Application Development and Platforms for Technical Professionals Primer for 2019

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Initiatives: Application Development and Platforms for Technical Professionals

Software developers and application architects face time and agility challenges when building and maintaining applications. Gartner's research in 2019 will help technical professionals address these challenges in order to deliver products to produce successful business outcomes.

Newer version of this document

20 January 2021 Application Development and Platforms for Technical Professionals Primer for 2021

Scope

Application development and platforms address the practices, tools and framework challenges that technical professionals must tackle to meet an organization's UX, innovation and agility needs.

Topics covered within this initiative include:

- **Delivering quality applications with increased agility:** How developers can scale development efforts and better meet business needs and expectations.
- **Designing and developing cross-platform mobile apps and platforms:** How developers and architects can choose architecture, frameworks and tools to build better mobile apps.
- **Designing and developing modern web applications and platforms:** How developers and architects can build or modernize applications that take advantage of modern technologies, frameworks and platforms.

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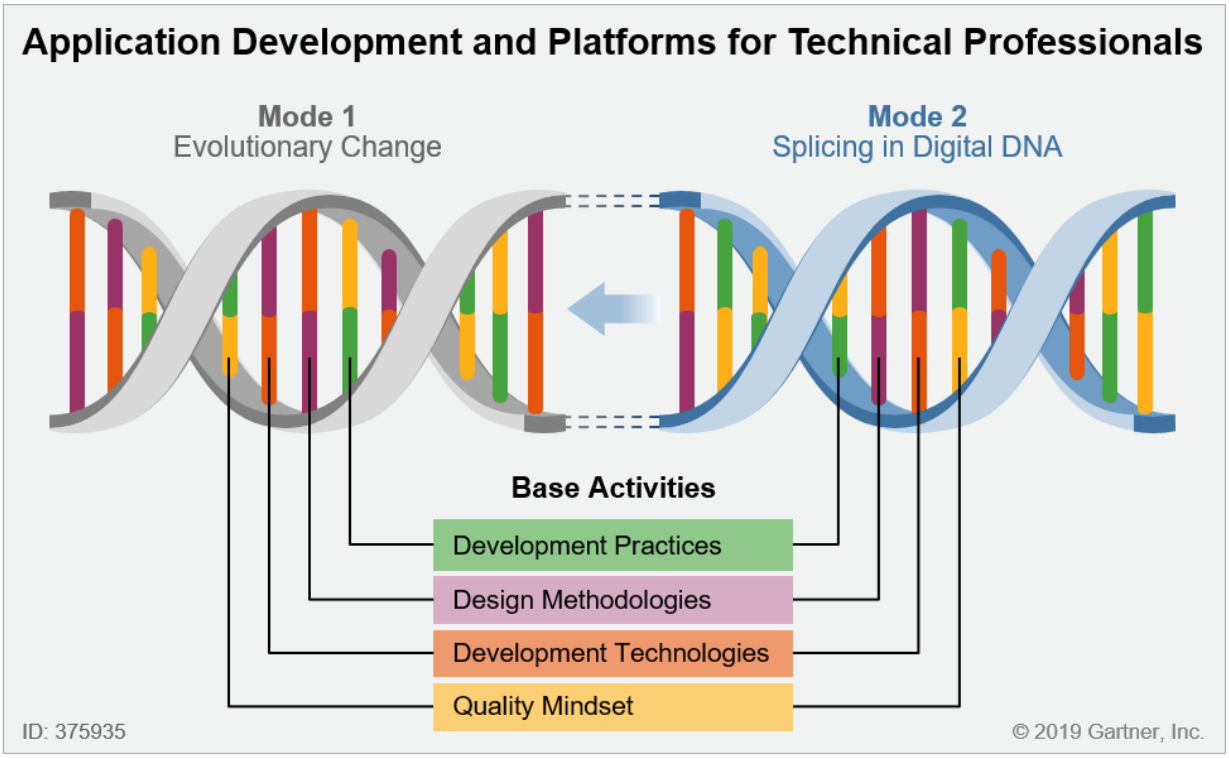
Analysis

Application Development and Platforms for Technical Professionals Overview



Gartner (February 2019)

Application developers are typically the most technical contributors in an organization, but the challenges of properly defining, targeting and scaling their work are significant. Modernizing their efforts, encouraging the adoption of new methodologies and successfully introducing modern platforms require a significant evolution within a development organization. Cultural obstacles must also be addressed, many of which reach well outside of a development organization. These organizations require a new core approach to be successful — their DNA must change.

Digital DNA consists of novel ideas, practices and technologies that fuse with existing base development activities to rapidly affect positive change. For practitioners, splicing in digital DNA will require:

- Design thinking and reuse of components to be elevated to the forefront as a priority area of expertise for development
- New frameworks and tools to be adopted in order to address new app opportunities, and for developers to aggressively tackle these new development technologies

- A continuous product quality and business agility mindset across development and IT operations to enable continuous delivery of engaging experiences

Topics

Application development continues to evolve in its sophistication, while the business expects solutions to be delivered faster than ever. Gartner's developer-facing research over the next year will address the following client questions:

- How do I improve my practices, processes, tools and infrastructure to speed software delivery and improve software quality?
- What frameworks, tools and practices should I use to build great web applications?
- What frameworks, tools and practices should I use to build great mobile apps?

Our research centers on the following topics:

Delivering Quality Applications with Increased Agility

Application development teams struggle to keep up with business demands. Many competing methodologies aim to help these teams scale their contribution while improving quality and contributing more business value. This core topic helps developers choose the proper methodologies and improve overall development agility.

Questions Your Peers Are Asking

- How do we improve our processes, tools and infrastructure to speed software delivery and improve software quality?
- How do we adopt continuous delivery?
- How can we implement architectures that will improve agility?
- What practices do successful agile teams employ?
- How can we effectively test our applications?

Recommended Content

Some recommended content may not be available as part of your current Gartner subscription.

- "Create Awesome Software Using Agile Practices"

- “Solution Path for Achieving Continuous Delivery With Agile and DevOps”
- “Solution Path for Agile Web Application Architecture”
- “Adopting Agile? Do What Successful Agile Teams Do”
- “Solution Path for Testing Software Applications”

Designing and Developing Cross-Platform Mobile Apps and Platforms

Mobile app development tools, platforms and frameworks evolve quickly, and developers are faced with more choices than ever. This core topic helps developers understand and select the proper architecture, tools and frameworks for their own app development.

Questions Your Peers Are Asking

- What frameworks, tools and practices should we use to build great mobile apps?
- What architecture should we use for our mobile app development?

Recommended Content

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- “Solution Path for Developing Great Mobile Apps”
- “Decision Point for Selecting Your Mobile App Architecture”

Designing and Developing Modern Web Applications and Platforms

Web technologies continue to grow in sophistication and capabilities, and the tools, frameworks and platforms have all followed suit. The architectural options have similarly matured, and developers are faced with many choices for web development. This core topic guides developers in the design and development of modern web applications.

Questions Your Peers Are Asking

- What frameworks, tools and practices should we use to build great web applications?
- How can we go about choosing a JavaScript framework?
- How can we build agile, multiexperience user interfaces?

Recommended Content

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- "Solution Path for Agile Web Application Architecture"
- "A Guidance Framework for Assessing JavaScript Frameworks"
- "Building UIs in an Agile Application Architecture"

Planned Research

- Working within a DevOps environment
- Enabling continuous development and deployment
- Post-scrum methodologies
- Architecting for business agility
- Test-first development processes
- Prioritizing your developer skill sets
- Designing or selecting reusable web component libraries
- Choosing JavaScript frameworks
- Solution Path for developing great mobile apps
- Evaluating component libraries for use across both web and mobile
- Application development and architecture skills required to stay relevant and become more effective

Suggested First Steps

- Read "Solution Path for Achieving Continuous Delivery With Agile and DevOps" — a roadmap for getting to continuous delivery.
- Read "Create Awesome Software Using Agile Practices" — the tech pro's starting place for everything agile.
- Read "Solution Path for Agile Web Application Architecture" — a roadmap for building maintainable web applications.
- Read "Adopting Agile? Do What Successful Agile Teams Do" — proven practices from successful teams that you should adopt today.
- Read "Solution Path for Testing Software Applications" — a guide to well-formed testing strategy and practices.

Essential Reading

- "Decision Point for Selecting Your Mobile App Architecture" — We discuss how to choose the right client-side architecture for your mobile app.
- "A Guidance Framework for Continuous Integration: The Continuous Delivery 'Heartbeat'" — We cover how to successfully implement a continuous delivery pipeline.
- "A Guidance Framework for Assessing JavaScript Frameworks" — Learn how to evaluate frameworks and choose the right one for your next web application development project.
- "Building UIs in an Agile Application Architecture" — We offer a guide to building great user experiences while maintaining the capability for change.

Document Revision History

Application Development and Platforms for Technical Professionals Primer for 2021 - 20 January 2021

Application Development and Platforms for Technical Professionals Primer for 2020 - 22 January 2020

Application Development and Platforms for Technical Professionals Primer for 2019 - 5 February 2019

Related Priorities

Initiative Name	Description
Application Arch. & Platforms (Tech Professionals)	This initiative addresses architecting applications and platforms for today's digital business challenges using apps, services, containers, functions, events and machine learning.
Integration Arch. & Platforms (Tech Professionals)	This initiative helps deliver effective and agile integration architectures and platforms that are a foundation of digital business, connecting ecosystems of applications, processes, APIs and data.

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