

LIST OF FIGURES

1.1	Conceptual Framework.	3
2.1	Block Structure.	9
2.2	Blockchain Structure.	9
2.3	Hyperledger Fabric Key Components.	12
2.4	Mango Query Strategy.	14
2.5	Composite Key Strategy.	14
3.1	Mango-Composite Architecture.	16
3.2	Supply Chain Topology.	17
3.3	Experimental Benchmarking Architecture	21
4.1	Performance comparison of different query strategies on mem- ory usage for single user — Mango-Composite, Baseline, Man- goUserOnly, and CompositeKeyOnly.	24
4.2	Performance comparison of different query strategies on CPU usage for single user — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	25
4.3	Performance comparison of different query strategies on execu- tion time for single user — Mango-Composite, Baseline, Man- goUserOnly, and CompositeKeyOnly.	26
4.4	Performance comparison of different query strategies on execu- tion time for single user — Mango-Composite, Baseline, Man- goUserOnly, and CompositeKeyOnly.	29
4.5	Performance comparison of different query strategies on execu- tion time for single user — Mango-Composite, Baseline, Man- goUserOnly, and CompositeKeyOnly.	30
4.6	Performance comparison of different query strategies on execu- tion time for single user — Mango-Composite, Baseline, Man- goUserOnly, and CompositeKeyOnly.	31
4.7	Performance comparison of different query strategies on memory usage with 10,000 for 3 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	36

4.8	Performance comparison of different query strategies on memory usage with 10,000 for 5 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	37
4.9	Performance comparison of different query strategies on memory usage with 10,000 for 7 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	37
4.10	Performance comparison of different query strategies on CPU usage with 10,000 for 3 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	38
4.11	Performance comparison of different query strategies on CPU usage with 10,000 for 5 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	39
4.12	Performance comparison of different query strategies on CPU usage with 10,000 for 7 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	39
4.13	Performance comparison of different query strategies on memory usage with 10,000 for 3 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	40
4.14	Performance comparison of different query strategies on memory usage with 10,000 for 5 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	41
4.15	Performance comparison of different query strategies on memory usage with 10,000 for 7 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	41
4.16	Performance comparison of different query strategies on Processing Time with 50,000 for 3 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	47
4.17	Performance comparison of different query strategies on Processing Time with 50,000 for 5 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	47
4.18	Performance comparison of different query strategies on Processing Time with 50,000 for 7 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	47
4.19	Performance comparison of different query strategies on CPU Usage with 50,000 for 3 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	48

4.20	Performance comparison of different query strategies on CPU Usage with 50,000 for 5 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	49
4.21	Performance comparison of different query strategies on CPU Usage with 50,000 for 7 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	49
4.22	Performance comparison of different query strategies on memory usage with 50,000 for 3 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	50
4.23	Performance comparison of different query strategies on memory usage with 50,000 for 5 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	51
4.24	Performance comparison of different query strategies on memory usage with 50,000 for 7 users — Mango-Composite, Baseline, MangoUserOnly, and CompositeKeyOnly.	51