technical club, I'd say it's one of the vibrant hubs on campus where one can truly experiment and grow. It was during my 3rd semester when I joined FLC, and there was no reverting since that commit, as it gave me a perfect environment to learn from the best, working alongside talented peers and supported by the most helpful faculty members, giving me an edge in developing my technical skills and problem-solving abilities. This was the driving factor that motivated me to lead the team during the 2022-23 academic year, and my leadership qualities nurtured here are today an integral part of my life!"

-Bhargavi Nayak
President, 2022-23

"FLC has been a big part of making me who I am today. I got lots of chances to learn new things and teach others. Most importantly, FLC gave me the chance to be a confident leader. I've worked on many projects and learned a lot about new technologies through the Finite Loop Club. The support from the community and the faculty has been amazing, and I'm thankful for the chance to be part of such a great group."

-Nagaraj Pandith
President, 2023-24

Finite Loop Club has helped me to bond with like-minded people and develop skills useful in the IT industry, not just in the technical matter, but also on the management and collaboration aspect. It is a bucket full of opportunities and a platform to implement your own unique ideas.

-Nidheesha T
CP Advisor, 2023-24

My association with Finite Loop Club (FLC) at NMAM Institute of Technology has been a cornerstone of my college experience, shaping my growth both academically and personally. Reflecting on my journey with FLC, I am immensely grateful for the opportunities it provided me to enhance both my technical prowess and soft skills. The hands-on learning experiences and networking opportunities within the club played a pivotal role in securing a promising placement with a reputable company upon graduation. It has been an honour to be part of this transformative journey, and I am confident that FLC will continue to inspire and empower future generations of tech enthusiasts at NMAMIT.

-Dhanish S Suvarna
CP Advisor, 2022-23

Serving as the Secretary for FLC during the 22-23 academic year was a profoundly enriching experience. I played a key role in organizing events, conducting workshops, and managing our dedicated teams, which significantly enhanced my organizational, leadership, and project management skills. I am very proud to see that FLC has built its team to higher numbers now, reflecting the students' progression and increased involvement. This experience provided invaluable professional and personal growth, preparing me for future challenges and opportunities, and I am grateful for the chance to contribute to and learn from such a dynamic and supportive organization.

-Apoorva Prabhu
Secretary, 2022-23

Joining the Finite Loop Club has been a life-changing experience for me. It provided me with the opportunity and platform to learn, grow, and develop both professionally and personally. By organizing events and working on various projects, I stepped out of my comfort zone and gained invaluable skills. The supportive community encouraged me to push my limits and explore. I'm truly grateful for the wonderful people I've met and the opportunities I've encountered. This experience has given me a competitive edge in the tech world, and I'm excited to see this community grow.

-Swasthik Shetty
Lead Developer, 2023-24

My experience with FLC has been life-changing. It provided me with opportunities to work hands-on with trending tech stacks and helped me grow as an individual. This platform boosted my self-confidence by making me aware of my own strengths and preparing me for diverse challenges. Thank you, FLC.

-Padmashree
Secretary, 2023-24

FINITE LOOP CLUB
INTRODUCTION
NMAMIT
SINCE 2016

In the fast-evolving world of technology, NMAM Institute of Technology stands out with its premier coding club, the Finite Loop Club. Founded in 2016, this dynamic club is a shining beacon for aspiring coders and tech enthusiasts. Under the expert guidance of the faculty coordinators, Dr. Shashank Shetty and Mr. Puneeth R.P., alongside Prof. Krishna Prasad Rao, the Finite Loop Club has rapidly become a hub of innovation and creativity.

The club's mission is straightforward yet ambitious: to provide students with a solid foundation in software development, inspire the realization of innovative ideas, and encourage participation in competitive programming. Through hands-on workshops, members gain practical experience that prepares them for the challenges of the tech industry.

Finite Loop Club also takes pride in undertaking real-time consultancy projects. These projects not only provide invaluable experience for the students but also contribute to the technological advancements of the institute. The club has an amazing Discord community where students can engage in peer-to-peer learning, share knowledge, and collaborate on various projects.

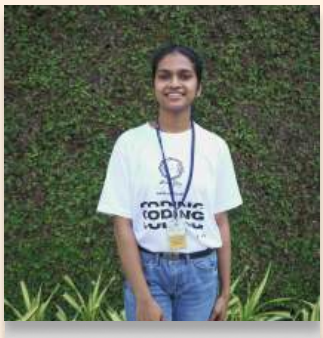
Since its inception, Finite Loop Club has successfully completed various consultancy software projects, leaving a significant mark on NMAMIT's technological landscape. As we look towards the future, the Finite Loop Club continues to inspire the next generation of tech innovators, proving that with the right guidance and resources, the possibilities are infinite.

Faces of the Club: Meet the previous core members

Meet the outstanding Administrative and Web Teams from last year!

NAGARAJ PANDITH
PRESIDENT

JAYDEN FERNANDES
VICE PRESIDENT



PADMASHREE SHETTY
SECRETARY

SATWIK R PRABHU
JOINT SECRETARY

SINCHANA S H
JOINT SECRETARY

P ASHWINI ACHARYA
TREASURER

SWASTHIK SHETTY
LEAD DEVELOPER

ANJUMAN RAJ
LEAD DEVELOPER

ANIRUDDHA UPADHYA K
FRONTEND LEAD

NANDAN R PAI
FRONTEND LEAD

SRIVATSA R UPADHYA
BACKEND LEAD

2023-24

Meet last year's remarkable CP, Domain Head, and Operations teams!

NIDHEESHA T

C P ADVISOR

K SHRAVAN

C P ADVISOR

SRUJAN ACHARYA

C P LEAD

ADITHYA RAO K

C P TEAM

SHHREYAS KAIROLI

C P TEAM

ARSHAD SHEIKH

C P TEAM

WRITVAN GHOSH

C P TEAM

ABHIJIT HEGDE

APP DOMAIN HEAD

SHASHANK B N

AIML DOMAIN HEAD

ANINDYA HEGDE K

OPERATIONS MANAGER

SANNIDHI S SHETTY

OPERATIONS MANAGER

SURYANSHU CHOUDHARY

CONTENT HEAD

2023-24

Discover the exceptional Event and Media teams from last year!

DAIVIK SHETTY
EVENT LEAD

SWASTHIK A SHETTY
EVENT LEAD

KEERTHAN N S
EVENT LEAD

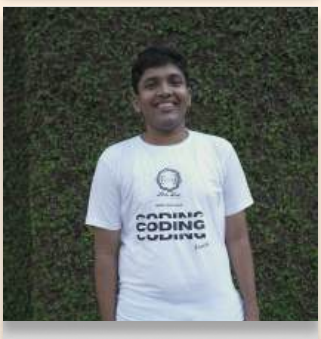
BHUSHAN NAYAK
EVENT LEAD

PRAJWAL H SUVARNA
EVENT LEAD

SHRUTHI POOJARY
EVENT LEAD

VAISHNAVI K
EVENT LEAD

VAISHNAVI PRASAD
EVENT LEAD



PAVAN A B
EVENT LEAD

VIDYESH KUMAR
DIGITAL TECH LEAD

ASHISH SHANKAR
GRAPHICS HEAD

PRATHAM PATHAK
SM CO HEAD

ANUJ PAI
SM CO HEAD

MOHAMMAD ABID
PHOTOGRAPHER

AAKASH
PHOTOGRAPHER

ARKAL VARUN HEGDE
VIDEOGRAPHER

Faces of the Club: Meet Our Extraordinary Members

Meet the Administrative Team members making a remarkable impact this year!

SATWIK R PRABHU
PRESIDENT

NANDAN R PAI
VICE-PRESIDENT

SINCHANA S H
SECRETARY

BHAVYA NAYAK
JOINT SECRETARY

AKHIL MANOJ
JOINT SECRETARY

ANINDYA HEGDE K
TREASURER

SRIVATSA R UPADHYA
TECHNICAL MANAGER

ANIRUDDHA UPADHYA K
TECHNICAL MANAGER

PRATHAMA S J
EVENT MANAGER

NIHAL MOHAN
DIGITAL MANAGER

2024-25

Meet the innovative minds leading our Technical team this year!

A OMKAR G PRABHU
LEAD DEVELOPER

SHASHANK B N
DEVELOPER

KARTHIK S SALIAN
DEVELOPER

AMRITH R NAIK
DEVELOPER

DINESH ACHARYA
DEVELOPER

LEN MENDONCA
DEVELOPER

VISHNU BHAT
DEVELOPER

SATHWIK
DEVELOPER

M SAYEEM AHMED
DEVELOPER

CHAITHRA S NAYAK
DEVELOPER

RAKSHITH VIJAY
DEVELOPER

SRUJAN ACHARYA
CP ADVISOR

ADITHYA RAO K.
CP ADVISOR

R AJAY PRABHU
CP LEAD

ANANTH SHETTY
CP TEAM MEMBER

2024-25

Discover the visionaries driving our Graphics and Events team this year!

ASHISH HEBBAR
GRAPHICS HEAD

ARYAN SINGH
GRAPHIC DESIGNER

ASHISH SHANKAR
GRAPHIC DESIGNER

ARYAN SHENOY
EVENT LEAD

VARUN PAI M D
EVENT LEAD

SHAWN DSOUZA
EVENT LEAD

DEETYA SALIAN
EVENT LEAD

NEELIMA BHAKTA
EVENT LEAD

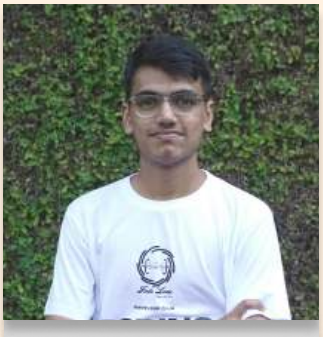
VARSHITH PAWAR H R
EVENT LEAD

NINAAD LOBO
EVENT LEAD

2024-25

Discover the creative minds behind our Media Team this year!

ARKAL VARUN HEGDE
MEDIA HEAD



ANUJ PAI
SMC HEAD

SRINIDHI D S
SMC CO-HEAD

ADITHYA A
SMC CO-HEAD

MOHAMMED ABID
MEDIA TEAM

AAKASH
MEDIA TEAM

TEJAS JOY DSOUZA
MEDIA TEAM

SHISHIR KARKERA
MEDIA TEAM

SURYANSHU CHOUDHARY
CONTENT HEAD

2024-25

Reflecting on Success: Memorable Events That Shaped Our Year!

The Finite Loop Club has had an eventful and highly productive year in 2023-24, marking its presence as a hub of innovation and technological advancement. Over the course of the year, FLC successfully organized 13 events, each designed to foster a spirit of learning, creativity, and collaboration among its members and the wider community.

SMART INDIA HACKATHON IDEATHON

The SIH Ideathon 2023 was a dynamic event aimed at preparing teams for the prestigious government-backed Smart India Hackathon 2023. Held on September 23rd at the Phalguni seminar hall of NMAM Institute of Technology, the ideathon event saw enthusiastic participation from 29 teams, comprising 174 student participants, who came together to pitch their innovative ideas and solutions. With six panelists on board to evaluate the pitches, the ideathon was a melting pot of creativity and technical prowess.

INDUCTION PROGRAM 2023

The Finite Loop Club at NMAMIT conducts an annual induction program to welcome new members and introduce them to the club's activities and goals.
The induction program 2023, was hosted on October 21, 2023, at the MBA Auditorium, JKSHIM, Nitte. The event featured esteemed guests Mr. Shivkanth Rai, Founder of Trident Tech Lab, and Mr. Rahul Bhat, Software Engineer at redBus. The club's achievements and future plans were presented to the members. Dr. Venugopal PS delivered a compelling talk on the importance of writing clean code, emphasizing its role in reducing errors and enhancing team collaboration. The event concluded with ID cards distribution, quiz and fun activities.

DIGITAL HUNT

"Digital Hunt" was successfully conducted on October 28th, from 9:00 AM to 1:00 PM, across venues CSL10, CSL01, and CSL02. The event saw participation from 61 teams, totaling 122 participants. The Digital Hunt, a modern twist on the traditional treasure hunt, was entirely computer-based. In the first round, teams raced to solve seven puzzles to uncover the identity of a hacker who breached Obama's Instagram account, with the top 18 teams advancing to the second round. This round involved locating the hacker, John Cena's, coordinates through a series of digital clues, ending with a surprise "Rick Roll" video that added a humorous twist to the event.

TECH ADVENT

The Tech Advent event, organized by the Finite Loop Club as a part of the annual fest Incridea on 23 February 2024, is a two-round competition with teams of two, which involves solving digital puzzles from different domains such as web, stenography, cryptography, data structures, VR/AR, and more. The event included a custom-developed website by the members of the Finite Loop Club, which featured a real-time map for tracking team progress, automated scoring, and a database schema for puzzles and speedrun games.

The digital platform ensured a seamless and engaging experience for all participants.

DEV MEETUP 2024

The Dev Meetup 2024 was organized on January 13th at the Sambhram Auditorium, NMAMIT. With over 286 registrations and more than 250 active participants, the event aimed to introduce 1st and 2nd-year students to the club's activities. Key highlights included an inspiring alumni talk by Mr. Dhanish Suvarna, a Software Development Engineer at Capillary Technologies, who shared valuable insights into Data Structures and Algorithms (DSA). The event featured a comprehensive presentation on DSA by Srujan, followed by an engaging quiz on Quizizz. Emphasis on the importance of Hackathons, lively debates on topics such as Android vs. iOS and the dangers of AI were conducted involving active audience participation. Roadmap talks on Artificial Intelligence & Machine Learning (AIML) and App development were conducted.

GIT-GITHUB WORKSHOP

The Finite Loop Club, in collaboration with the Association of Computer Engineers (ACE), successfully organized a hands-on workshop on "Git and GitHub" on January 20, 2024. Conducted by Srivatsa Upadhya, Satwik Prabhu, and Rohan MP from the 3rd year CSE, The workshop aimed to familiarize 1st and 2nd-year students with essential Git and GitHub concepts. The event began with an introduction to the fundamental differences between Git and GitHub and various related concepts. Participants engaged in practical exercises, learning how to stage changes, make commits, and push their work to GitHub. They also learned to fork repositories and submit valid pull requests.

TRI HACKLON

'Tri Hacklon, an event with three exciting rounds, was organized on 2nd March 2024. Participants formed pairs to compete in a series of challenging rounds: BugBlitzzz - Code debugging; AlgoArena & Blackout - DSA concepts and blind coding; SleuthQuest - An on-campus treasure hunt. The Tri Hack Lon winners received cash prizes: ₹3000 for first place, ₹2000 for first runner-up, and ₹1000 for second runner-up. They also received certificates and goodies.

DSA WORKSHOP

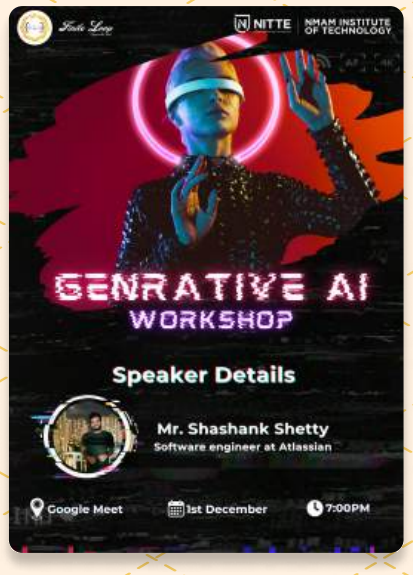
Data Structures and Algorithms (DSA) Workshop, held on January 27, 2024, was led by Srujan Acharya, the CP (Competitive Programming) lead of the Finite Loop Club. The event aimed to provide participants with a solid foundation in C++ and enhance their proficiency in data structures and algorithms. The workshop covered syntax, control structures, modular coding with functions, and handling arrays and strings. It included pointers, references, object-oriented programming (OOP) basics, dynamic memory allocation, and the Standard Template Library (STL). Participants learned time and space complexity analysis using Big O Notation and engaged in problem-solving exercises to improve their DSA skills.

JAVASCRIPT WORKSHOP

The Finite Loop Club was privileged to host a comprehensive JavaScript workshop on 3rd February 2024, conducted by our esteemed alumnus, Bhargavi Nayak, who is currently working as a Software Development Engineer at NG-NeXT Tech. The workshop covered a wide range of topics, from JavaScript fundamentals to modern ES6+ syntax, ensuring that participants gained a deep understanding of this versatile programming language. Bhargavi Nayak's expertise and practical experience made the workshop highly interactive and engaging. Participants had the opportunity to engage in hands-on exercises, allowing them to apply the concepts learned in real time.

GENERATIVE AI WORKSHOP

The Generative AI workshop was held on December 1st at 7:00 PM, conducted online via Google Meet. The event was led by Mr. Shashank S Shetty, a Software Engineer at Atlassian, who shared his expertise in generative AI. Mr. Shashank broke down the practical applications of generative AI and discussed the transformative capabilities of Generative Adversarial Networks (GANs). He demonstrated prompting methodologies using ChatGPT and illustrated the impact of well-crafted prompts. The workshop also covered AI-driven image creation, showcasing the differences between basic and structured prompts with practical demonstrations on leonardo.ai.



HACKXPO-HACKLOOP

Hackloop, an internal hackathon for first and second-year students, focused on five tracks: Fintech, Sustainable Development, Healthcare, Edutech, and Open Innovation.
The ideation phase, lasting four days, involved brainstorming feasible solutions and implementation details, which were pitched to mentors for feedback and refinement. Following this, a 15-day hackathon divided into three 5-day sprints took place. After each sprint, teams held retrospective meetings with mentors to receive feedback on their progress. At the end of the hackathon, teams submitted their code along with a 5-minute video demo showcasing their implementation. HackXpo S02, the grand finale of the HackLoop internal hackathon, was held on March 23, 2024, at the Sowparnika Seminar Hall, NMAM Institute of Technology. Judged by Dr. Shashank Shetty, Mr. Puneeth R. P, and Ms. Bhargavi Nayak, the event highlighted the ingenuity and technical skills of 23 participating teams who had been mentored over two months by Finite Loop Club (FLC) members. After the sprints, the top 12 teams, comprising five first-year and seven second-year teams, presented their projects.

DSA SPRINT

The club organized an innovative program called "DSA Sprint" from February 27th to May 3rd, with the primary aim of helping students understand and master Data Structures and Algorithms (DSA) concepts. This initiative was conducted entirely online through Discord, providing a convenient and accessible platform for participants to engage and learn. Questions related to DSA were posted daily, challenging participants to apply their knowledge and problem-solving skills.

Additionally, the program offered weekly curated resources, consisting of handpicked problems and doubt-solving sessions, ensuring a comprehensive learning experience. Each week focused on a new topic, following a carefully curated schedule to ensure a structured and progressive learning journey. To further reinforce the concepts and foster a competitive spirit, four weekly contests were organized.

HACKFEST 2024

The highlight of the year was the national-level hackathon, Hackfest 2024, which drew participants from across the country and was hailed as a resounding success. The 3-day national level hackathon was held from April 5th to 7th, 2024, at NMAM Institute of Technology. The event, themed "Retrofuturism: Hack the Timestream", was hosted by the Finite Loop Club and powered by EGDK India Pvt. Ltd., with co-sponsorship from Niveus Solutions Pvt. Ltd. and The Global Point. It attracted 225 participants from 27 colleges, forming 60 teams to engage in a 36-hour coding marathon across six tracks: FinTech, Sustainable Development, Healthcare, Metaverse, Open Innovation, etc.

Faculty advisors Dr. Shashank Shetty and Mr. Puneeth RP, along with student organizers, led the event, which featured tech talks, jam sessions, gaming events, and a prize pool exceeding Rs. 2,00,000. Registrations for Hackfest '24 opened on February 19, 2024, with 2,038 logins on our website, forming 313 teams and submitting 212 ideas. Out of these, 60 teams were selected to participate. Comprehensive arrangements were made for food and accommodation, ensuring participants remained energized throughout the event. Highlights included tech talks by industry experts, a vibrant jam session, and a thrilling Valorant gaming event, which added to the overall engaging experience. The event concluded with a valedictory ceremony where the top teams were recognized and awarded.

WebDev: A Newbie's Beginner Kit

What is Web Dev?

Web Dev is nothing but "Web Development", Yes it's that easy. Just kidding, it's not easy at all. "It's super hard". (I'm definitely not pulling your leg, hehe. It's easy, relax).

This article is designed for readers with no prior knowledge of web development. It aims to provide a comprehensive yet simple overview of the basics of web development. Professional jargon will be minimized and the article will be presented in layman's terms to ensure clarity while maintaining authenticity.

Parts of Web Development

Web development can be classified into two ways :

- Front-end Development: Everything users see and interact with on the web.
- Back-end Development: The server-side that handles data and functionality.

If you're skilled in both areas, you are called a full-stack web developer. However, if you specialize in just one, you are either a front-end or back-end web developer. Now, let's dive into front-end development.

Ever wondered how, when you press the "Search" button, Google quickly finds your video while respecting your "safe search" preferences?? How did your web browser know to send your search query to Google with your "safe search" preference?

Curious how it works?

When you press the "Search" button, your web browser sends both your search query and "safe search" preference to Google's servers. In short, a fellow frontend developer had access to your "safe search" preference and gave it along with your search query to the Google Servers when you pressed that button. In about 0.36 seconds (though the exact time may vary based on your internet service provider), Google delivers thousands of results.

You then scroll through the list to find the best video (hopefully a useful tutorial you were searching for!).

But to your surprise, you only see 20 results on the first page, and the remaining are on other pages. Hmm, that's interesting. Ever wondered how the browser knows there are additional results and why it doesn't display them all at once? Again, it's because a fellow frontend developer decided to show no more than 20 results per page, and in case you weren't satisfied with the results you received or wanted to refer additional results in the hopes of finding a gold mine, he/she provided a "Next Page" button to load the additional results (He/she is trying to save your precious mobile data by not auto-playing every video 😭. Truly a lifesaver!)

Now, try clicking on the "Images" and the "Videos" tab. Did you notice that only the content specific to each tab changed, while the rest of the page stayed the same?

- The video thumbnails, images, and website links are updated.
- Your Google account profile picture, Google Doodle, and other elements stay the same and do not reload.

In these 3 scenarios, we observe several key details:

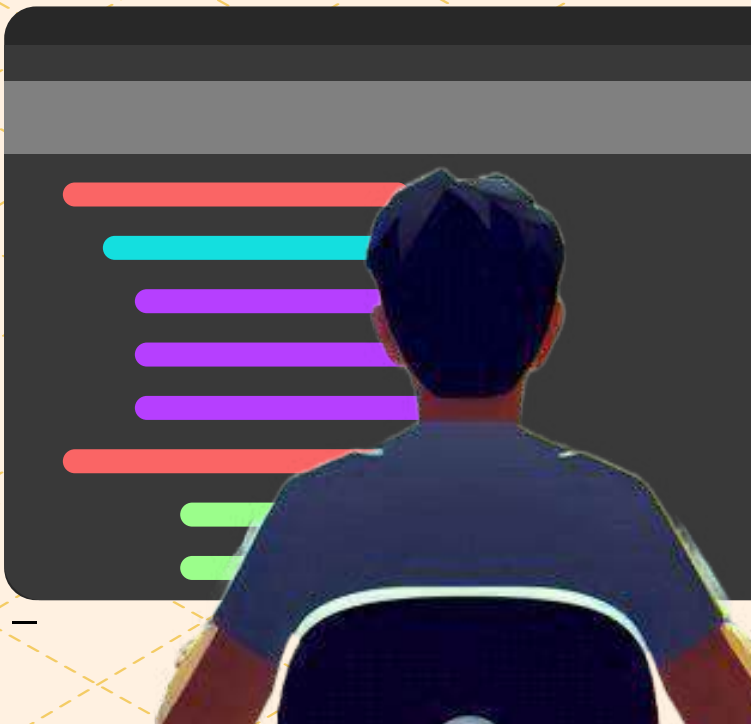
1. Communication to servers: We didn't need to figure out the specifics of how to communicate with Google's servers. All we had to do was provide the necessary information (like our safe search preference and search query), and the developer took care of the rest.

2. Waiting for a response: We had to wait approximately 0.36 seconds to receive the results. The developer made this experience smoother by placing a loading spinner to indicate that the request was being processed.

3. UI: The developer decided to show a search button, which did all the hard work of communicating with the Google servers to get the results for your query, instead of you manually asking Google Servers for your search.

4. UX: The developer anticipated your frustration with endless scrolling and organized the results into categories, helping you save your mobile data.

5. Reactive: The developer thought, "I don't want the entire page to reload when the user clicks on a link. Why should he/she feel like they are on an outdated website, stuck waiting for hours for a page to load?"



Where to get started?

Now, I'm sure you might be wondering, "This all sounds interesting, but how do I actually get started?"
Worry not, my friend, for I am here to guide you through it. Let's break it down :

- HTML: Think of this as the basics of web development—it's like learning the ABCs. It's the foundation of your website, providing the basic structure.
- CSS: This is akin to an architect for your website. It's all about design and layout, transforming your basic structure into something visually appealing.
- JavaScript: Imagine this as the electrical system of your house. It brings your website to life by adding interactivity and automation.

Together, these elements form the core of front-end development: structure, design, and interactivity.
While this covers the basics and is sufficient for many web developers, some seek to learn more complex tools and advanced techniques to enhance their development efficiency.

Now where do I go to upskill myself?

- Heaven: If you're kind and patient in your learning journey.
- Hell: If you're constantly searching for tutorials and not reaching out for help from your seniors. (They're not there to judge you, I promise! 🙂)

Let's cut to the chase :

- Libraries: Think of React, Svelte, Astro, Vue, and Angular as your toolkit. They can simplify your life, though they might occasionally be a bit challenging.
- Frameworks: Next.js, SvelteKit, and Nuxt.js are built on these libraries to make development even smoother. They handle many tasks for you and can even bridge the gap between the front-end and back-end.

Mastering front-end development is a journey with its own highs and lows. Try focusing on building small projects, asking for feedback from peers, and learning through hands-on experience.
Remember, practical application often teaches you more than any tutorial ever could.
Now, let's get started on our back-end journey.
There are two main things that you need to be concerned with when it comes to back-end development. They are:

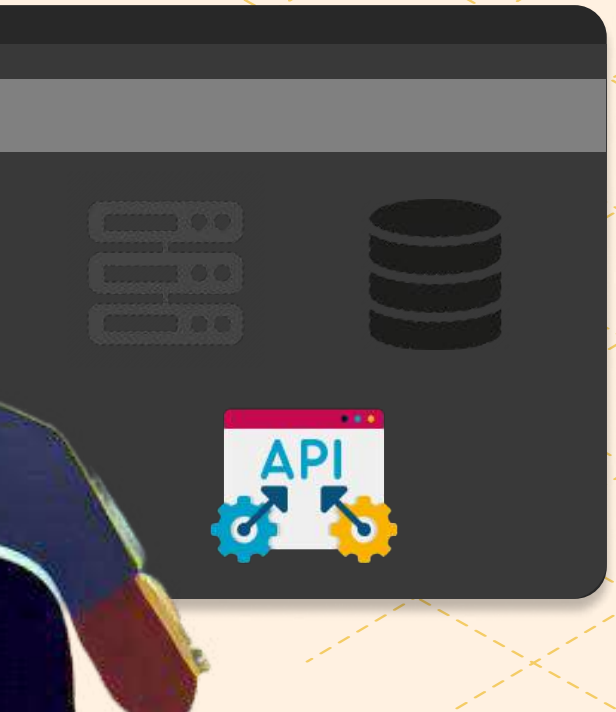
- Server
- Database
- API

Let me enlighten you with a short role play to help you understand better.
"Ah, what do I do, Mr. Developer?", asks the Google Server.

The Backend developer replies:

- Wait for incoming search requests. If you can't fulfill a request, either notify the user or face a server crash (oh no!).
- Check the database for videos matching the query.
- Send only the requested data.
- Ensure that the user's "safe search" preferences are respected.
- Only provide results if the user is signed in (definitely not called Authentication, by the way).
- Restrict database access to authorized users.
- Send videos securely (no peeking, hackers!)
- Search the database quickly for the video on the requested query (I know there are a lot of videos out there, but make it as fast as possible).

Making searches fast is just one job of a back-end Developer. They don't need to worry about whether the video plays on hover, if it features Trump, or if it contains sensitive content.



Let's consider another scenario to help you understand better.

Imagine you go to a KFC. You look at the menu and order a family meal. The waiter takes your order to the cook in the kitchen.

- You (the customer) are the front-end.
- The menu is like an API. It shows what you can order.
- The waiter and the cook are the server and database.

You don't need to know how the food is cooked to enjoy it. The menu (API) just makes it easy for you (front-end) to get what you want from the kitchen (back-end).

Let me help summarize everything for you, in technical terms :

1. A server is a powerful computer that responds to requests from users, delivering data or services over a network. It's like a dedicated worker that handles all your online queries and processes them.

2. If you make a valid request, it will provide the correct response. If the request is invalid or unclear, it may result in an error or failure

3. A database is a structured collection of data that allows for easy storage, retrieval, and management of information. Think of it as a highly organized digital filing cabinet where all your data is stored.

4. API, or Application Programming Interface, is a set of rules that help different software programs talk to each other and share information without needing to know how everything works behind the scenes. Essentially, it acts as a bridge, enabling one software application to interact with another, making it easier to integrate and use different services and functionalities.

5. The back-end developer says what question is right and what is wrong, and how to react to a question

6. Back-end developer makes sure that whatever it is that the server is doing, should

- Happens fast
- Happens securely

There's much more to back-end development, but for the time being, this should give you a basic idea of what it's all about.

Where to get started?

- Node.js: Great if you enjoyed using JavaScript on the front-end or if you've heard it's very fast.
- Python (Flask/Django/FastAPI): Ideal if you like Python and want something that is easy to learn and use.
- Gin: Best if you're interested in using the Go programming language.
- Axum/Rocket: Suitable if you prefer Rust, which is known for being a bit challenging to learn.
- Spring Boot: A good choice if you're comfortable with Java and its built-in memory management features.

I would personally recommend starting with Node.js or a Python-based back-end because they are easier to learn and there are plenty of resources available to help you.

Advanced topics

T3 Stack: The T3 stack is a combination of tools and technologies often used together to build web applications. It's similar to how you might have a favorite set of ingredients for cooking your favorite meal.

Components:

1. TypeScript: A language that builds on JavaScript by adding static types.
2. Tailwind CSS: A utility-first CSS framework for styling your website.
3. tRPC: A framework for building type-safe APIs.
4. Next.js: A React framework for building web applications.
5. Prisma: An ORM (Object-Relational Mapper) for interacting with databases.

Imagine you're building a house (your web application). TypeScript is like the blueprint ensuring everything fits together perfectly. Tailwind CSS is the paint and decorations that make your house look nice. Next.js is the actual structure and layout. tRPC and Prisma help you manage the plumbing and electrical systems (data and APIs) efficiently.

Kubernetes: Kubernetes is like a manager for a team of workers (containers) that do various jobs for your application. It helps deploy, scale, and manage these workers.
Imagine you run a restaurant. Kubernetes is like the head chef who ensures all the cooks (containers) are working properly, assigns them tasks, adds more cooks during busy hours, and replaces them if they get tired or break down.

GraphQL: GraphQL is a way to ask for data from a server. Instead of getting too much or too little information, you get exactly what you need.
Think of GraphQL as ordering a custom sandwich. Instead of choosing from fixed options, you tell the server exactly what ingredients you want, and it makes the sandwich just for you.

Docker: Docker is a tool that packages applications and their dependencies into a "container," ensuring they run smoothly on any system.
Imagine you have a special recipe that only works with specific ingredients and equipment. Docker is like a portable kitchen that you can take anywhere, with everything you need inside, so your recipe works perfectly every time.

Why web development?

I'll leave 2 websites for you to explore made by your seniors

- Incridea Website:https://incridea.in
- Hackfest:https://www.hackfest.dev

Admire the creativity of front-end developers and appreciate their work. Then, recognize the complexity of managing large-scale systems and give credit to back-end developers for their expertise.

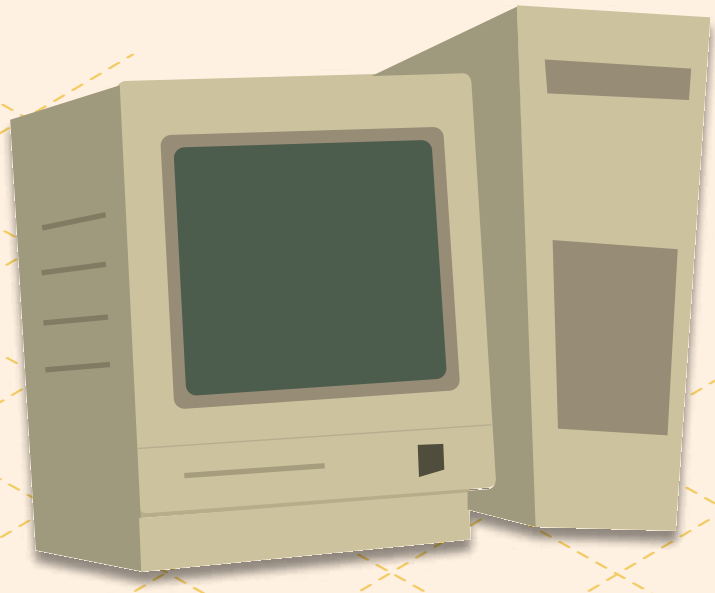
Still not satisfied as to what one can create as a web developer? Alright, consider this :
Have you used WhatsApp?
"Yes"
Have you used Whatsapp Web on a PC or Laptop?

"Yes" (some might say)
Think about how many people use it every day and how many times in a single day.
"Quite a lot"
That's the essence of web development— creating tools and services that people use every day, and making them accessible online.
If this doesn't spark your interest in starting your web development journey, maybe watching a few more videos will do the trick! 👀

Some general tips

To dive into web development, you'll need to learn core languages like HTML, CSS, and JavaScript. For more advanced options, you can choose between languages like Python, Rust, C++, Go, or Java based on your interest. Once you can read code, try exploring samples in these languages to see what resonates with you. It's also beneficial to study data structures and algorithms (DSA) alongside web development to become a more efficient developer.

Remember, everyone's learning journey is different—some start in their third year and excel, while others may lose interest if they start too early. Avoid comparing yourself to others and don't rely on just one YouTuber for learning. Instead, read documentation and watch videos from multiple sources. After a couple of years, focus more on documentation than tutorials.
Most importantly, if you find web development isn't for you, that's okay. Enjoy your time in college and explore other interests—you'll find what you're passionate about in time.



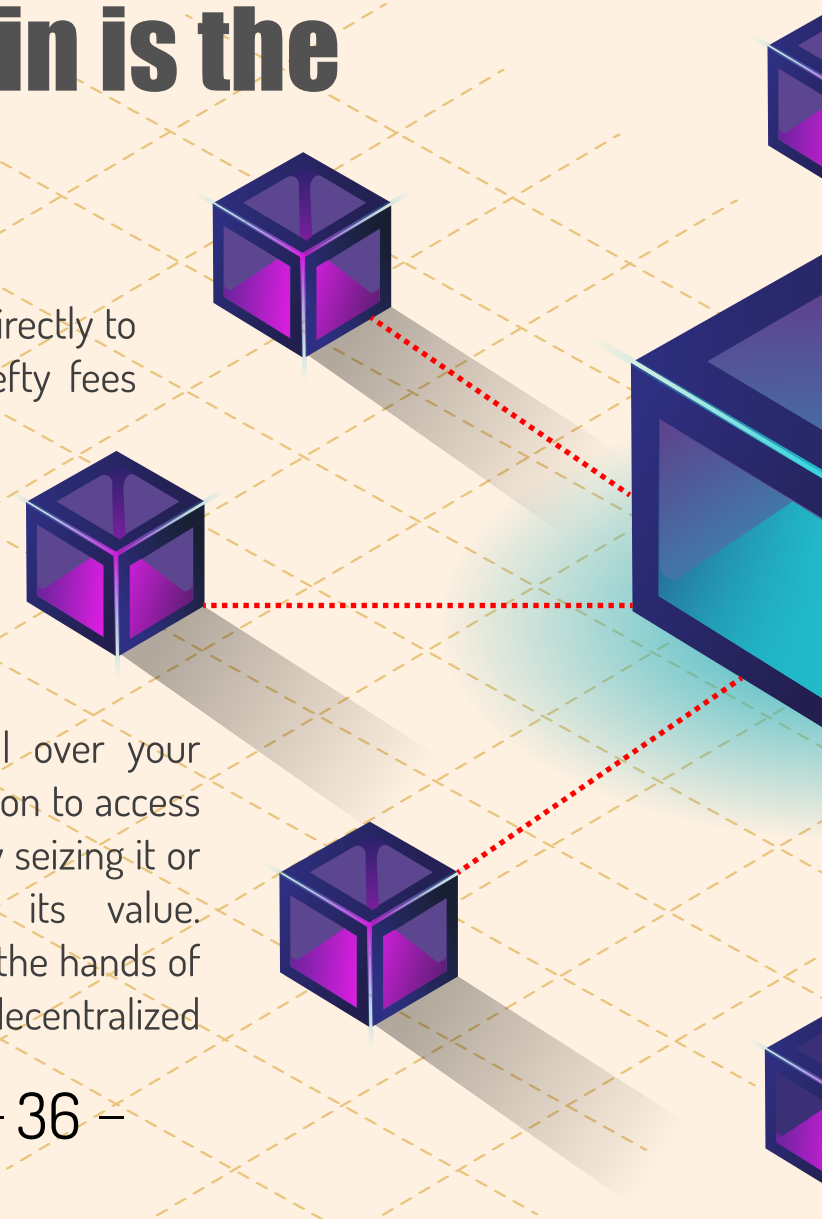
By Omkar Prabhu

The Financial Revolution

Why Blockchain is the New Bank

A world where you can send money directly to anyone, instantly and without the hefty fees charged by the banks.

Thanks to blockchain technology, this is becoming a reality. Imagine storing your funds in an online wallet that isn't tied to any bank, making you the master of your finances. You have complete control over your money—no need for a bank's permission to access or move it, and no fear of a third party seizing it or government policies manipulating its value. Blockchain is putting power back into the hands of the people, paving the way for a decentralized financial future.

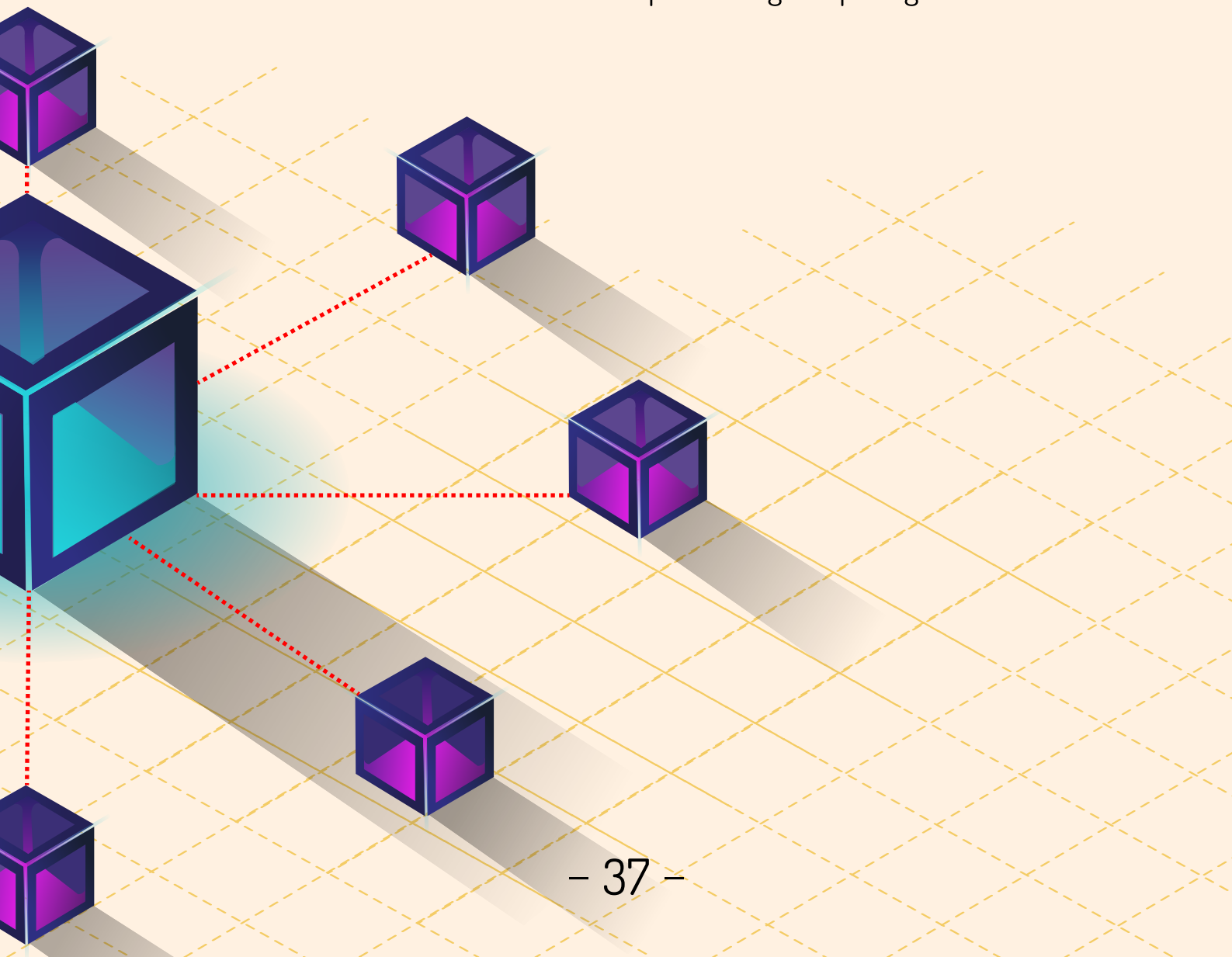


Why do we need decentralization?

Remember the 2016 demonetization of ₹500 and ₹1000 notes by the Indian government? During demonetization, millions of people were suddenly left without access to their money, as the central government declared the notes invalid overnight. This caused chaos and long queues at banks and ATMs as people rushed to exchange their old notes. Decentralization can mitigate such crises by reducing reliance on a central authority, giving individuals more control over their finances.

A decentralized economy is less vulnerable to systemic failures. By spreading control and decision-making power, the system becomes more robust and adaptable to changes and crises. It can lead to more efficient governance by reducing bureaucracy and speeding up decision-making processes.

Blockchain technology, a key component of decentralization, offers transparency and immutability, preventing tampering and frauds.



Blockchain : A good career choice?

HIGH DEMAND & LUCRATIVE SALARIES

Blockchain technology is rapidly growing, and the demand for skilled blockchain developers is soaring. Companies across various industries — finance, healthcare, supply chain, and more — are investing in blockchain to enhance security, transparency, and efficiency.

Given the specialized skills required and the high demand, blockchain developers command impressive salaries. As companies compete for top talent, they offer attractive compensation packages, making this career path financially rewarding.

DIVERSE CAREER OPPORTUNITIES

Blockchain technology is applicable in numerous diverse fields beyond cryptocurrencies. It is being utilized in sectors such as finance, healthcare, real estate, supply chain management, and even entertainment.

This diversity allows blockchain developers to choose from a wide range of industries and projects, ensuring a dynamic and varied career.

CREATIVE AND INNOVATIVE FREEDOM

Blockchain technology is still in its nascent stages, offering vast opportunities for creative problem-solving and innovation. Developers in this field have the freedom to experiment with new ideas, design novel solutions, and pioneer groundbreaking applications that can redefine industries.

Dive into the exciting world of blockchain and transform your career!

By Dinesh Acharya

DSA - The Secret Sauce of Software Success

Imagine two kitchens. One of them is perfectly organized: spices on one shelf, utensils on another, etc. The other is a huge mess, with everything scattered around the kitchen. Which kitchen would you rather cook in? Data Structures and Algorithms (DSA) operate the same way with data. They keep everything organized and easy to find

Data structures are the fundamental building blocks of computer programming. They are different ways to store, organize, and manipulate data within a program. Understanding data structures is very important for developing efficient and effective algorithms. (which we will get to in a bit). Think of them as different ways to arrange utensils, spices, and other necessities in your kitchen. Now, let's jump right in and understand the most commonly used data structures:

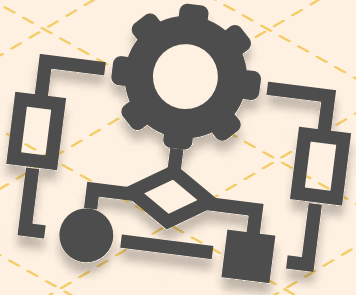
- Arrays: It's similar to an ice tray in your refrigerator, where each compartment holds an ice cube. Arrays keep items in a fixed order.
- Linked Lists: Picture a line of people holding each other's shoulders, forming a chain. Each person (or node) points to the next one. Yup, that's exactly how a linked list works.
- Stacks and Queues: Take an example of coins/plates stacked on top of each other, where the only way you can take the plate below is to take the one above it. That's how stacks work. A queue is similar to people waiting in line to buy that last box of cereals (I feel you, my friend). It follows the policy: first come, first served.

- Trees: Imagine a family tree. At the top, you have the oldest generation, and as you move down, you see their children, grandchildren, and so on. In computer science, a tree works similarly to organize data.
- Graphs: Imagine a city map with locations (nodes) connected by roads (edges). In short, that's exactly how a graph works. It's basically a collection of nodes (vertices) interconnected by edges.

What Are Algorithms and How Are They Used in the Real World?

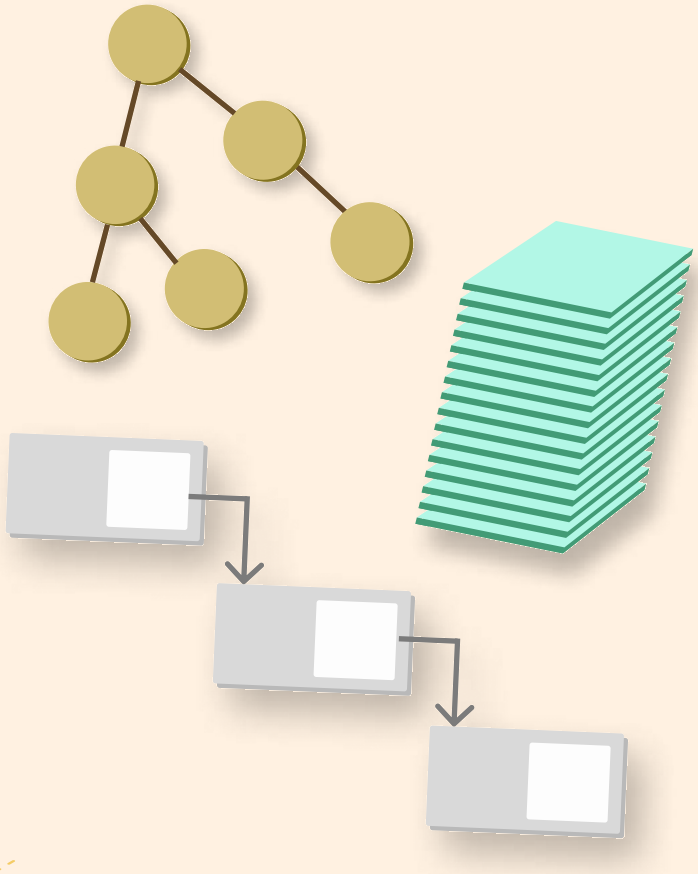
Algorithms are step-by-step methods for solving problems, much like recipes in your kitchen. They help manage data efficiently and are used in many real-world situations:

- Sorting Algorithms: Think of sorting your music playlist alphabetically. Algorithms like Quick Sort and Bubble Sort help in organizing data for similar scenarios. Search engines use these to rank and sort pages, so you find what you need quickly.
- Searching Algorithms: Let's imagine that you are in an era where mobiles haven't been invented yet. So, one day, you are reading a fictional sci-fi book, and all of a sudden, you come across a word that you've never heard of.
  So, what do you do? You reach for a dictionary and start flipping through the pages to find the word. I'm sure you've been in that scenario at least once (if you read books 🤓).
  Binary Search and Linear Search are algorithms that help you locate information quickly, similar to how you search for a word in a dictionary. Fun fact: These algorithms are also used in social networks to find user profiles and connections.
- Graph Algorithms: Ever used Google Maps to find the best route? Algorithms like Dijkstra's and A* help to find the shortest paths. Navigation systems use these to provide the fastest routes.
- Dynamic Programming: Imagine solving a big jigsaw puzzle by breaking it into smaller, manageable pieces. Dynamic Programming works the same way. It's used in healthcare to analyze complex medical data and efficiently manage patient records.



Why are data structures and algorithms important ?

Now, let's talk about why DSA matters:
1. Foundation: They lay the groundwork for more advanced topics like machine learning and big data.
2. Efficiency: They make your code run faster and use fewer resources.
3. Problem-solving: They enhance your problem-solving skills.
4. Job Interviews: Big tech companies often ask DSA questions in interviews. Knowing this can help you land a job.



Mastering DSA not only enhances a software engineer's skill set but also ensures the development of robust and effective software systems.

Role of DSA in Ensuring Efficiency for Scalable Systems

Modern software needs to handle millions of users efficiently. For example, if an online shopping site like Amazon takes just one extra second longer to load each product page, and the site attracts 10 million visitors a day, that extra second results in 10 million seconds of delay each day.

This delay can frustrate users, leading to abandoned shopping carts and lost sales. A slow site also means longer checkout times, which can negatively affect the shopping experience and damage the company's reputation. Efficient data structures and algorithms ensure the system remains fast and responsive, even with millions of users.

How to get started

1. Learn the Basics: Begin with fundamental data structures like arrays, linked lists, stacks, queues, trees, and graphs. Utilize online tutorials or courses to understand these concepts and practice working with them.

2. Practice Problems: Solve problems on sites like LeetCode, GeeksforGeeks, and HackerRank to enhance your skills. Practice at least 3 – 5 problems each day and soon enough, you'll see yourself getting better with time. Along with that, you can also participate in coding competitions, contribute to open-source projects, or join coding communities to gain more experience and receive feedback.

3. Build Projects: Apply what you've learned to make small projects or contribute to open-source projects. Consider building a personal website, developing a mobile app, a weather app, or creating a simple game. Contributing to open-source projects can provide real-world experience and help you collaborate with other developers.

4. Join Competitive Coding Sites: Take part in contests on sites like Codeforces, CodeChef, and AtCoder. These contests help you practice solving problems quickly.

5. Review and Learn: After each contest, review the problems and solutions. Learn from your mistakes and explore alternative ways to solve the problems. This process helps you understand different problem-solving strategies and improve your skills for future contests.

Conclusion

Data structures and algorithms might seem tricky, but they are the key to managing and processing data effectively. Mastering them will enhance your skills as a software engineer and help you quickly adapt to new technologies. So, embrace the learning process and enjoy the journey!

By Ajay Prabhu

My First App Dev Steps: From Curiosity to Creation

App development is the process of creating software applications for various devices and platforms. This encompasses a wide range of activities, from ideation and design to coding, testing, and deployment. It can be categorized into mobile app development, web app development, and desktop app development, among others. Learning app development can be an extremely profitable way to make some money if you know what you're doing.

Let's say you have a great idea for a mobile application (let's suppose it is the next big thing, like Instagram or YouTube, but even better). But you don't know app development. So, now you've got two choices :

- Learn app development, build small projects along the way, and finally build the project you've dreamed of.
- Hire an app developer on freelancing websites like Fiverr (or, if you are really rich, maybe even approach an app development company).

Let's say for a second that you consider the second option cause you feel that building an application is just too hard for you. But when you reach the part where they tell you the cost of their work and service, you would be surprised to hear how costly it is to outsource development. Most people who don't have a steady source of income would normally think, "Damn, why don't I just learn to do this myself and save that money?" and immediately switch to the first option. Well, congratulations, you've just taken your first leap into learning app development.

So, without further ado, here's how I began my app development journey.

The Spark: How It All Began

From a to-do app to a modern Coffee app and a minimalistic Healthcare app, my app development journey began in my first year at college. It all started when I saw the Incridea app, developed by the Finite Loop Club. I was fascinated by what they had created and decided from then on that I wanted to be part of the development team. I spent my vacation learning everything I had to, starting from the basics and to the advanced stuff, by building tons of projects. And now here I am, sharing my knowledge with you.

Two Main Paths: Android and iOS

In the world of mobile app development, there are two main paths: Android app development and iOS app development. But before we dive into them, let's talk about the two approaches you can take: native and cross-platform development.

- Native App Development: This means building apps specifically for one platform. For Android, you use Java or Kotlin. For iOS, you use Swift. These apps are optimized for their respective platforms and can use all the native features.
- Cross-Platform App Development: This means building apps that work on both Android and iOS using a single codebase. Popular frameworks for this are Flutter and React Native. They allow you to write your app once and run it on multiple platforms.

My Path: Flutter

Of course, I didn't want to limit myself to just building applications for one platform. Therefore, the path I chose was cross-platform app development and for that, I used Flutter. Now, what exactly is Flutter? Flutter is a UI toolkit from Google that lets you create beautiful, natively compiled applications for mobile, web, and desktop from a single codebase. Some cool things about Flutter are:

- It uses the Dart programming language, which is easy to learn.
- Again, it is a cross-platform framework i.e. you just have to build it once and it can be used everywhere.
- It has a rich set of pre-designed widgets, making it easy to create beautiful UI.

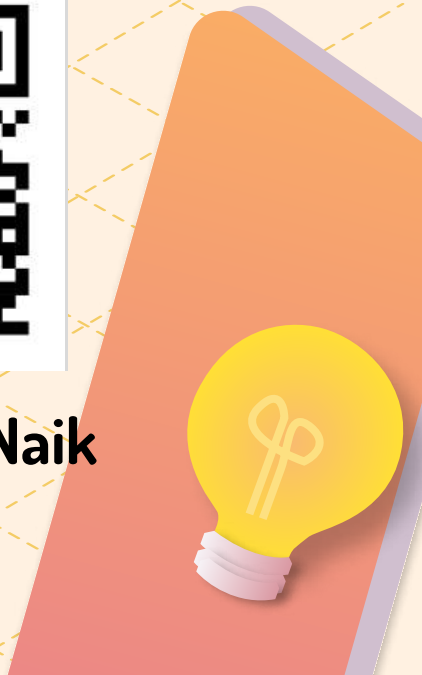
Getting started with app development

Getting started with app development might seem daunting, but it's simpler than you think. All you gotta do is start learning right now. Here's how you can get started:

1. Learn the Basics: The core subjects in our curriculum, like the basics of programming, OOP (Object-Oriented Programming), and data structures, are very important. Start learning these subjects now, and you'll find them much easier when they come up in your semesters.
2. Choose your Path: Decide whether you want to start with native or cross-platform development. If you choose Android, start with Java or Kotlin. If you choose iOS, start with Swift. If you want to go cross-platform, I highly recommend Flutter.
3. Set Up Your Environment: Download and set up the necessary tools. For Android, you'll need Android Studio. For iOS, you'll need Xcode. For Flutter, you'll need to install the Flutter SDK and a code editor like Visual Studio Code.
4. Follow Tutorials: There are tons of free tutorials online. Websites like Udemy, Coursera, and YouTube are great places to start.
5. Build Projects: Start with simple projects like a to-do list app or a weather app. Building projects is the best way to learn and apply new skills. Plus, they make great additions to your portfolio.

In conclusion, app development is a fun and rewarding journey. It's a mix of creativity and technical skills. Remember, the core subjects we study are the foundation. While the development process for building mobile and web apps may sound intimidating, it's just like anything else. If you practice and put the time in, it will get much easier. If you have always wanted to build an application, well then, waste no more time and get started with app development now, and you'll find yourself shining in those subjects later on and building some great applications soon enough. Make projects, build a great portfolio, and enjoy the process. Happy coding!

By Amrith R Naik



Ooooo GoLang!

Think of GoLang as that one friend who is straightforward, dependable, and always listens to you cry about how you want to do something but are not able to do it. Let's imagine for a second that coding languages are like social media apps. You've got Javascript, Python, C, and so on. These days, everyone knows how to use these languages, much like how everyone uses Instagram. (Seriously, my 8th-grade cousin is learning Python in school, and they even claim to teach him AI concepts. Poor kid! 😢). And then there's Java, C#, compare them to an app like Facebook, it's just for boring old people.

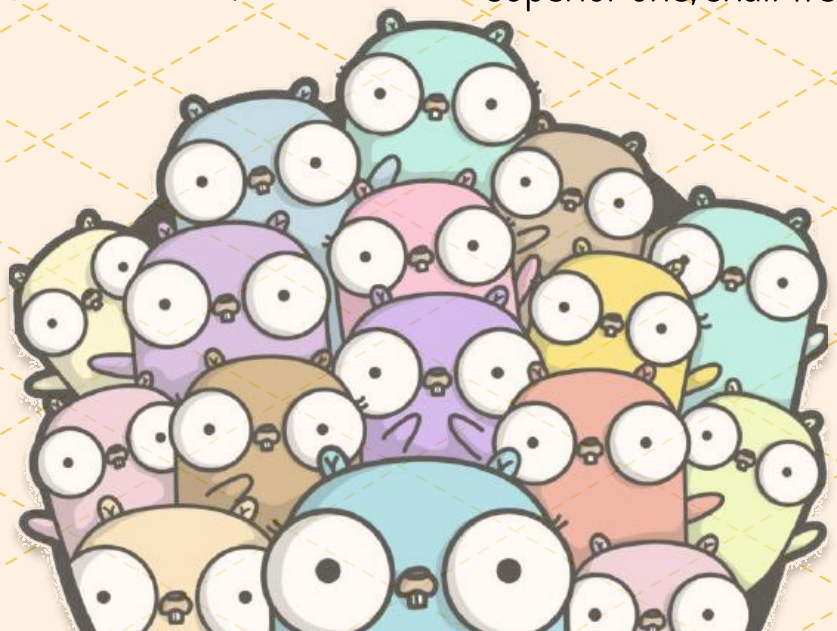
And then there's GoLang, an underrated language that is highly efficient and gets the job done (Go developers don't get along well with Rust developers 😼).
Now, let's get to the main question.

What can you build with GoLang

Can you build anything with GoLang? Of course, you can (which is exactly why I am talking about it 🙄)! Probably not mobile apps, but if you are crazy and adventurous like me, you would write the application in Go and then use a library to compile it into Kotlin. Technically speaking, anything can be built with go. However, GoLang is not preferred for fields like app development or heavily graphics-based games.

Web Development

Nowadays, most new web apps are built using technologies like ReactJS (of course, you still need HTML and CSS; for more details, check out "Webdev: A Newbie's Beginner Kit" by Omkar). Now, let's briefly compare React and GoLang and see who's the superior one, shall we👑?



GoLang

GoLang is statically typed (similar to C, where you define the type of each variable). All of the code is compiled into a single executable binary. Since the HTML is generated on the server and sent to the client, pages load very quickly as the browser doesn't have to do much work. Everything is fully rendered and sent to the client side. In terms of performance, think of it as a sports car on Autobahn - just pure speed 🏎. I have noticed a significant performance difference between GoLang and React, with GoLang delivering a page in just 10ms, while React took over 350ms (Now that's a huge difference, isn't it? 😎).

ReactJS

JavaScript is dynamically typed :((similar to Python). The code is usually bundled using Webpack and then transpiled (compiled into another language) using Babel. With React, most of the rendering occurs on the client side. When a user visits a page, the browser downloads a minimal HTML file and then runs JavaScript to dynamically generate the remaining content. This approach is generally not as fast as precompiled code.

Cons of using GoLang over React

- Templates: You'll have to use templates. Can be painful at times when compared to JSX in React.
- Lack of Libraries: You won't find any UI or utility libraries. Therefore, you'll have to build everything from scratch.
- Steeper Learning Curve: If you try switching from React to Go, you might struggle for a couple of days and that will slow down the development process.

Can you do ML with GoLang

Alright, let's get straight to the point. Can you do machine learning with GoLang? The short answer is YES, you can 😎. Let me tell you where and what exactly GoLang can be used for.

PROS

GoLang offers built-in support for concurrency in the form of Go-routines. What is concurrency, you ask? Imagine you are driving on a highway instead of a single-lane road. On a single-lane road, cars (tasks) have to wait for each other, leading to traffic jams. However, on a highway, multiple lanes allow cars to travel simultaneously without having to wait.

Go-routines are exactly like highway lanes, enabling you to run tasks concurrently and efficiently. That's what makes it effective for large-scale data processing tasks.

CONS

Again, the lack of libraries in GoLang could be a hurdle in building your machine-learning projects. You'll need to do most of the things on your own, which could also be a plus point for gaining a deep understanding of the fundamentals. Compared to the Python ML community, the GoLang ML community is much smaller. So, if you run into errors, you might not find many Stack Overflow answers or blog posts to help you out. But being the lone warrior can be fun sometimes, right?⚔️

Final Thoughts

GoLang is like that reliable friend who always shows up on time and never lets you down. It's straightforward, fast, powerful, and can also be added as a cool factor to your portfolio. Whether you're building web apps, APIs, microservices, or even games, GoLang has got you covered. So why not give it a try? Dive in, start coding, and see where GoLang takes you. Who knows, you might just end up finding your new favorite programming language.

P.S. – The GoLang Gopher is cute 🥰

By Nandan R Pai

PROJECTS

The club is all about diving into real-time projects that give our budding developers hands-on experience. We're excited about the diverse range of projects we've tackled across various domains, and we can't wait to showcase a few of the highlights.

INCRIDEA WEBSITE

The Finite Loop Club has always had the privilege of developing one-of-a-kind websites for Incridea, a colossal national-level techno-cultural fest of NMAMIT. Following this year's theme, 'Dice of Destiny', the club developed a website featuring crisp animations and an impressive user experience. From registration and participation to judgment and accommodation, the site served as the central hub for all fest activities. This comprehensive integration made it easier for attendees to engage with the fest from start to finish. The website became the talk of the fest, with users eagerly hunting for hidden easter eggs and competing to top the leaderboard.

Incridea : https://incridea.in

YAKSHAGAVISHTI

With yet another website, 'Yakshagavishti', a fusion of tradition and innovation with the unique Yakshagana competition, Finite Loop Club showcased its versatility in web development. This platform integrated tradition and modernity, thus proving the club's commitment to deliver exceptional digital experiences, across varied domains.

Yakshagavishti Website : https://www.yakshagavishti.in

HACKFEST '24

Standards were set high, as FLC developed an exceptional website for Hackfest '24, a 3-day national-level hackathon at NMAMIT. Using cutting-edge technology, the website supported seamless registration, real-time updates, and efficient judgment processes throughout the journey of HackFest. The website thus marks the legendary beginning of Hackathon and development culture , promising a bright future of innovation and creativity.

Hackfest Website : https://www.hackfest.dev

DIGITAL HUNT

Digital hunt is about searching for clues and decoding the secrets by the techniques of cryptography, stenography, etc. Google is the best tool but using it effectively is the key to solving any problem. On this note, the club organized Digital Hunt, drawing in enthusiastic problem-solvers ready to test their skills and creativity in the web platform built by the FLC developers team. Ready to dive into the thrill and challenge of this hunt? Explore the adventure for yourself by visiting the website below.

Digital Hunt : https://www.intsagram.tech

ACHIEVEMENTS

Members are the heartbeat of our club. Without its dedicated developers, FLC would not be what it is today. Their continuous triumphs bring pride to our community.

Hackverse 4.0, a 24-hour National Level hackathon, was hosted at NITK, Surathkal on the 15th and 16th of April, 2023. The team 't3-tribe', comprising Nagaraj Pandith and Swasthik Shetty, emerged as the Track Prize Winner in the AI Track, earning a prize money of 15,000 INR. Additionally, Nidheesha T., Prajwal Suvarna, and Pradeep Rao participated in this prestigious hackathon, showcasing their skills and dedication.

NivHack'23, a 24-hour inter-college hackathon, was organized by Niveus Solutions in Mangalore on the 26th and 27th of August, 2023. The event witnessed a commendable performance by the team 't3-tribe', comprising Nagaraj Pandith, Swasthik Shetty, and Nidheesha T. Their innovative approach earned them the 'Most Innovative Approach' award and a prize of 10,000 INR.

The Smart Nitte Hackathon, a 24-hour inter-college hackathon, was held at NMAMIT on the 25th and 26th of November, 2023. The team 'Black Pearl', consisting of Writvan Ghosh, Abhishek Narayan, and Shivam Kumar, secured second place and won a cash prize of 5,000 INR. Additionally, the team 'Incognito', comprising Aniruddha Upadhya, Satwik Prabhu, and Srivatsa R. Upadhya, participated in the event, showcasing their skills and determination.

Roolathon'23, a 24-hour hackathon, was held at Srinivas Institute of Technology, Mangalore, on 21st December, 2023. The team 'Code Crunch', consisting of Nandan Pai, Amrith R. Naik, Prathwik, and Ayush Chaudhary, secured second place and won a cash prize of 1,500 INR.

THE FINAL BYTE

One final note from our end, for going through the first edition of inFinite Insider

As we draw the final lines of code of this first edition of inFinite Insider, we hope that the articles, updates and stories have provided you with valuable insights and sparked your curiosity. This edition spans a wide range of topics, from technical in-depths and reviews of past events to showcasing innovative projects, all fueled by the boundless enthusiasm and dedication of our club members.

This edition doesn't just mark the release of our first magazine; it symbolizes the start of a new venture for the Finite Loop Club. With every byte of knowledge and every bit of passion, we are setting the stage for the adventures and discoveries that lie ahead.

We thank everyone who has contributed to this magazine and all of our club members. Your support and commitment are the real powerhouses on this journey. With this inaugural edition, we are setting the stage for more innovative projects, insightful articles and memorable events. Together, we'll navigate the finite within the infinite possibilities of our future, ensuring that our journey is as meaningful as our destination.

Your passion and participation are the core algorithms that drive our club to success, and together we are programming a bright future. The dedication and creativity of our members have turned ideas into reality, just as code brings applications to life.

Exciting news for our inFinite Insider readers!

To celebrate the launch of our first edition, we're giving away 5 exclusive Finite Loop Club hoodies to lucky winners! 🌟
Want to be one of the lucky ones? Simply scan the QR code for your chance to win a cozy, stylish hoodie and show your FLC spirit! It's quick and easy — don't miss out on this limited time opportunity!