QUBIT INSTITUTE OF TECHNOLOGY

Promoting Tech & Entrepreneurship

THE CODING

CURRICULUM

SUITABLE FOR GRADE 6+

ABOUT THE CODING PROGRAM

TARGET GROUP

- Schools aiming to educate students in computer programming.

- Students intending to pursue a career in Software Eng., Computer Science, Statistics or other IT related fields.

THE PATHWAY

The curriculum begins with **Scratch Programming** for learners below 6th grade (details available in a separate file). It then progresses to **Front-End Development** for students in grades 6 through 9. Those in grade 10 and above move on to **Back-End** technologies and eventually explore various technologies, culminating in **Full-Stack Software Development**.

WHEN?

The program runs every **school holiday** as well as during **weekends** for available students. We are dedicated to growing with you from beginner to to advanced levels, ensuring a practical, and a progressive learning experience.

REQUIREMENTS

- A working Laptop or Desktop Computer (A Core i5, Min 4GB RAM)
- A Reliable Internet Connection *(For Online learners)*
- Basic Computer Knowledge
- Quiet Room *(For Online learners)*

ABSOLUTE BEGINNER

WEB DEVELOPMENT USING HTML AND CSS

HYPERTEXT MARKUP LANGUAGE (HTML)

HTML is essential for creating web pages and applications. It provides the structure for a website, defining elements like headings, paragraphs, links, and images. For web development learners, mastering HTML is crucial as it forms the backbone of all web content.

INTRODUCTION TO HTML 5

SESSION 1
- Overview of Web Development and Its Importance
- Introduction to HTML
- HTML Document Structure

SESSION 2
- HTML Tags and Elements
- Creating a Simple HTML Document
- Text Formatting in HTML

PROJECT 1
- *Students to create a basic webpage introducing yourself using HTML*

HTML ELEMENTS AND HYPERLINKS

SESSION 3
- Lists in HTML
- Images and Multimedia in HTML

SESSION 4
- Hyperlinks and Anchors
- HTML Forms (Introduction)

PROJECT 2
- *Expand the personal webpage by adding lists, images, and hyperlinks.*

CASCADING STYLE SHEETS (CSS)

CSS is essential for web development as it controls the presentation and layout of web pages. It allows developers to apply styles such as colors, fonts, and spacing, enhancing the visual appeal and user experience of a website. For learners, understanding CSS is vital because it enables the creation of visually attractive and responsive web designs

INTRODUCTION TO CSS

SESSION 5
- Introduction to CSS and Its Role
- CSS Syntax and Selectors

SESSION 6
- Applying CSS to HTML Elements
- Styling Text and Colors with CSS

PROJECT 3
- *Style the previously created webpage using CSS for a better visual appearance.*

BOX MODEL, LAYOUT, AND FLEXBOX

SESSION 7
- Box Model in CSS
- CSS Layouts

SESSION 8
- Introduction to Flexbox for Layout

PROJECT 4
- *Redesign the webpage layout using the Box Model and Flexbox.*

RESPONSIVE WEB DESIGN AND MEDIA QUERIES

SESSION 9
- Understanding Responsive Web Design
- Introduction to Media Queries

SESSION 10
- Creating a Responsive Web Page
- Testing and Debugging for Responsiveness

PROJECT 5
- *Make the webpage responsive by incorporating media queries.*

INTERMEDIATE PROGRAMMER

LEVEL TWO | WEB DEVELOPMENT USING JavaSript

JavaScript is vital for web development, enabling interactive and dynamic content. It allows developers to create animations, form validations, and interactive features, enhancing user engagement. Learning JavaScript is essential for developing responsive and functional websites, making it a fundamental skill for aspiring web developers.

JS

INTRODUCTION AND BASICS JAVASCRIPT

SESSION 11
- Overview of Programming Concepts
- Introduction to JavaScript
- Setting Up Development Environment

PROJECT 6
- *Write a simple JavaScript program to display a greeting message.*

VARIABLES, DATA TYPES, AND OPERATORS

SESSION 12
- Variables and Constants
- Data Types in JavaScript
- Operators and Expressions

PROJECT 7
- *Create a program that performs basic calculations based on user input.*

CONTROL FLOW AND CONDITIONAL STATEMENTS

SESSION 13
- Control Flow in JavaScript
- Conditional Statements (if, else if, else)
- Logical Operators

PROJECT 8
- *Develop a program that determines if a given number is even or odd.*

FUNCTIONS AND INTRODUCTION TO EVENTS

SESSION 14
- Functions in JavaScript
- Parameters and Return Statements
- Introduction to Events and Event Handlers

PROJECT 9
- *Build an interactive webpage that responds to user clicks with JavaScript functions.*

DOCUMENT OBJECT MODEL (DOM) MANIPULATION

SESSION 15
- Understanding the DOM
- Selecting and Manipulating HTML Elements
- Changing Styles and Attributes

PROJECT 10
- *Create a simple to-do list application using DOM manipulation.*

HANDLING USER INPUT AND EVENTS

SESSION 16
- Handling User Input with Forms
- Listening to and Responding to Events
- Event Delegation

PROJECT 11
- *Enhance the to-do list application to add and remove items dynamically.*

INTRODUCTION TO JS FORMS AND FORM VALIDATION

SESSION 17
- Form Validation with JavaScript
- Preventing Default Form Submission

PROJECT 12
- *Develop a registration form with JavaScript-based validation.*

BUILDING AN INTERACTIVE WEB PAGE

SESSION 18
- Review of JavaScript Concepts
- Integration of JavaScript into HTML and CSS
- Q&A and Troubleshooting

PROJECT 13
- *Create a fully interactive web page that combines HTML, CSS, and JavaScript to showcase the skills learned throughout the course.*
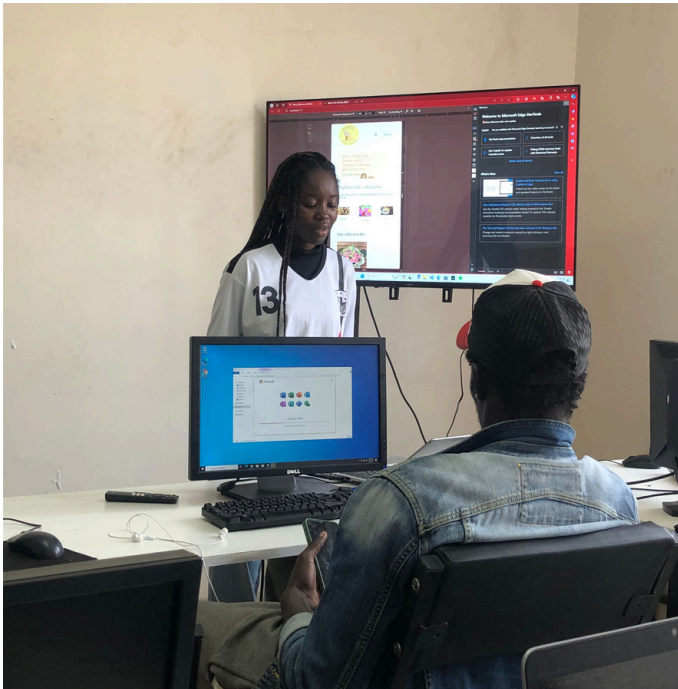
End of Level 2

THE NEXT STEPS

Congratulations on reaching the end of level Two of our coding curriculum! You've mastered the basics of HTML, CSS, and JavaScript. The next steps will focus on backend technologies and frameworks, where you'll dive into more advanced aspects of web development. The next chapter will further enhance your skills and prepare you for creating comprehensive, full-stack applications.
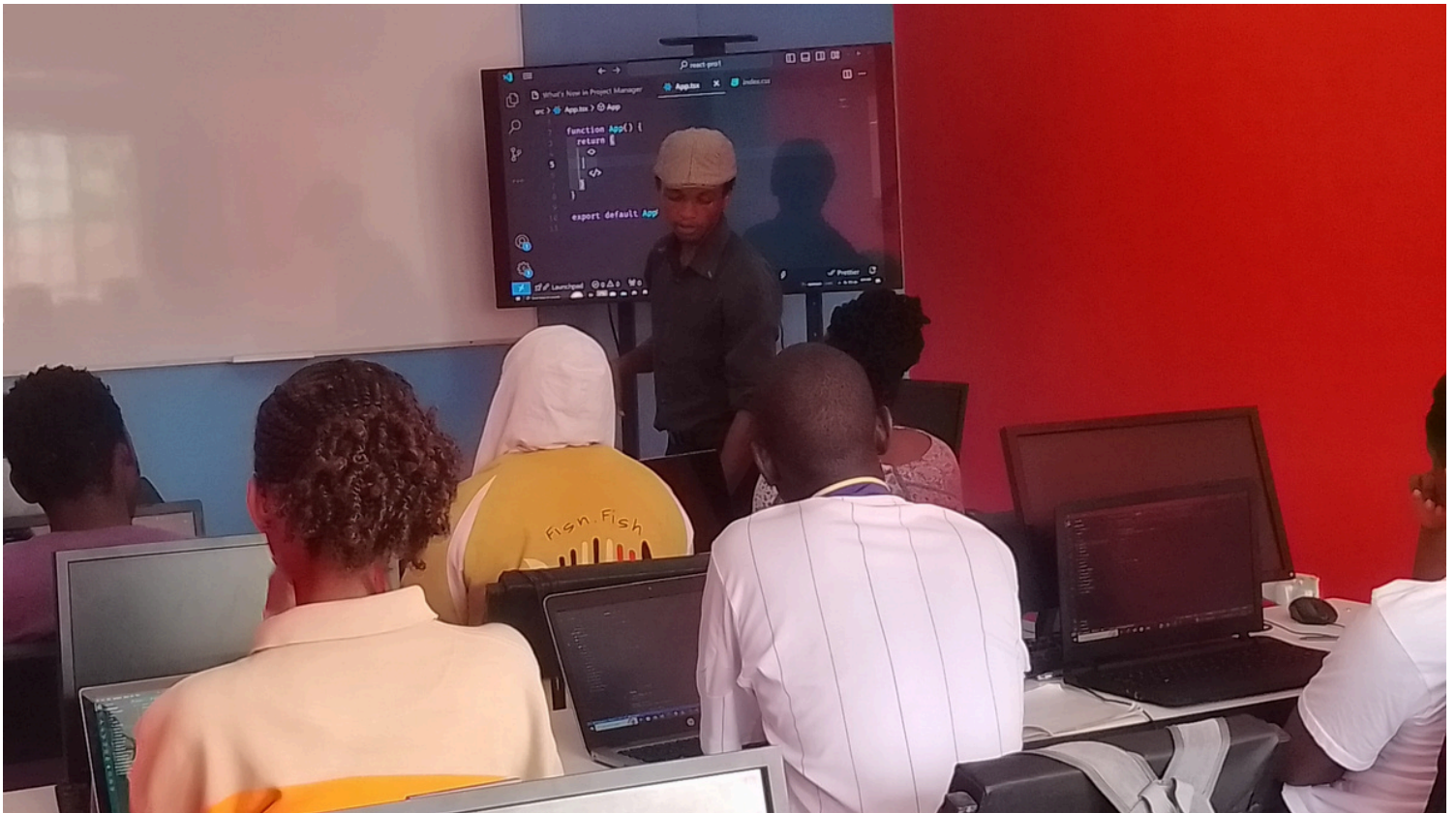
LEVEL THREE	FRONTEND FRAMEWORKS
LEVEL FOUR	THE BACK-END & APPLICATIONS

QUBIT GALLERY

IMG1: Qubit Programming Class Session

IMG2: App Project Presentation

IMG3: App Project Presentation

IMG4: Cybersecurity Class

IMG5: Software Development Class

CONTACT US

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QUBIT SOCIALS

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