



FINAL YEAR PROJECT REPORT

CODE VISUALIZER

**In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)**

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DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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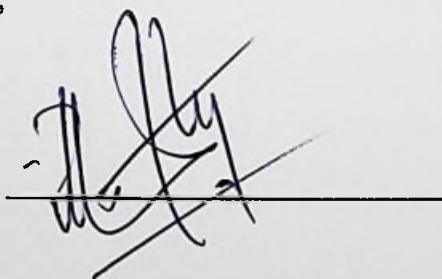
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APPROVAL FOR SUBMISSION

We certify that this project report entitled **“CODE VISUALIZER”** was prepared by **ABDUL REHMAN YAQOOB, ARHAM NAEEM and MUHAMMAD KAMRAN KHAN** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Science in Computer Science at Bahria University, Karachi.

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Specially dedicated to

My beloved grandmother, mother and father

(Abdul Rehman Yaqoob)

My beloved grandmother, mother and father

(Arham Naeem)

My beloved grandmother, mother and father

(Muhammad Kamran Khan)

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CODE VISUALIZER

ABSTRACT

In response to the persistent challenge of grasping programming fundamentals, this project aims to a pioneering approach to programming education, harnessing the power of visualization learning techniques. At the heart of this initiative lies the development of a comprehensive web-based platform designed to offer learners an immersive and intuitive learning experience. Central to this platform is a user-friendly web application interface, meticulously crafted to ensure accessibility and convenience for users of varying proficiency levels. Building upon this interface, the integration of technology enables the creation of immersive interactive simulations, allowing learners to interact with abstract programming concepts in a visually captivating manner. These simulations, complemented by interactive visualizations and scenarios, serve as invaluable tools for breaking down complex programming fundamentals into digestible components. Leveraging the capabilities of artificial intelligence, the platform offers coding assistance, giving learners with suggestions to enhance their learning journey. Through this innovative fusion of technology and teaching, the projected initiative aims to revolutionize programming education, equipping learners with the essential skills and confidence to navigate the complexities of programming with proficiency and skill.

2	LITERATURE REVIEW	3
2.1	The Effective Use of Information Technology and Interactive Activities to Improve Learner Engagement	3
2.2	Programming Learners' Perceptions of Interactive Computer Tutors and Human Teachers	3
2.3	Gamification Applications in E-learning: A Literature Review	3
2.4	The Impact of Gamification on Learning Outcomes of Computer Science Majors	4
2.5	Gamification in Science Education: A Systematic Review of the Literature	4
2.6	The Impact of Gamification on Students' Learning Engagement and Behavior Based on Their Personality Traits	5

TABLE OF CONTENTS

DECLARATION	ii
APPROVAL FOR SUBMISSION	iii
ACKNOWLEDGEMENTS	vi
ABSTRACT	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	xii
LIST OF FIGURES	xiii
LIST OF SYMBOLS / ABBREVIATIONS	xv
LIST OF APPENDICES	xvi

CHAPTER

1	INTRODUCTION	1
1.1	Background	1
1.2	Problem Statement	1
1.3	Aims and Objectives	2
1.4	Scope of Project	2
2	LITERATURE REVIEW	3
2.1	The Effective Use of Information Technology and Interactive Activities to Improve Learner Engagement	3
2.2	Programming Learners' Perceptions of Interactive Computer Tutors and Human Teachers	3
2.3	Gamification Applications in E-learning: A Literature Review	3
2.4	The Impact of Gamification on Learning Outcomes of Computer Science Majors	4
2.5	Gamification in Science Education. A Systematic Review of the Literature	4
2.6	The Impact of Gamification on Students' Learning, Engagement and Behaviour Based on Their Personality Traits	5

2.7	Exploring the Effects of Gamification on Students with Rote Learning Background While Learning Computer Programming	5
2.8	A New and Interactive Teaching Approach with Gamification for Motivating Students in Computer Science Classrooms	6
2.9	Adaptive Gamification In E-Learning Based on Students' Learning Styles	6
2.10	A Gamification Technique for Motivating Students to Learn Code Readability in Software Engineering	7
2.11	Increasing Student Motivation in Computer Programming with Gamification	7
2.12	Adaptive E-Learning Environment Based on Learning Styles and Its Impact on Development Students' Engagement	7
2.13	Improving Students Learning Outcomes in Blended Learning Through the Use of Animated Video	8
2.14	The Effectiveness of Using Blended Learning Models Against Vocational Education Student Learning Motivation	8
2.15	The Potential of Digital Tools to Enhance Mathematics and Science Learning in Secondary Schools: A Context-Specific Meta-Analysis	9
2.16	The Use of Online Coding Platforms as Additional Distance Tools in Programming Education	9
2.17	A Novel Teaching Strategy Through Adaptive Learning Activities for Computer Programming	9
2.18	Mapping the Students' Journey to Develop Student-Centred Tools	10
2.19	Design and Development of Digital Game-Based Learning Software for Incorporation into School Syllabus and Curriculum Transaction	10
2.20	Gamification And E-Learning for Young Learners: A Systematic Literature Review, Bibliometric Analysis, And Future Research Agenda	11
2.21	The Role of an Interactive Visual Learning Tool and Its Personalizability in Online Learning: Flow Experience	11

2.22	The Use of Educational Technology for Interactive Teaching in Lectures	11
2.23	The Use of Educational Technology for Interactive Teaching in Lectures	12
2.24	An Interactive Animation for Learning Sorting Algorithms: How Students Reduced the Number of Comparisons in A Sorting Algorithm by Playing a Didactic Game	12
2.25	Computer Science Illustrated: Engaging Visual Aids for Computer Science Education	13
2.26	A Survey of Machine Learning for Big Code and Naturalness	13
2.27	Intelligent Code Completion with Bayesian Networks	13
2.28	Code Completion with Statistical Language Models	14
2.29	Attention Is All You Need	14
2.30	Exploring Parameter-Efficient Fine-Tuning Techniques for Code Generation with Large Language Models	15
2.31	Intellicode Compose: Code Generation Using Transformer	15
3	REQUIREMENT SPECIFICATIONS	27
3.1	Existing System	27
3.2	Proposed System	28
3.3	Requirements Specification:	29
3.3.1	Functional Requirements:	29
3.3.2	Non-Functional Requirements:	29
3.4	Use Cases	30
4	DESIGN AND METHODOLOGY	34
4.1	Design	34
4.1.1	Understanding User Needs and Learning Styles	35
4.1.2	Educational Framework Integration	35
4.1.3	Technologies Implement	35
4.2	Methodology	35
4.2.1	Modules Discussion	36

5	SYSTEM IMPLEMENTATION	37
5.1	Variable Module	37
5.1.1	Code Structure	37
5.1.2	Key Features	38
5.2	Conditional Statement Module	38
5.2.1	Code Structure	39
5.2.2	Key Features	39
5.3	Array Module	40
5.3.1	Code Structure:	40
5.3.2	Key Features:	40
5.4	Loop Module	42
5.4.1	Code Structure	42
5.4.2	Key features	43
5.5	Framework Module	43
5.5.1	Code Structure	44
5.5.2	Key Features	45
6	SYSTEM TESTING AND EVALUATION	46
6.1	Frontpage Module Evaluation	46
6.2	Variable Module Evaluation	49
6.3	Array Module Evaluation	51
6.4	Loop Module Evaluation	54
6.5	Framework Module Evaluation	56
7	CONCLUSION	57
7.1	Final Words	57
7.2	Limitations	57
7.3	Future Work	58
	REFERENCES	59
	APPENDICES	64