Google Developer Student Clubs
Symbiosis Institute of Technology

GDSC REPORT
2023-2024

Index:

1. Flutter Workshop
2. Intro to Game Dev
3. Intro to Game Dev (Cont.)
4. Intro to Open Source
5. AI in Healthcare

Flutter Workshop

Date: 11th August, 2023

Location: Lab 04 and 05, SIT Pune

Conducted by: Sumedh Dhongre and Dev Bhanushali

Introduction:

The Flutter Workshop event proved to be a resounding success, offering participants an enriching experience delving into the realm of Flutter – a widely-used open-source UI software development toolkit developed by Google. The workshop covered a spectrum of Flutter-related topics, spanning fundamental concepts to hands-on practice in altering a sample Flutter app.

Agenda:

Introduction to Flutter:

- Concise overview of Flutter's features and advantages.
- Explanation of how Flutter facilitates the creation of natively compiled applications for mobile, web, and desktop through a unified codebase.

Flutter Architecture:

- Thorough exploration of Flutter's architecture, including its layered structure and the pivotal role of widgets in constructing UI elements.
- Explanation of the reactive programming model and its role in crafting dynamic and responsive user interfaces.

Dart Programming:

- Introduction to Dart, the programming language at the core of Flutter development.

- Coverage of Dart's basic syntax and concepts, encompassing variables, functions, classes, and data types.

Hands-on Workshop:

- Guided setup of a new Flutter project, with a breakdown of its directory structure.
- Step-by-step guidance on modifying the default "Counter" app generated with a new Flutter project.
- Practical exercises aimed at enhancing the counter app's functionality, including UI customization, feature additions, and experimentation with various widgets.

Event Highlights:

- Active participant engagement and enthusiasm throughout the workshop.
- Proactive addressing of questions and concerns, fostering an interactive learning environment.
- Hands-on session enabling participants to apply acquired knowledge in real-time, solidifying their understanding of Flutter concepts.

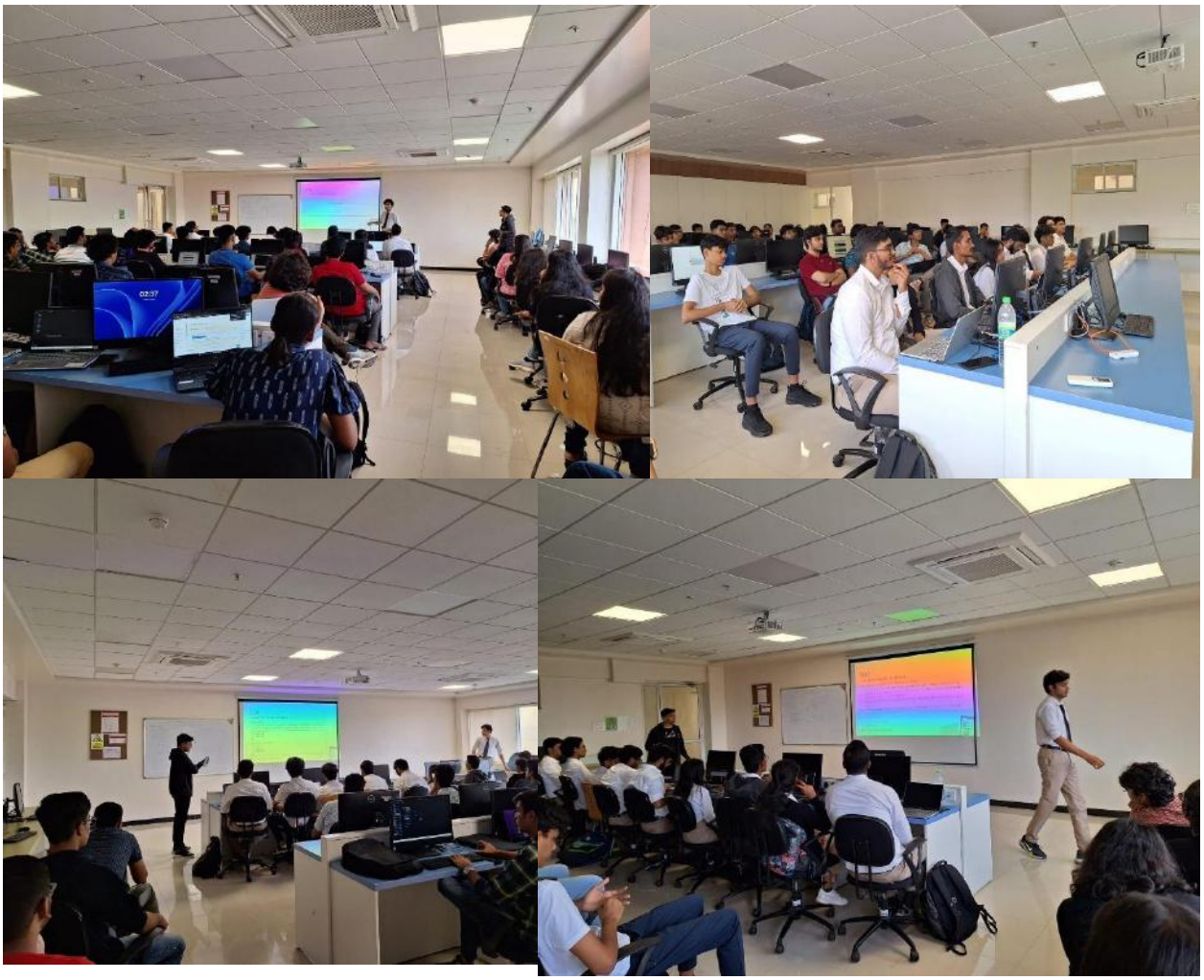
Feedback and Outcome:

- Overwhelmingly positive feedback from participants, expressing appreciation for the comprehensive coverage of Flutter's core concepts.
- Particular enjoyment expressed for the hands-on segment, where participants could experiment with modifying the sample counter app.
- Successful achievement of the workshop's goal in introducing participants to Flutter, Dart programming, and practical UI development.

Conclusion:

The Flutter Workshop event delivered a comprehensive introduction to Flutter, its architecture, Dart programming, and hands-on app modification. Beyond expanding participants' knowledge, the event inspired them to further explore the realm of cross-platform application development.

GLIMPSES:



Intro to Game Dev

Date: 19th August, 2023

Location: Lab 04 and 05, SIT Pune

Conducted by: Yash Parkhi

Introduction:

The dynamic workshop, was unfolded with the goal of immersing participants in the exhilarating realm of game creation. This session aimed to equip attendees with hands-on experience using prominent game development tools like Pygame, Piskell, and SFXR. Despite a brief initial setback, the workshop encapsulated a journey into the fundamentals of game development, fostering creativity in sprite design and 8-bit audio generation.

Agenda:

Welcome and Setup:

- Greet participants and introduction to the workshop.
- Initial setup with Pygame, Piskell, and SFXR tools.
- Addressing installation challenges faced by some participants.

Pygame Basics:

- Foundational concepts of Pygame.
- Creating basic game elements.
- User input for controlling shapes' movement.

Piskell Sprite Design:

- Introduction to Piskell for sprite creation.
- Participants unleash creativity in designing sprite characters.
- Collection of designs for potential inclusion in the Game Development team.

SFXR 8-Bit Audio:

- Insight into creating nostalgic audio effects with SFXR.
- Challenges posed by audio cacophony in the workshop.

Event Highlights:

- Interactive Pygame session enabling practical engagement.
- Limited yet productive time with Piskell for sprite character design.
- Introduction to SFXR for 8-bit audio, despite workshop noise challenges.

Future Prospects:

Enhanced Install Instructions:

- Develop specific installation instruction videos.
- Conduct pre-workshop meetings to troubleshoot installation problems, especially for Mac OS users.

Improved Schedule Management:

- Schedule future workshops after regular classes or on Saturdays to prevent time conflicts.
- Ensure a well-structured timetable, with allowances for unforeseen issues.

Continued Engagement and Workshops:

- Responding to overwhelmingly positive feedback, plan and conduct future workshops.
- Explore advanced game development concepts and tools based on participants' interests.

Conclusion:

The workshop not only delved into the foundations of game development but also provided a platform for creative expression and skill development. The positive feedback and interest expressed by participants emphasize the workshop's success. As the Game Development branch of GDSC moves forward, we commit to addressing identified areas for improvement and fostering a community passionate about the exciting world of game development. The journey has just begun, and we eagerly anticipate the growth and achievements of our participants and the continued success of our workshops.

GLIMPSES:

Intro to Game Dev

Date: 9th September, 2023

Location: Lab 04 and 05, SIT Pune

Conducted by: Yash Parkhi

Introduction:

GDSC Game Dev orchestrated an impactful workshop titled "Customizing the Dino Game with Pygame, Sfxr, and Piskel." This event aimed to immerse participants in the world of game development using Python, exploring the intricacies of Pygame, Sfxr for sound effects, and Piskel for asset customization. The dynamic session brought together over 25 eager participants, creating a vibrant and collaborative learning environment.

Agenda:

Introduction to Game Development with Pygame:

- Overview of Pygame fundamentals.
- Setting up the development environment.

Sound Effects Creation with Sfxr:

- Understanding the basics of Sfxr.
- Incorporating custom sound effects into games.

Asset Customization with Piskel:

- Exploring Piskel for sprite and asset design.
- Hands-on customization of Dino game assets.

Mini Game Development Challenge:

- Applying learned concepts to create a mini version of the Dino game.

Event Highlights:

Engaging Workshop Content:

- Focused exploration of Pygame, Sfxr, and Piskel.
- An interactive approach to learning, keeping participants engaged.

Pre-Workshop Support:

- Organized installation videos and setup meet-ups for seamless participant readiness.
- Active Participant Involvement:
- Over 25 participants actively engaged, bringing diverse backgrounds and skill levels.

Mini Game Development Success:

- Participants successfully completed a mini Dino game, applying acquired skills in real-time.
- Project Team Selection Announcement:
- Exciting announcement of the selection of project team members for an upcoming project.

Future Prospects:

Follow-Up Session:

- Conduct a follow-up session to ensure successful project completion and offer additional guidance.

Ongoing Enriching Events:

- Organize future workshops and events to cater to the evolving interests and skills of participants.

Extended Learning Opportunities:

- Explore opportunities for extended learning, potentially diving into more advanced game development concepts.

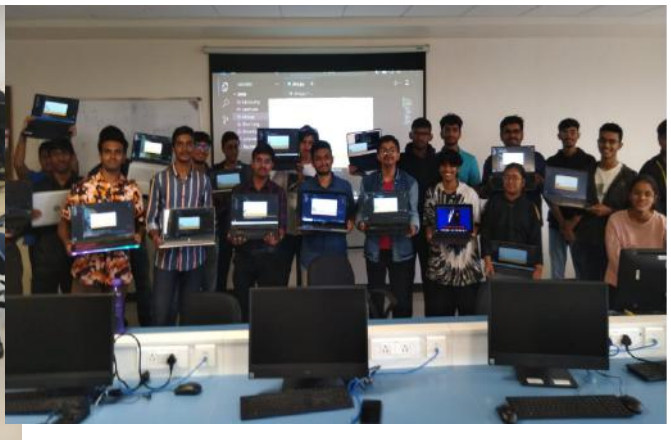
Community Building:

- Foster a collaborative community through regular meet-ups, discussions, and collaborative projects.

Conclusion:

The GDSC workshop on "Customizing the Dino Game with Pygame, Sfxr, and Piskel" stands as a resounding success. The well-structured content, thoughtful pre-event preparations, and active participation of attendees contributed to the workshop's triumph. The positive feedback received underscores the impact of the event on the participants' game development journey. GDSC Game Dev looks forward to continuing such enriching events, with the upcoming follow-up session serving as the next step in refining participants' projects.

GLIMPSES:



Intro to Open-Source

Date: 6th October, 2023

Location: Lab 04 and 05, SIT Pune

Conducted by: Yajushreshtha Shukla and Ishaan Siddiqui

Introduction:

The Open-Source Workshop, a collaborative effort by the Symbiosis Open-Source Society and Google Developer Student Clubs (GDSC), aimed to champion open-source software development and equip participants with essential knowledge and skills in this field. The workshop garnered an enthusiastic response from students and technology enthusiasts.

Event Highlights:

Technical Sessions:

- **Introduction to Open Source:**
  Understanding the foundational principles of open-source software.
- **Git and GitHub:**
  Learning the basics of version control and collaborative development using Git and GitHub.
- **Open-Source Contribution:**
  Exploring diverse ways to contribute to open-source projects and understanding the benefits of community involvement.
- **Best Practices in Open Source:**
  Discovering essential tools, techniques, and guidelines for successful open-source development.
- **GSoc Complete Pathway:**
  A brief exploration of the complete pathway for participating in Google Summer of Code (GSoc).
- **Hacktoberfest - How to Participate:**

An overview of participating in Hacktoberfest and making meaningful contributions to open source during the event.

Hands-on Activities:

- **Setting up Git and GitHub:**
  Step-by-step guidance on installing and configuring Git and creating a GitHub account.
- **How to Write a Good Pull Request / Raise Issue:**
  Tips on crafting impactful pull requests and raising meaningful issues in open-source repositories.
- **Proposal Writing:**
  Guidance on effective proposal writing for open-source projects.

Open Discussion and Q&A:

Throughout the workshop, participants actively engaged in open discussions and had the opportunity to pose questions to speakers and panellists. This interactive session facilitated knowledge sharing and addressed queries related to open-source development.

Conclusion:

In summary, the Open-Source Workshop provided a thorough understanding of open-source principles, Git, and diverse contribution methods. Hands-on activities, a guest speaker session, and interactive discussions enriched the learning experience. The workshop's impact is poised to endure as participants venture into continuous learning and active engagement within the open-source community.

GLIMPSES:

AI In HealthCare

Date: 20th -21st October, 2023

Location: CC1 Lab,4th Floor, SIT Pune

Conducted by: Sairam Adithya, Dhvani Parekh, Aarohi Panicker, Aaradhya Badal, Riya Shukla

Introduction:

The Google Developer Student Clubs (GDSC) organized "The AI in Healthcare Workshop: from Python Basics to Neural Networks" with the goal of catering to a diverse audience. The workshop welcomed beginners without prior knowledge of AI/ML or DL, as well as individuals seeking to reinforce their fundamentals and explore the fascinating realm of AI in the healthcare domain. The event garnered an overwhelming response from students and technology enthusiasts.

Event Highlights:

The Event was divided into 4 sessions of 1 and half hour each

Keynote Address:

- The event on Day-1 began with a keynote address by Ms. Aarohi Panicker, currently in her 3rd Year of Computer Science Engineering. She shared how the know-how of basic python libraries like numpy and pandas are important with respect to AI/ML and how their documentation should be used efficiently adding a little experience of her own.
- Day-2 began with a keynote address by Ms. Dhvani Parekh, currently in her 3rd Year of AI/ML Engineering. She emphasized on how classification is necessary for almost every healthcare related task and how Machine Learning Classification models can greatly advance and make the task of healthcare professionals easier, sharing her healthcare project experience and insights along the way.

Technical Sessions: The workshop featured several technical sessions conducted by 2nd-3rd year B.Tech and M.Tech AI/ML students. Topics covered included:

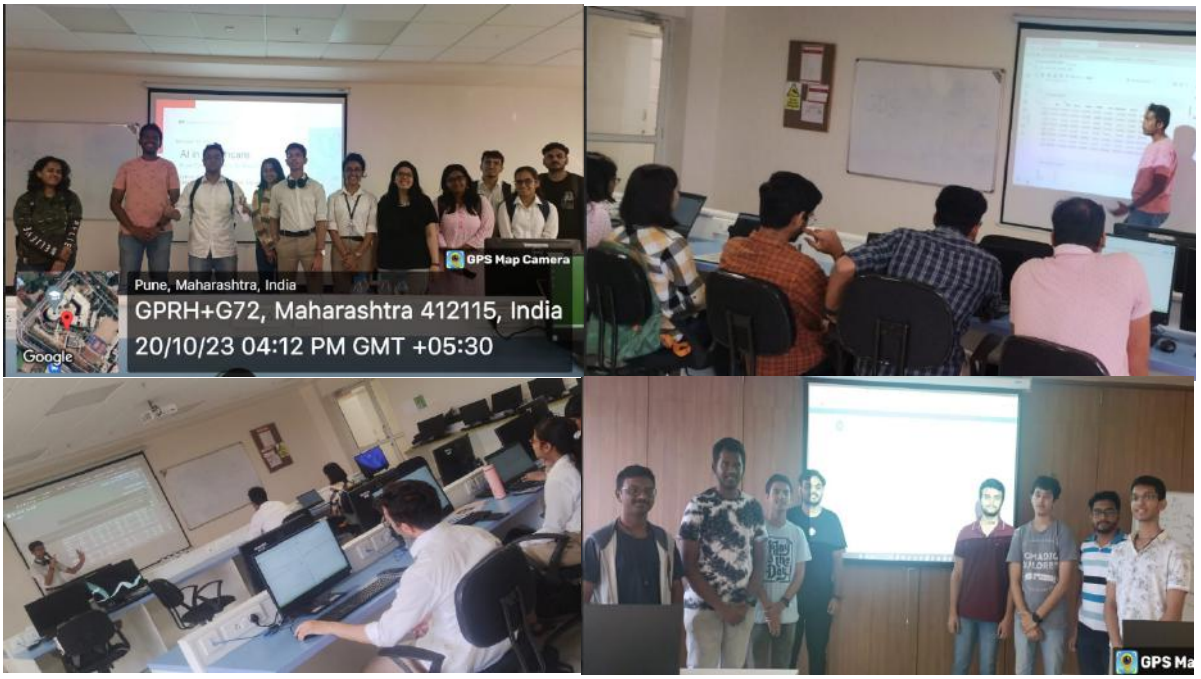
- **Basics of Python:** Where the audience dived into Python fundamentals for machine learning, learning operations in libraries like NumPy, Pandas taken by Riya Shukla and Aaradhya Badal respectively.
- **Data Pre-processing and EDA Insights**: The learners explored handling medical data by extracting crucial insights and visualizing hidden patterns on Coimbra Breast Cancer Dataset available Kaggle. This informative session was taken by Sairam Adithya.
- **Introduction to ML:** Audience got familiar with essential ML terminologies while applying various classification models to Coimbra Breast Cancer data hands-on. This extensive yet fundamental session was taken by Dhvani Parekh.
- **Introduction to DL:** The learners got to know how Artificial Neural Networks and Deep Learning can address healthcare challenges. This enlightening session was taken by Sairam Adithya.
- **Hands-on Activities:** Participants had the opportunity to engage in hands-on activities, including:
- **Setting up Google Colab and loading the dataset:** Step-by-step guidance on initiating and loading data on Google colaboratory and how to work with a saved copy of an existing notebook.
- **End to End Project**: Working together, participants started by playing around with various operations of numpy and pandas, to cleaning, visualizing and applying the ML and DL model concepts learned during the workshop.

Open Discussion and Q&A:

Throughout the workshop, participants actively participated in open discussions and had the opportunity to ask questions to the speakers.

This interactive session facilitated knowledge sharing and addressed queries related to Artificial Intelligence, Machine Learning and Deep Learning in Healthcare domain.

Conclusion:

The AI in Healthcare Workshop: from Python Basics to Neural Networks organized by GDSC, SIT was a resounding success. The event provided participants with a comprehensive understanding of basics of python, handling and visualizing data, and applying ML and DL models on real healthcare dataset. The workshop encouraged interaction, learning, and hands-on experience, empowering participants to strengthen their fundamentals and giving them a new perspective of exploring AI in Healthcare domain.

GLIMPSES: