

ISTANBUL SOFTWARE TESTING

TRACK TALK

Quality Engineering: From Tools to Leadership Decision

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Instructor | Bahcesehir University & Marmara University

#ISTC2026

More than a QA talk?

"Yes. Because quality is no longer just testing – it is measurement, data, and AI."

1

Measuring Quality

Code, security, sprint,
infrastructure — one source

2

AI Automation

Cursor, Playwright, MCP
end-to-end QE

3

Dashboard & Gamification

Power BI + DORA metrics
visible quality culture

4

Leadership Decision

Bringing QE to
the strategy table

Let's start with the classic QA question.

01 What is Quality Engineering?

"QA tests. QE designs quality. Governance measures and manages it."

QA (Traditional)

- ✓ Find bugs
- ✓ Enters at test phase
- ✓ Tool focused
- ✓ Reactive approach

QE (Modern)

- ✓ Quality built into the system
- ✓ Active at every stage
- ✓ Strategy focused
- ✓ Proactive approach

QE + Governance

- ✓ Measurement & dashboards
- ✓ Security & code quality
- ✓ Gamification culture
- ✓ AI-driven decisions

Real Life: Our team used to spend 2 weeks finding a bug that SonarQube now catches in 3 minutes — before it even reaches QA.

About Me

Hilal Rakici

Product Quality &
Governance Director

ParamTECH

AI Transformation Leader

10+ Years of QE Experience

2 Universities — Instructor

5 AI Agent Roles

Bahcesehir Univ. & Marmara Univ.

End-to-end quality & governance in fintech

Code quality (SonarQube), Security (Fortify), Sprint & Infrastructure metrics

DORA metrics, Jira & TestRail — automated AI interpretation

Power BI quality dashboards & gamification culture

Cursor, Playwright, MCP and AI agent teams for transformation

5-agent virtual team running full sprints end-to-end every day

What We Will Cover Today

01

What is QE?

A discipline beyond tools

02

API Testing with Cursor + Playwright

What happens when developers own their tests?

03

Virtual AI Agent Team

End-to-end sprint cycle with AI

04

Governance & Measurement

Code, security, sprint, infrastructure metrics

05

Dashboard & Gamification

Power BI, DORA, visible quality culture

06

Leadership Decision + Q&A

Bringing QE to the strategy table

02 API Testing is Now the Developer's Job

Cursor

AI-powered IDE
Test is written as code is written

Playwright

E2E & API test framework
Auto-generated scripts

AI QA Agent

Test review & classification
TestRail reporting

OLD WAY

- X QA team writes API tests separately
- X Testing starts after dev is done
- X Feedback arrives weeks later
- X QA becomes the bottleneck
- X Test maintenance piles up in QA

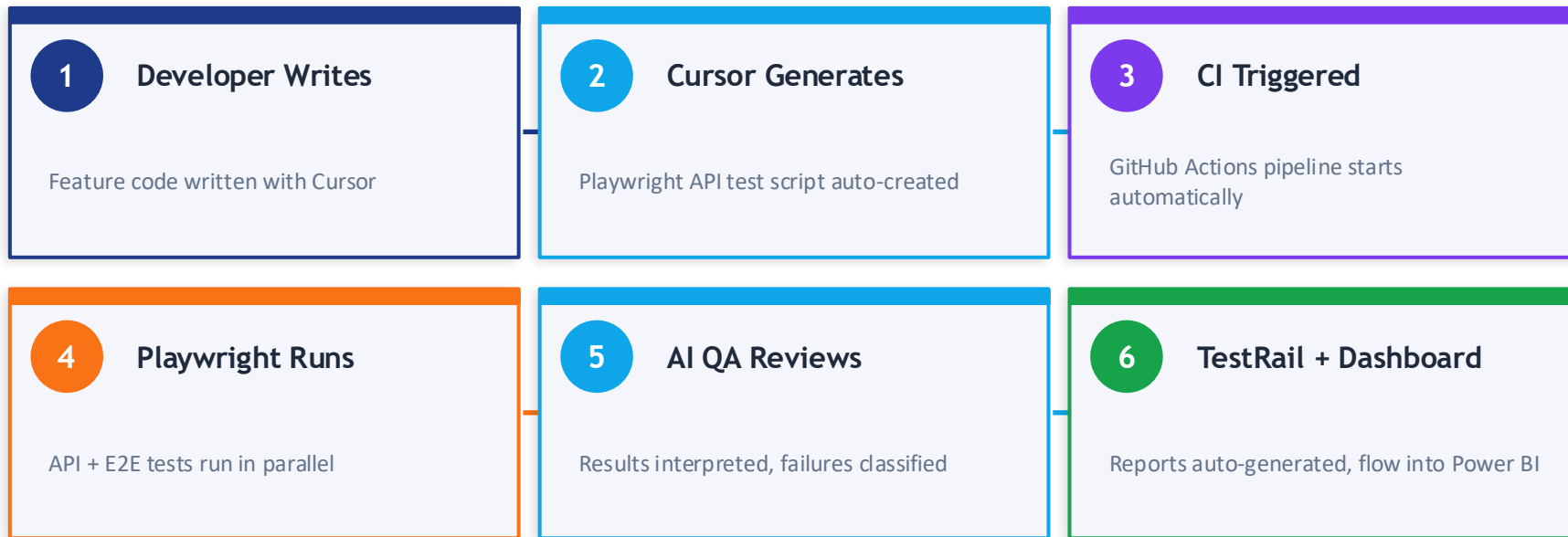
NEW WAY – Cursor + Playwright

- ✓ Developer writes their own tests with Cursor
- ✓ Playwright tests are generated as code is written
- ✓ Instant feedback — before PR is closed
- ✓ QA focuses on strategy and governance
- ✓ AI QA Agent handles review & TestRail reporting

Real Life: A developer on our team wrote 47 API test cases in one afternoon using Cursor — what used to take QA 3 days.

02b Cursor + Playwright: The Working Pipeline

"Developer writes the code, Cursor generates the test, Playwright runs it, CI decides."



MCP Connection: Cursor => GitHub => TestRail => Power BI — all connected, nothing manual

03 Virtual AI Agent Team & Sprint Cycle

"A team I train every day. Never sick. Never complaining."



MCP Connection: Agents talk to Jira, TestRail, GitHub, SonarQube and Power BI in real time

Time spent on a 1-week sprint (8 hours/day x 5 days = 40 hours):



04 Governance: Measuring Quality

"You cannot manage what you cannot see."

Code Quality

- > SonarQube integration
- > Code smell & coverage
- > Technical debt tracking
- > Auto analysis on every PR

Security Quality

- > Fortify SAST scans
- > Vulnerability classification
- > Critical => blocker rule
- > Release gate control

Sprint Quality

- > Jira sprint metrics
- > Defect escape rate
- > Velocity & predictability
- > TestRail test results

Infra & DORA

- > Deployment frequency
- > Lead time for change
- > MTTR & change fail rate
- > Platform health score

Real Life: We caught a critical payment vulnerability via Fortify 2 days before release — it would have blocked 40,000 transactions.

All data collected automatically => interpreted by AI => visualized in Power BI.

05 Power BI Dashboard & Gamification

QUALITY DASHBOARD

87/100

Code Quality Score

2 Critical

Security Findings

74%

Test Coverage

42 pts

Sprint Velocity

DORA: Elite | Deploy/day: 3.2 | MTTR: 45min | CFR: 1.8%

Gamification

Team quality leaderboard — updated weekly

Scoring: bug closure, coverage growth, zero prod defect

Red alert: teams with dropping scores become visible

OKR integration — quality goals tied to company goals

Wins auto-shared on Slack by AI

Real Life: After launching the leaderboard, one team improved their coverage from 38% to 71% in a single sprint — no mandate, just visibility.

06 Quality Engineering as a Leadership Decision

"Is quality a cost – or an investment?"

Common Reality

QA team isolated from business goals

Quality metrics missing from management reports

QE budget is first to be cut

Tester role working in a silo

Target State

QE is part of the product strategy

Quality is visible & manageable via dashboard

Budget defended with ROI calculations

AI + Governance spreads quality culture

Real Life: I presented our quality ROI to the C-suite using only 3 metrics — defect escape rate dropped 80%, release cycle cut in half.

80% Fewer production bugs

Shift-left approach

3x Faster releases

CI/CD + automation

60% Lower defect cost

Early detection

Key Takeaways

QE + Governance + AI = Visible, Measurable, Sustainable Quality

- 1 Shift-left is real — developers write their own tests with Cursor + Playwright
- 2 AI agents are not virtual — they are real teammates saving 36 hours every sprint
- 3 If you cannot see quality — measure it, dashboard it, make it visible
- 4 No transformation without culture — that is exactly what gamification is for

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Questions?

Happy to discuss!

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