We're WnCC, the Web and Coding Club of IIT Bombay. We code and help people code.
Being the chief coding organization of one of the most sought after technical institutions in the country, we have some of the very best programmers working with us. We're wncc-iitb on most services.

Managers:

Abeen Bhattacharya & E. Aakash

Conveners & Volunteers:

Akshit Srivastava, Alisha Parveen, Anuj Agarwal, Atharv Toraskar, Lalit Saini, Latika Patel, Mridul Agarwal, Pratyush Agarwal, Rateesh Sabde, Rishabh Arya, Rohit Rushil, Rwitaban Goswami, Sanjev Vishnu, Shruti Satish, Siddharth Singh, Srijan Karn, Vedant Bang & Yashika Gupta

The Managers, Conveners & Volunteers, collectively constitute the team of the Web and Coding Club, affectionately & alternatively known as **tty12**

EVENTS & COMPETITIONS

E Arts Competition:

WnCC conducted an **E-Arts Competition** in which students submitted computer-based artistic animations or drawings. Some details are:

1. Submissions were based only use simplecpp (taught in CS 101)
2. The judging was based on artistic appeal, how elegant or pretty the animation or drawing looks. Some credit was given for the simplicity of the program.

To help students get started with animations using simplecpp, Prof. Abhiram Ranade of the Computer Science Department conducted a workshop on the 1st of April. He covered the basics of animations and demonstrated how simple animations can be written in a few lines of code.

The prizes were given based on:

1. Most efficient code
2. Most artistic creation
3. Best scientific creation - depicting a science phenomenon like gravitation
4. Best interactive creation

SimpleCPP workshop by Prof. Abhiram Ranade

One of the winning entries, elegant 250 lines code

Seasons of Code (SoC): 2019 Edition

We witnessed overwhelming participation in this year's SoC, with 16 projects and 21 mentors. We received 192 applications, out of which 63 students were selected by the mentors for working on the projects. We intend to continue this with more rigor & targeted and funded projects next year.

The projects spanned multiple domains including website & application development, Machine Learning, Augmented Reality and Network security. A total of 26 students have passed the evaluation.

Scratch Weekend:

The introductory in-semester event targeted for freshmen that consisted of hands-on sessions on MIT Scratch, followed by a 24-hour hackathon on the same platform.

This event witnessed a turnout of about 350 people where we introduced our club: activities & motto amongst other things, talked about coding and introduced our plans for this semester. This was the first programming experience for most of them.

Forty-Five [45] teams submitted their games, out of which three [3] best entries were declared winners, along with three [3] special mentions for creativity, code structure, and innovation. The winners were given prizes worth 3k for each team.

Blockchain@IITB:

Introduction to Blockchain:
Blockchain@IITB (the Blockchain Circle of WnCC) conducted its 1st session on Blockchains, the technology that is nascent, yet powerful enough to transform the way the world would work in the future.

This session on Introduction to Blockchain introduced the fascinating world of decentralization and crypto-economics that serve as the backbone for blockchains: the technology underlying Bitcoin, Ethereum and much more.

The topics that were covered were: Bitcoins, importance and types of decentralization, blockchain representation, hashing, consensus protocols, smart contracts, and applications.

The content for the same can be found here:
https://wncc-iitb.org/wiki/index.php/Introduction_to_Blockchain

Block Venture Hackathon:

The second and one of the biggest sessions on Blockchains ever in the Institute. This workshop on development using Blockchain introduced people to Etherium and Smart Contracts, deploying and interacting with those contracts and integrating them with a frontend. This was followed by a hackathon where students built their own Decentralised Application.
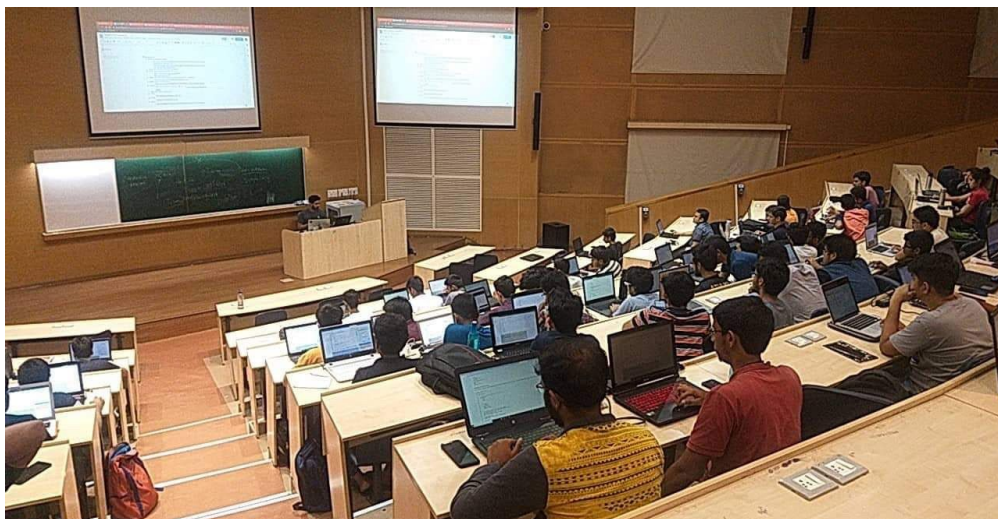
The 24-hour hackathon resulted in many entries, out of which we selected three [3] winners for the same and a special mention. The three winners were given prizes of worth 5K for each team. This was the first hackathon we conducted solely based on Blockchains.

GSoC Incubation Cell:

We will conduct events and make past GSoCers more approachable than ever. Encourage more and more freshmen and sophomore aspirants to send GSoC proposals.

Git & GitHub Weekend:

A session on git, a version control system used by many open-source companies and GitHub, a great platform to work on code as a team. Learning the basic commands and UI of GitHub are an absolute necessity for getting started with Google Summer of Code (GSoC) or any open source project in general.

Reflections

An informal series of events conducted in Hostel Lounges, where speakers discuss their CS research projects conducted as RnD projects or internships. Generally, these sessions are more intimate and the speaker easily connects with the small group of people with similar research interests.

4.1 Generative Adversarial Networks
The first reflections session of this semester was conducted on 20th August by Ruchika Chavhan on GANs - her research topic. The audience consisted of second and third-year students, who are working on or want to work on similar machine learning techniques.

4.2 Docker
The second reflection session of the semester was conducted by Varun Patil from scratch with what a container is and why we need it, going up to Kubernetes, and how it can help build seamlessly scalable systems.

Containerization, Docker and Kubernetes, which are currently the hottest topics in the software deployment industry, with companies transitioning to related technologies continuously from traditional setups.

4.3 Object Detection

Machine learning, especially Neural Networks, are used for such tasks are becoming increasingly common. **Maitrey Gramopadhye**, a senior member of Mars Rover Team and a research intern at Samsung Bangalore, who is working on Obstacle Detection from a video feed using ML, fabe a brief introduction to some of the techniques used for object detection.

Multiple algorithms of object detection from video feed were discussed, including R-CNN, Fast R-CNN and YOLO. Apart from the algorithms, the performance metrics for object detection was discussed.

Competitive Coding Workshop

WnCC conducted a kickstart workshop for competitive programming. Anyone who wanted to explore this competitive coding was welcome.

Session 1: This workshop introduced the basics of CP, including but not limited to arrays, vectors, time complexity, sorting, searching, recursion and general logical tricks.
Problems related to vectors and time complexity were discussed at the end of the session.

Session 2: The second session of the workshop delved into some of the basic data structures which are very useful in competitive coding, like stack, queues, lists and trees. Algorithms like BFS and DFS, which related to these data structures were also discussed.

Flask Workshop

This session was an introduction to how one can accept data from forms and how to create dynamic web pages using python. While doing this, students made a login system using Flask.

This session was followed by a Hackathon based on Flask. The students who excelled in this hackathon were shortlisted for an interview for DevCom.

Seasons of Code (SoC): 2020 Edition

We witnessed overwhelming participation in this fifth edition of SoC, with 30 projects. We received a staggering 1000+ applications from 350+ students, out of which 260 students were selected by the mentors for working on the projects.
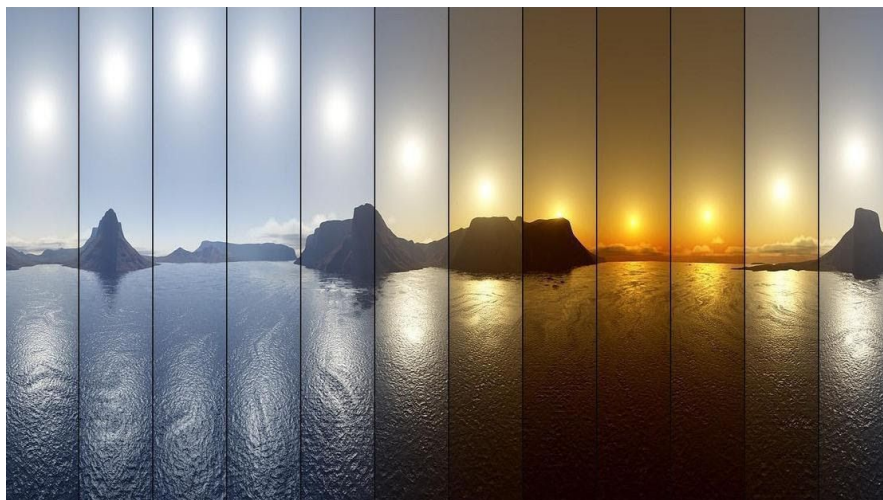
The projects spanned multiple domains including website & application development, Machine Learning, Augmented Reality and Network security. Mid project evaluation is underway for all the projects.

Code In Quarantine

Since we received such an overwhelming response for the ongoing Seasons of Code and could only select a few of the students as mentees, we conducted an open-for-all event so that all of the students can utilize this quarantine as much as possible.

Code in Quarantine serves as a first step towards getting started with programming. Starting April 6, over a span of 8 weeks, we provided tutorials for students to get started with 8 diverse topics.

Here's the list of topics that are being covered:

Week 1 - Python

Week 2 - Competitive Programming

Week 3 - Machine Learning

Week 4 - Git/GitHub

Week 5 - FrontEnd Dev

Week 6 - BackEnd Dev

Week 7 - Advanced FrontEnd Dev

Week 8 - Blockchain

Every Monday, a tutorial containing links to some beginner-friendly resources was shared, along with a task to assess your learning. Doubts and discussion on these topics were discussed in the telegram group. All the material can be found in our github repository: https://github.com/wncc/CodeInQuarantine

Miscellaneous

WnCC Newsletter

WnCC Newsletter is sent every week to all the participants of the Web and Coding Club Google Group on Sundays. The Newsletter consists of news related to coding, programming & computers all over the world. The Newsletter also consists of a 'In Other News' Section, and a 'Memes For The Week' Section to uplift your mood, and make your Sunday great.

Weekly Problems | Competitive Coding

We prepare a weekly problem related to competitive coding and share it to freshmen. This is to help them learn Algorithms & Data Structures, and in turn gain interest in Competitive Coding. The difficulty level of the problems is such that the freshmen can solve them.

Web Infrastructure

We transferred all websites including wncc-iitb.org, tech-iitb.org and tinkerers-lab.org to an internal gymkhana server, thereby reducing the server expenses to zero and providing a smooth and seamless experience to everyone.

Grundy - Our Wiki

Maintained and added many articles in the wiki. Heavily publicized the wiki throughout the year in all events. Wiki was used for 8 week long Code In Quarantine event, with basic articles on relevant topics which links to advanced topics, practice problems and tutorials. You will find the wiki [here.](#)

DevCom & Projects

Cerium

Cerium is a google forms clone, which uses [Gymkhana SSO](#) for authentication and user information. This application is developed in Angular for frontend and Go + Mongo for backend. The application is currently open-beta, deployed [here](#) and can be used by students of the institute.

The application is open source, and the source code can be found at [Cerium repository](#) and [Go-Cerium repository](#)

InstiApp in iOS

The iOS application for InstiApp has reached close to deployment. The iOS client has been developed in Flutter, a cross platform language for application development. The application is currently under review on the AppStore.

Digital Notice Boards

Digital Notice Boards have been installed in Hostel 3, 4, 5 and 9. We are facing technical issues in connecting to IITBWireless for fetching event posters. We are working towards resolving the issue and expanding the noticeboards to all hostels

InstiApp CallStack

DevCom conducted an event called the 'InstiApp CallStack' wherein the lead developers of InstiApp dived into the technical details behind this app and answer questions like how they manage to store and retrieve all the data in a matter of milliseconds or how they try to maintain best coding practices across our applications? After this, they talked about the different projects that we are planning to undertake in near future and how anyone can contribute to them.