Building Better
Digital Products



Agile Project Delivery Service

G-Cloud 14 Service Definition Document

gravity9: Building Digital Platforms, Turning Legacy Complexity into Digital Agility

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Introduction

It's never too early to modernize, but it can be too late!

Legacy complexity is a by-product of your success; your organisation has grown and your applications and platforms have grown to keep up and support your ever-changing needs. However, many established organisations initiated their operations before modern solution architectures emerged, while today's proven patterns and practices offer efficiency and longevity.

- **74%** of organisations that experience data breaches are due to vulnerabilities in legacy systems - Ponemon Institute
- **52%** of fortune 500 in 2003 no longer exist today
- **45%** improvement in customer satisfaction for organisations that prioritize modernizing applications - Forrester Consulting

Don't become a statistic!

Legacy systems often struggle with the volume of digital transactions, fail to store necessary data for insightful analysis, and face challenges in meeting regulatory compliance. This hinders innovation and agility, resulting in slower time-to-market. New organisations, unencumbered by legacy systems, possess native agility but lack your expertise, breadth of services, resources, and trusted brand. Imagine leveraging modern architecture to enhance your wealth of experience and capabilities.

gravity9 propels you beyond complex, outdated legacy solutions to a sleek AI-led, micro-service, micro-UI platform enabling continuous innovation.

Our application modernisation approach leverages cutting-edge AI technologies and microservices architecture to streamline your operations and drive continuous innovation. With our sleek micro-UI platform, we empower your business to adapt and thrive in today's dynamic market landscape, ensuring agility, scalability, and sustained competitive advantage. Say goodbye to the constraints of the past and embrace a future where innovation knows no bounds with gravity9.

Cloud Technology

For organisations not in the cloud, transitioning to a cloud-based infrastructure is fundamental for modernizing as it offers unparalleled scalability, flexibility, and accessibility. By leveraging cloud technologies, businesses can streamline workflows, improve collaboration among teams, and enhance overall efficiency. Moreover, cloud-based solutions enable real-time data analytics, empowering organisations to make informed decisions swiftly. Embracing the cloud also ensures better resilience against disruptions, as data and applications are securely stored and accessible from anywhere, providing continuity even in challenging circumstances.

Don't just modernize – revolutionize!

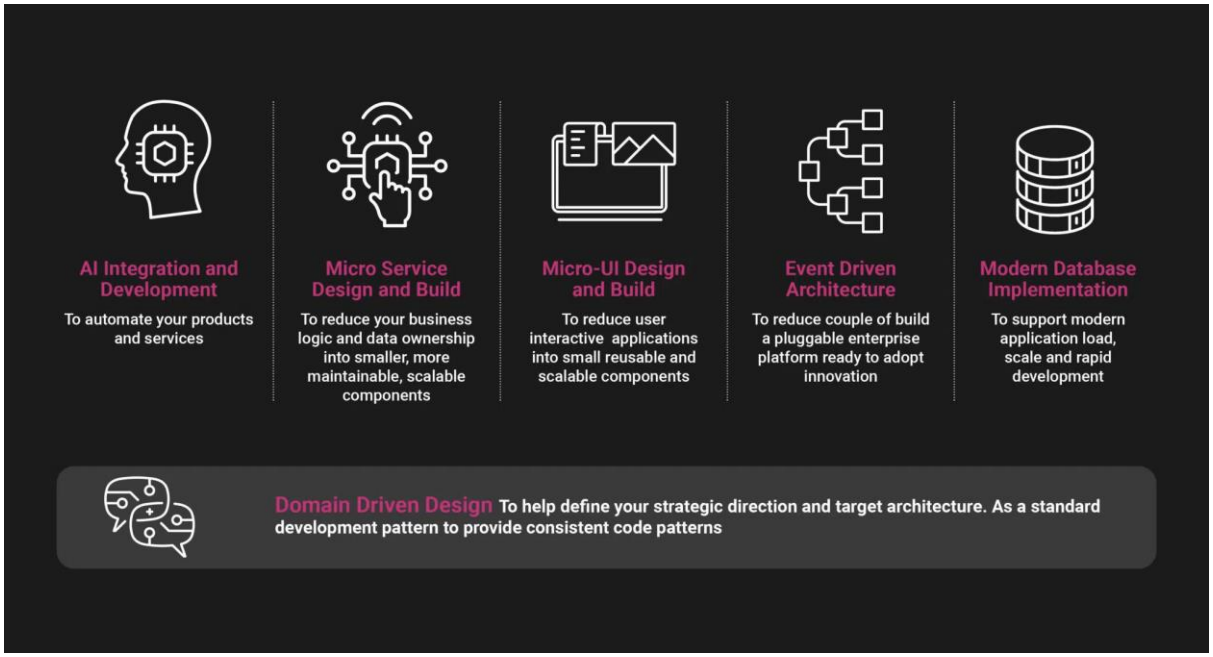
gravity9 understand the challenges of legacy systems and with our experience and expertise will, pave the way for your organisation's digital revolution. We guide you through the labyrinth of legacy complexity, identifying inefficiencies, bottlenecks, and opportunities to innovate.

By strategically modernizing and optimizing your systems, we streamline operations, reduce technical debt, and empower your organisation to thrive in the digital age. Our approach goes beyond mere



modernisation; we prioritize future-proofing your architecture with an emphasis on AI integration and product insulation, ensuring it's scalable and adaptable to evolving technologies and market demands. Through meticulous planning and implementation, we transition your organisation from legacy constraints to agile, best-practice solutions.

CORE TO OUR APPROACH



AI

Harness AI to revolutionize operational efficiency and decision-making. Our expertise in AI development empowers organisations to innovate and gain a competitive edge, optimizing performance and profitability through tailored, intelligent system integration.

Engineering

Modernize your applications with confidence and precision. Our expert team specializes in seamlessly transitioning legacy systems to agile, future-proof solutions, ensuring your business stays ahead in today's fast-paced digital landscape.

Product

We are constantly inventing new digital products, services, and revenue streams for our clients by designing, prototyping and building experiences for the next market leaders. We research and define customer journeys by thinking human first to enable technologies fullest potential and build better products.

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Global Presence

Highlighting our global presence, gravity9 has teams located in multiple offices worldwide, bringing a wealth of benefits. This international footprint allows us to tap into a diverse talent pool, ensuring we have the right expertise for any challenge. It also enables us to offer round-the-clock development and support, thanks to the different time zones our teams operate in. Furthermore, our global perspective enriches our understanding of various markets and cultures, which is invaluable in crafting digital solutions that resonate worldwide. Ultimately, our widespread teams enhance our agility, foster innovation, and ensure we can meet our clients' needs with unparalleled efficiency and effectiveness.

WE ARE GLOBAL

Our Locations

UK & IRELAND

London
Birmingham
Dublin

POLAND

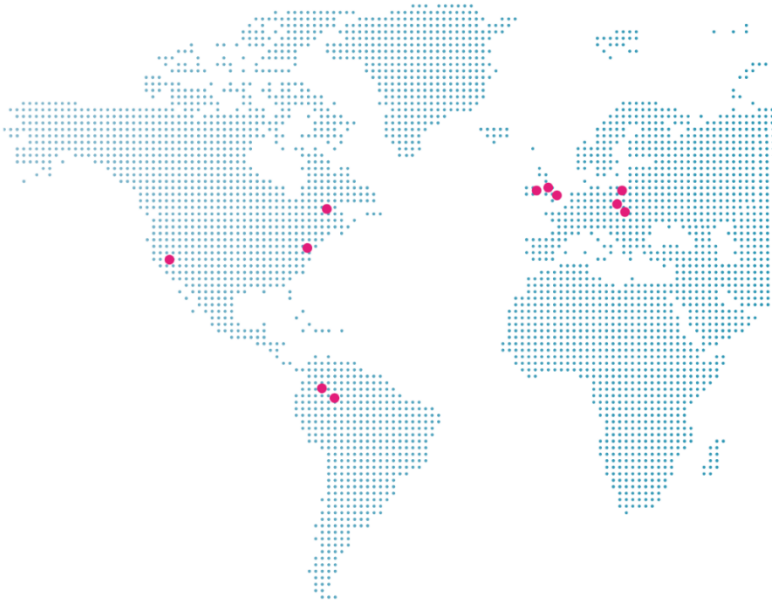
Kraków
Wroclaw
Gdansk

USA

New York City
North Carolina
California

COLOMBIA

Medellin
Bogota



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The Problem Space – When to use Agile Project Delivery

The technology industry has been going through decades of evolution, reinventing how to efficiently service organisations, their employees, and clients many times over in those decades. Most business processes are solidly anchored within technological solutions to ensure businesses can run efficiently and meet customer needs. In this environment many organisations find themselves in a struggle to keep up with the constant change, deciding where to invest, which innovations to embrace, which trends to pass by. They achieve all this while guaranteeing security, meeting regulatory and compliance requirements, and navigating economic ups and downs. It is not uncommon to find oneself with complex legacy architectures that are no longer able to adapt to the pace of evolution, are time-consuming and are expensive to maintain and fragile.

Even with constant upkeep and an architecture in an up-to-date state, technological evolution inevitably produces new avenues of growth and business support. Evaluating these opportunities can be challenging as it's often not clear from the beginning which technological developments cannot be ignored, and which will meet a dead end.

In both of these instances, an agile approach to project delivery is helpful as it enables gradual change. When well executed, it prevents business interruptions and provides an opportunity to gauge user responses when developing new solutions. It adds a means of control to a process that can otherwise seem overwhelming.

With scrum going back to the 90's and the agile manifesto being published in 2001, agile project delivery has also seen its own evolution. At gravity9, we have shaped an agile approach that enables you to pull on the literal thread to untangle complex legacy architectures while at the same time building for the future.

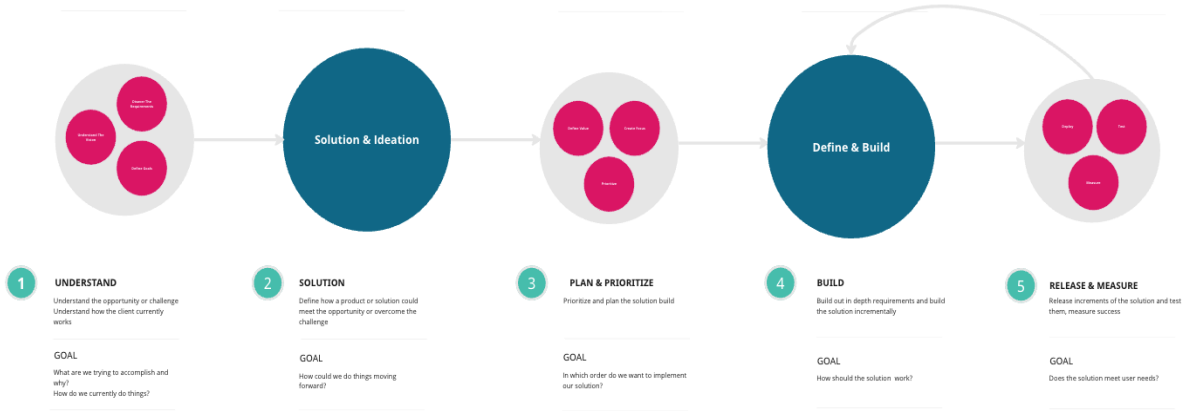
What is the service? Our solution approach

Our agile project delivery approach is a flexible service that enables us to tackle a variety of different challenges by setting a vision or goal and working towards that vision or goal via small incremental changes. It can be adapted to implement new products, replace a legacy architecture with a modern architecture or handle short-term goals like implementing a POC. The process supports cloud development.

Our process is split into 5 phases with an agile scrum-based process at the heart of development. We are deeply rooted in domain driven design, favouring a micro-services architecture to enable close ties between how the business is operated and the technology supporting the business is set up. However, we realize, that many organisations deal with legacy systems that have grown over time and a micro-services architecture is not something they can implement easily. Our process is flexible enough to handle various kinds of scenarios and incrementally improve any set up. We have also expanded our processes to incorporate the latest thinking in AI.

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Project Phases in Detail

Understand:

The first phase in the process is “Understand”. We use this time to work with you to create a shared understanding of the opportunity or challenge at hand. This includes understanding drivers, establishing success criteria and diving into the processes you use to run your business. We learn more about the various stakeholders including your users, may they be employees or customers, as well as your technology set up. This creates a common language and provides a deeper understanding of your current set up. We rely on various methods and tools from simple stakeholder interviews via event storming and domain storytelling to capture the as-is state of operations. Focus areas will be defined by the size and nature of your opportunity or challenge. Adding a specific feature into your product or modernizing your entire platform will influence our approach and determine the tools and processes. The aim is to get a holistic understanding of the opportunity space, define success criteria and identify a north star or destination. Depending on the nature of the engagement deliverables may include an event storming board, domain stories, a product vision, or a documentation of the current architecture.

Solution:

The “Solution” phase is a means to imagine what the future could look like. We take what we identified as the north star or destination and give it definition. It’s exploratory but it aims to make our strategic goal tangible. The goal could be described via an architecture document or a design prototype, or the implementation of a POC depending on the context. This part of the process is also iterative. We review the deliverables with you and refine them to ensure that they meet your needs and describes a realistic and tangible view of the future. Outputs of this stage are still at a high-level stage and may lack some of the detail required for implementation. They are meant to help align stakeholders, get buy-in from all relevant parties or in some cases get additional funding for the project.

Plan & Prioritize:

Once a goal has been identified, we look to prioritize steps towards this goal. We evaluate with you which items are critical and need to be tackled first, which items provide the most value to your users. Based on the findings we create a roadmap. Milestones are intended to be small, preferably around 1-2 months of work and typically consist of one or multiple micro verticals. This enables us to work iteratively and adjust our course as needed while keeping an eye on strategic objectives. During this time, we also initialize a backlog with high-level epics and user stories.



Build:

At its core the “Build” phase is a scrum-based agile process. During this phase we take user stories and build out requirements in detail, adding high-fidelity wireframes where needed. We also work through the specific implementation details. We implement features and functionality in bi-weekly sprints, following the typically practices of sprint planning, estimations, demos, and retrospectives. During sprint planning we prioritize user stories and tasks for the upcoming sprint. User stories are estimated in story points (or days if there is a preference for that) to assess how many stories a team can implement given their anticipated velocity. Testing is incorporated as part of each sprint. This ensure that what is being created within the sprint is solid and could potentially be rolled out. The outcome of each sprint is an incremental piece of software towards the larger goal.

Release & Measure:

The final step is releasing functionality and features when they are ready. We consciously separate the development process from the release process using dev ops best practices. A release could happen via vertical micro deployments to show value or releasing but hiding features until they are fully assembled. There is also an option to wait several sprints until a meaningful set of features has been aggregated and release the output of multiple sprints at the same time. We provide guidance on how big a release needs to be to be meaningful and how small a release can be to provide value. In modernisation scenarios there may also be cases where we release a change to the underlying technology. In this case the focus is not the creation of new features or functionality that users can see or use, but a seamless replacement of existing features. Goal here is that the user does not even realize that changes were made. Once changes have been released, we work with you to review results based on our original metrics and measure success. In some instances, measuring success may also entail user testing.



Common Deliverables by Phase

Understand:

Deliverables that are common in this phase of the project are:

- Product vision document
- Event storming board
- Domain stories describing the current state
- Personas
- Architecture Diagram describing the current state

Solution:

Deliverables can take various shapes during this phase, often they include:

- User journeys for a future state
- User flows
- Design prototype
- High-level logical architecture diagram
- High-level infrastructure diagram

Plan & Prioritize:

Typical deliverables include:

- Feature Map
- Product roadmap
- Initial backlog

Build:

Common deliverables are:

- Prioritised product backlog
- Wireframes
- Working code

Release & Measure:

Typical deliverables in this phase are:

- Working code in a production environment
- Release notes
- User test findings
- Metrics overview



What Does a Team Look Like?

The core team for the agile project delivery process during the build phase typically includes a Product Owner, a Team Lead, Developers and QA team members. QA team members typically can perform manual tests as well as implement automated tests. The team could be 5-6 people, but scaled if a larger team is required. During the initial phase we typically have a Product Owner, UX designer and Architect present, but again configurations change depending on project needs and the specific circumstances of your opportunity or challenge.

Why does this work - Macro & Micro iterations

Our agile project delivery framework is very flexible. It can be used to make large sweeping changes like planning out a long-term roadmap to modernize an entire platform. It can also be used to introduce new features to an existing platform. We have a library of different tools and processes across our various skillsets. We tailor the approach to your specific needs and leverage the tools and process that help us accomplish agreed upon goals.

This also means projects may not go through each of the phases described above. We may for example agree on a planning engagement that focuses on phases 1-3 of the process, a review of your current product or technology state, that may only require phase 1. We may also jump straight into phases 3 and 4 if the requirements have been clearly defined and support you in the implementation of the desired features and functionality. Given the various configurations that are possible phases may have different lengths. In essence, our process emphasizes flexibility and is focused on getting results quickly and repeatedly.

Meeting GDS standards

We strive to meet GDS standards as part of our agile project delivery. We always start with user needs at the beginning of every project and ask what the benefit for the end user may be. The benefits can range from improved performance to providing new features to meet user needs. Data is an important factor when assessing user needs. We like to design simple solutions that do not overwhelm users with content and test them often. The GDS design standards are part of how we approach projects.

Governance

Our agile project delivery approach includes a light-weight governance framework. We give the utmost importance to transparency and making decisions in collaboration with you. We provide regular status reports and ensure that we identify risks and issues early and define mitigation strategies and solutions. We create clarity around options and weigh costs and benefits with you to enable you to make the best decisions for your business.

Change Management

Any technology change isn't only a technology change, it's also a change in how people operate. Managing this process takes time, patience, and planning. As appropriate our consultants, based on their individual disciplines, work with you to ensure this process is as easy as it could possibly be.



Case Studies

Major Healthcare Provider

A major healthcare trust required a brand-new system designed and built to address critical issues with their existing process and better serve their needs in the medical technology space (the previous approach was inefficient, potentially inaccurate, and difficult to maintain or scale). Specifically, the client required a way for care providers to review medical technology products for suitability and to communicate with suppliers who needed an efficient way to provide up-to-date product information in relevant formats.

gravity9 won the project tender process, transforming the experience and delivering the "Technology Adoption Platform" by designing and building a highly scalable web-based solution with the potential to serve the entire healthcare provider. After initial conversations, the project began with executive team discovery meetings to map what is "truly" needed, followed by iterative event storming to ensure the product meets stakeholders' needs.

Built around MongoDB, Azure, React and Java, it reduces maintenance workloads, provides a clear communication channel, and enables storing relevant and accurate product information.

Utilised Technology Stack

- Cloud: Azure, Azure AD B2C, Terraform
- Database: MongoDB Atlas
- Backend: Java, Spring Boot
- Frontend: React, NextJS, MUI component

Employee Wellbeing Provider

Our client provides technical employee wellbeing solutions for physical, mental, and financial health. The client approached gravity9 and spoke with Founder Noel Ady to discuss a new module to their existing Mental Health solution that would enable communication between domain microservices and CRM (Customer Relationship Management) in a multicloud environment. Additionally, we would provide additional security, improve system performance, and provide domain separation.

The initial solution uncovered additional requirements, which gravity9 designed and built into the second iteration before conducting a final optimisation pass to streamline further, displaying an evolutionary architecture approach. The client was delighted with the overall result, especially gravity9's ability to adapt and implement event-driven architecture.

gravity9 achieved a remarkable outcome that met all the client's expectations, demonstrating expertise in designing and deploying event-driven architecture and delivering a solution that supports asynchronous communication and facilitates evolutionary changes in response to the dynamic business environment.

Utilised Technology Stack

- Cloud: Multi-Cloud
- QA: SpecFlow, Living Documentation
- Development: .NET Core

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National Defence Organisational

A major defence organisation sought to reform how they generate useful analytics for gauging and reacting to public opinion to NATO operations in specific geographic areas. Their previous approach was to research and generate reports manually, which was resource-intensive, delay-prone, and at risk of accuracy issues. Partnering with MongoDB, gravity9 scoped, developed, and delivered a replacement cloud-based system over a three-week period.

The delivered system can collate data from multiple sources, allowing easy, customisable generation of data-rich reports based on up-to-date information plotted against any number of data points, including GIS. Built around React.js, Node.js, MongoDB, and Microsoft Azure, this system has reduced resource overheads and enabled rapid delivery of relevant and accurate information to decision-makers within the organisation. Resource and actual costs have also been reduced as a result.

Utilised Technology Stack

- Cloud: Microsoft Azure
- Database: MongoDB
- Backend: Node.js
- Frontend: React.js

Beauty & Pharmaceutical Retailer

As part of a fast-track ideation and rapid-build development project, gravity9 partnered with MongoDB to help a popular health and beauty retailer and pharmacy build a new Beauty Concierge application to increase customer loyalty and encourage repeat business in the retail domain. Prior to gravity9's involvement, no history of customer consultations or recommendations was stored, meaning returning customers would have to "start over" be re-interviewed, providing them no advantage at this vendor versus their competitors. The client outlined the project requirements, providing a starting point for a more profound consultation process in which gravity9 challenged, revised, and reached a consensus on the form and shape of the project.

A web-based solution was created, tailoring the customer experience via an accessible in-store app. The app maintains customer profiles and preferences allowing consultants to access this information as well as sales logs and KPI's, creating a more personalised, bespoke service unique to the client. The product is built with a .NET Core backend, Angular frontend, and MongoDB database.

The solution has been delivered to the client and initial reception has been extremely positive, with scope for additional functionality, integration, and quality-of-life improvements to be added later. Customers can enjoy a more intimate shopping experience which encourages trust, brand loyalty, repeat business, and increased footfall versus competitors.

Utilised Technology Stack

- Cloud: Microsoft Azure
- Database: MongoDB
- Backend: .NET Core
- Frontend: React



How To Get Started? What We Need From You

We start our process with a simple conversation, discussing the challenges and opportunities that lie ahead of you, touching on potential solutions and how best to proceed. Every scenario is slightly different and we provide a range of offerings that our agile project delivery process supports. As part of this initial step, we may request information from you to get a better understanding of your current set up. This may include information on your technology set up, infrastructure, size and type of data in your system as well as high-level business context.

To get started on a project, our team members will most likely have to be onboarded to your systems. We follow your requirements as part of the onboarding process. It is also common that we ask you to share any kind of documentation that provides a detailed view into your business and technology set up. Any baseline information in terms of the KPIs you are trying to meet would also be considered helpful.

At the core of our process are individuals with deep experience of a range of subjects and methodologies. We discuss any additional needs to get started on a project at the beginning and then aim to make change happen one step at a time in a transparent and tangible fashion.



Enquiries

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