SIGIST UK 2024

The Software Testing Tools Chronicles

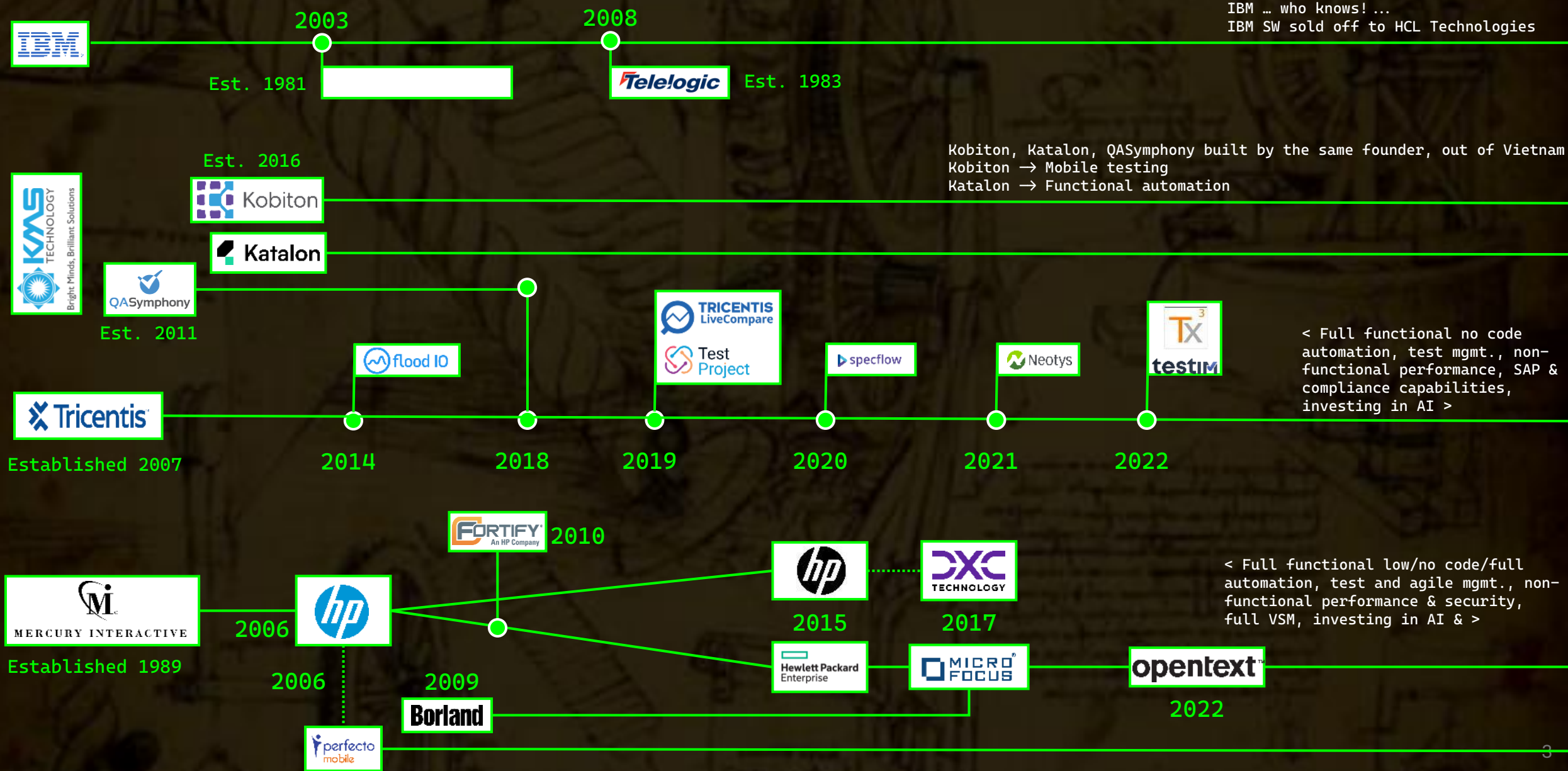Powered by:
Mih.AI
Grigorescu
19 June 2024

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Setting the stage: *#havefun #greatdiscussions*

1. Reflection on the history of software testing tools:
   past, present and Status Quo

2. Current & future trends

3. Open Forum / Q&A

HISTORY OF SOME OF THE CLASSICS

2003

2008

IBM … who knows! ...
IBM SW sold off to HCL Technologies

IBM

Est. 1981

Telelogic   Est. 1983

Kobiton, Katalon, QASymphony built by the same founder, out of Vietnam
Kobiton → Mobile testing
Katalon → Functional automation

Est. 2016

KMS TECHNOLOGY
Bright Minds, Brilliant Solutions

Kobiton

Katalon

QASymphony

Est. 2011

TRICENTIS LiveCompare

Test Project

flood IO

specflow

Neotys

Tx³ testim

< Full functional no code automation, test mgmt., non-functional performance, SAP & compliance capabilities, investing in AI >

Tricentis

Established 2007

2014   **2018**   **2019**   **2020**   **2021**   **2022**

FORTIFY An HP Company   **2010**

hp

DXC TECHNOLOGY

< Full functional low/no code/full automation, test and agile mgmt., non-functional performance & security, full VSM, investing in AI & >

MERCURY INTERACTIVE

Established 1989

2006

2015   **2017**

Hewlett Packard Enterprise

MICRO FOCUS

opentext

2006

2009

Borland

2022

perfecto mobile

COTS

ATLASSIAN
WORKSOFT
UiPath
LEAPWORK
applitools
Automated Visual Testing
TASKTOP
SMARTBEAR
KEYSIGHT
ORACLE
SAP
servicenow

OPEN SOURCE

Se POSTMAN
JUnit APACHE JMeter™
Gatling
TestNG appium

- Selenium, Postman continue strongly
- High maintenance → decline in OSS downloads/usage in Enterprise organizations (complementary plays)
- OSS adoption of AI – i.e. GitHub Copilot

- All/most COTS and platform vendors renamed/aligned product sets to AI narratives
- Focus on specialized AI plays
- Competitive migrations & displacement campaigns (i.e. UiPath < > UFT)
- Oracle, SAP, ServiceNow developed OWN testing tools
- "draw inspiration from others" – i.e. Applitools & DataDog
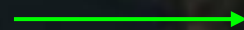- Vendors (UiPath and Leapwork) shift pure RPA → testing

STATUS QUO TECH MARKET

- IT spend est. **$5.06t** 2024 avg. **8%** growth rate
- Global testing market size est. **+$35bn** 2023 → **$90bn** by 2030
- Partner-delivered tech & services est. **$3.4t** in 2023, **~70%** of total IT spend, growth rate **3.7%**
- Cloud marketplace providers are fastest growing
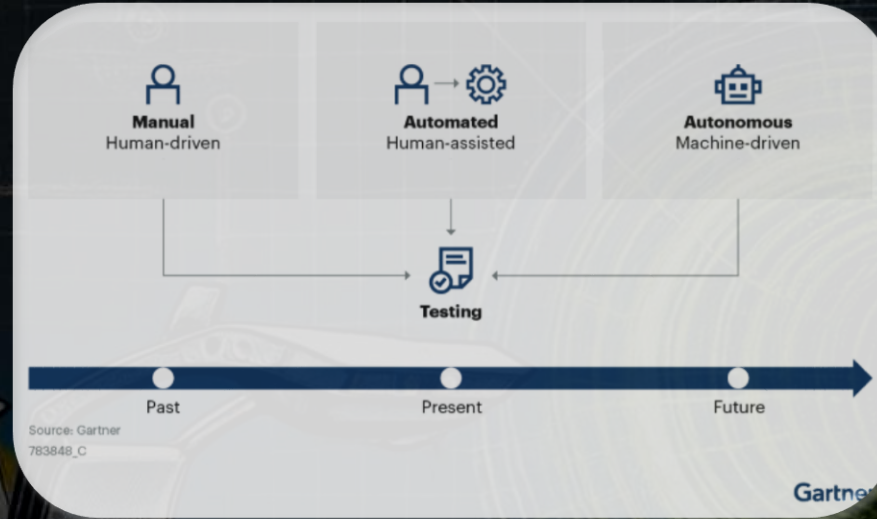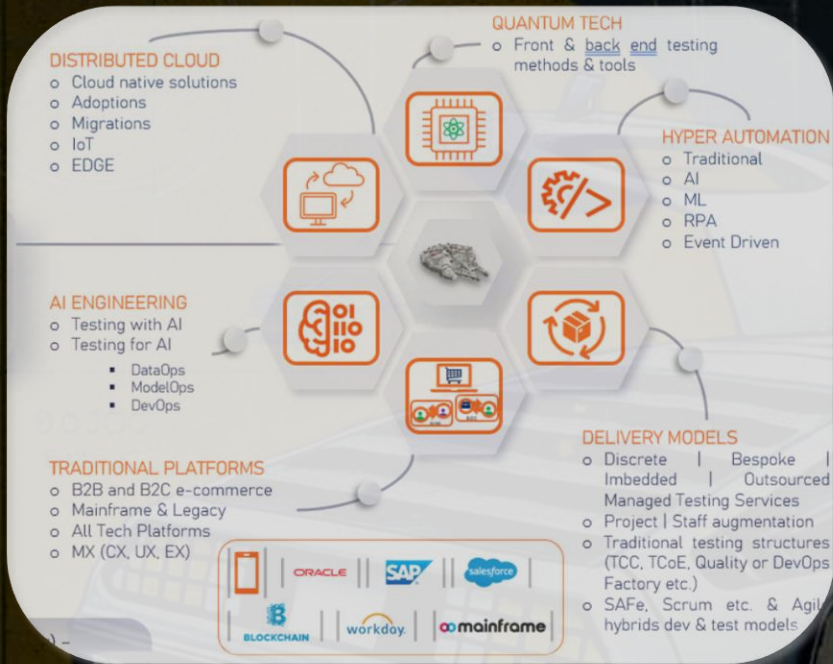- AI market est. **$200bn** 2023 → **$1.8t** by 2030

- All IPPs and large global consultancy brands locked in a race to develop AI-driven solutions
- Heavy investments **(tens of $m)** into AI related platforms & projects
- Focus on M&As to strengthen AI portfolio

o New Legislation & Standards
  o EU AI Act
  o IEC 42001:2023 – governing AI effectively
  o California: GenAI Copyright Disclosure Act
  o … more to come
o Canada $1.7b federal investments for AI
o Fierce battle for skills – AI jobs (Snr AI Scientist)
o Ethical dilemmas & egos (OpenAI vs. ClosedAI)

Sources: Statista | IDC | Gartner | Canalys | Coherent Insights | Others

DISTRIBUTED CLOUD
- Cloud native solutions
- Adoptions
- Migrations
- IoT
- EDGE

QUANTUM TECH
- Front & back end testing methods & tools

HYPER AUTOMATION
- Traditional
- AI
- ML
- RPA
- Event Driven

AI ENGINEERING
- Testing with AI
- Testing for AI
  - DataOps
  - ModelOps
  - DevOps

DELIVERY MODELS
- Discrete | Bespoke | Imbedded | Outsourced Managed Testing Services
- Project | Staff augmentation
- Traditional testing structures (TCC, TCoE, Quality or DevOps Factory etc.)
- SAFe, Scrum etc. & Agile hybrids dev & test models

TRADITIONAL PLATFORMS
- B2B and B2C e-commerce
- Mainframe & Legacy
- All Tech Platforms
- MX (CX, UX, EX)

ORACLE · SAP · salesforce · BLOCKCHAIN · workday · mainframe

Manual Human-driven → **Automated** Human-assisted → **Autonomous** Machine-driven

Testing

Past — Present — Future

Source: Gartner
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Gartner

Areas in software testing where AI is most impactful.

Per Gartner, 84% of Engineering leaders say that AI/ML features are more important than other features in testing platform selection.

AI-Augmented Testing
- Test Planning & Test Prioritization
- Test Creation & Maintenance
- Test Data Generation
- Visual Testing
- Test & Defect Analysis

QUANTUM LEAP (FROGGING): THE TRENDS

The Trends in Software Quality Engineering are not as different than before as we thought

PLATFORMS

o B2B and B2C e-commerce
o Mainframe & Legacy
o Startup Tech Platforms
o Traditional Packaged Apps (Oracle, SAP etc.)
o Blockchain
o Virtual Reality – VR Experiences
o Wearables, spatial computing, focus on non-functional testing

DELIVERY MODELS

o Agile (decrease in SAFe), DevOps
o Shift Left & Right
o Discrete, Bespoke, Imbedded, Outsourced Managed Testing Services
o Traditional testing structures (TCC, TCoE, Quality or DevOps Factories etc.)

HYPER AUTOMATION

o Traditional (human assisted)
o Autonomous | AI (machine assisted)
o RPA
o Low code & codeless auto platforms
o Green computing (sustainability testing)
o Security & compliance automation

QUANTUM TECH

o Quantum computing – cybersecurity
o Quantum programming & testing

AI ENGINEERING

o Testing with AI
    o Public LLMs
    o Custom LLMs

o Testing for AI
    o Data models

o GenAI assisted exploratory testing
o Autonomous testing

OPEN FORUM &
THANK YOU