



Quality Engineering

Growing a Career Beyond Testing



Introductions

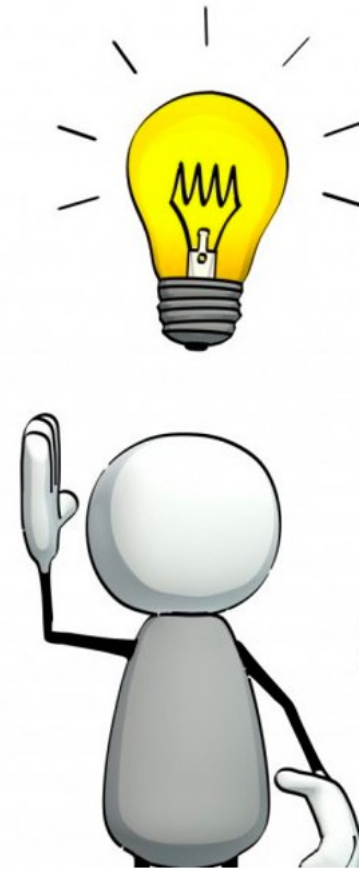


College Dropouts



Our Journeys Have Been Different

As Are So Many Of Us



Team & Audience Survey

Stand Up If...

What was your educational path?

Via a STEM Degree?

43%

Via Another Degree?

19%

Other?

38%



Team & Audience Survey

Stand Up If...

Had you heard about software testing or quality engineering as a potential career opportunity?

Yes

36%

No

64%



Team & Audience Survey

Stand Up If...

How did your career start in software testing/quality engineering?

Applied for an entry level role e.g. junior, associate etc.

15%

Secondment

15%

Graduate/
Apprenticeship
scheme etc.

27%

Fell into it

33%

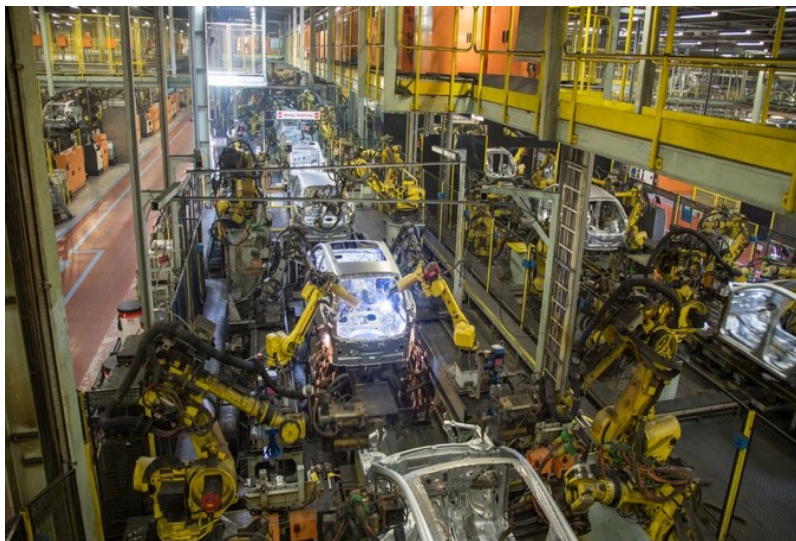
Other?

10%

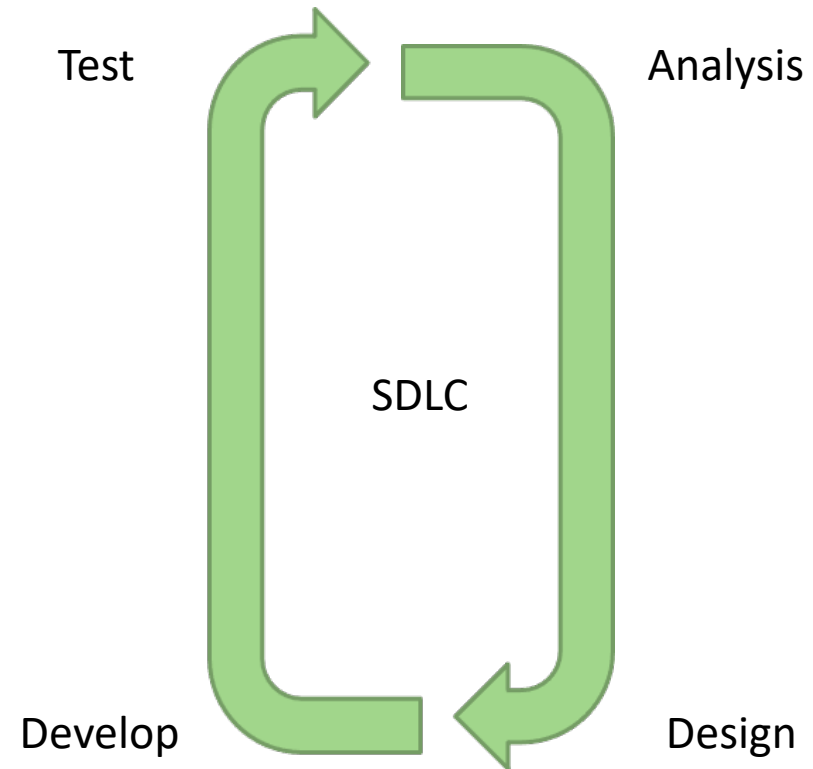
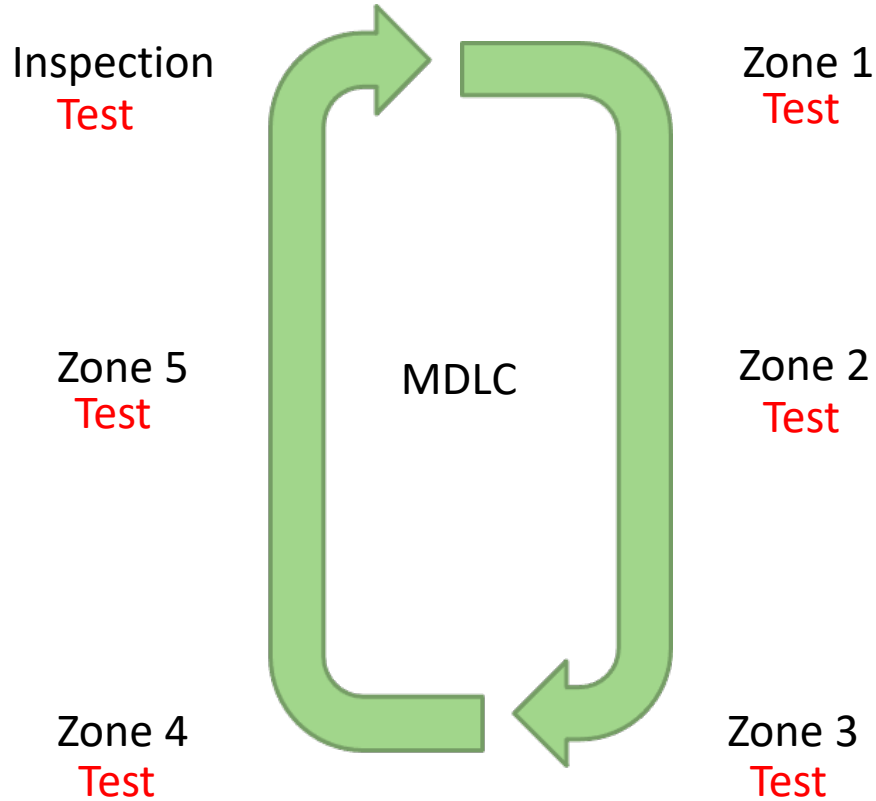


Chris' Journey

From Car Manufacturing Quality Inspector to Software Tester



Manufacturing vs Software Lifecycles



Defect Management

Manufacturing – Defect Logging

- Vehicle number
- Description of the defect
- Steps to re-create the issue
- Photos / Location of the defect marked on the vehicle diagram
- Priority of the defect (P1, P2, P3)
- Name and stamp ID of QA member

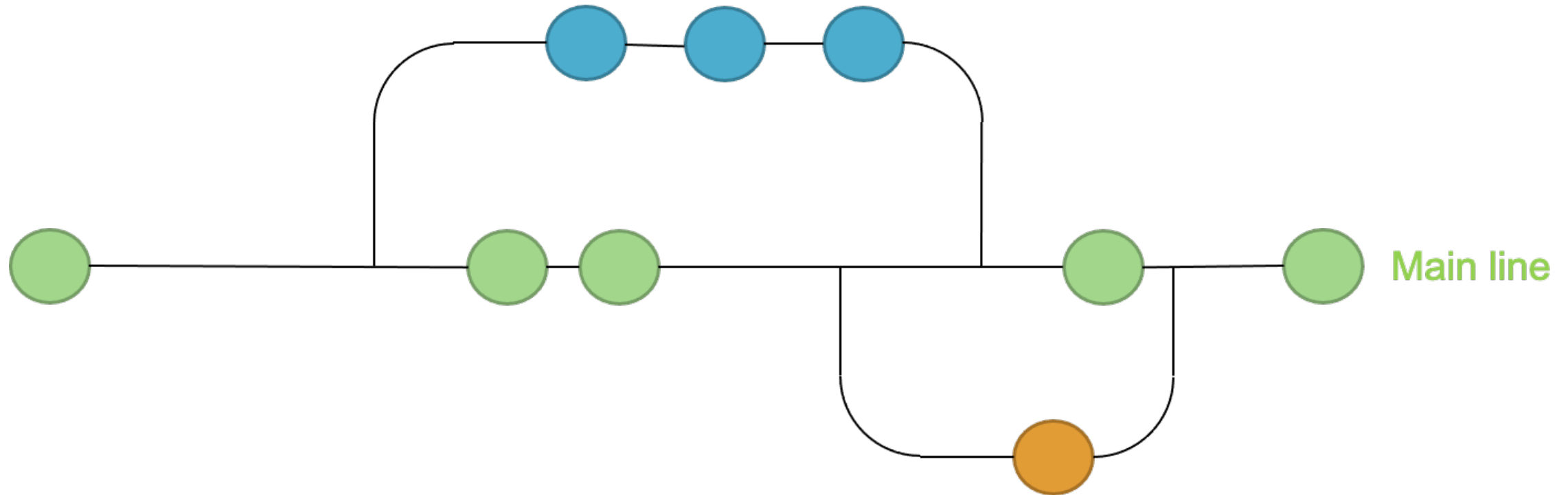
Software – Defect Logging

- Issue number
- Description of the issue
- Steps to re-create the issue
- Evidence (Screen shots, logs, video)
- Priority (P1, P2, P3)
- Name automatically logged against ticket (Jira etc)



Manufacturing Repair Process

Car pulled out for repair

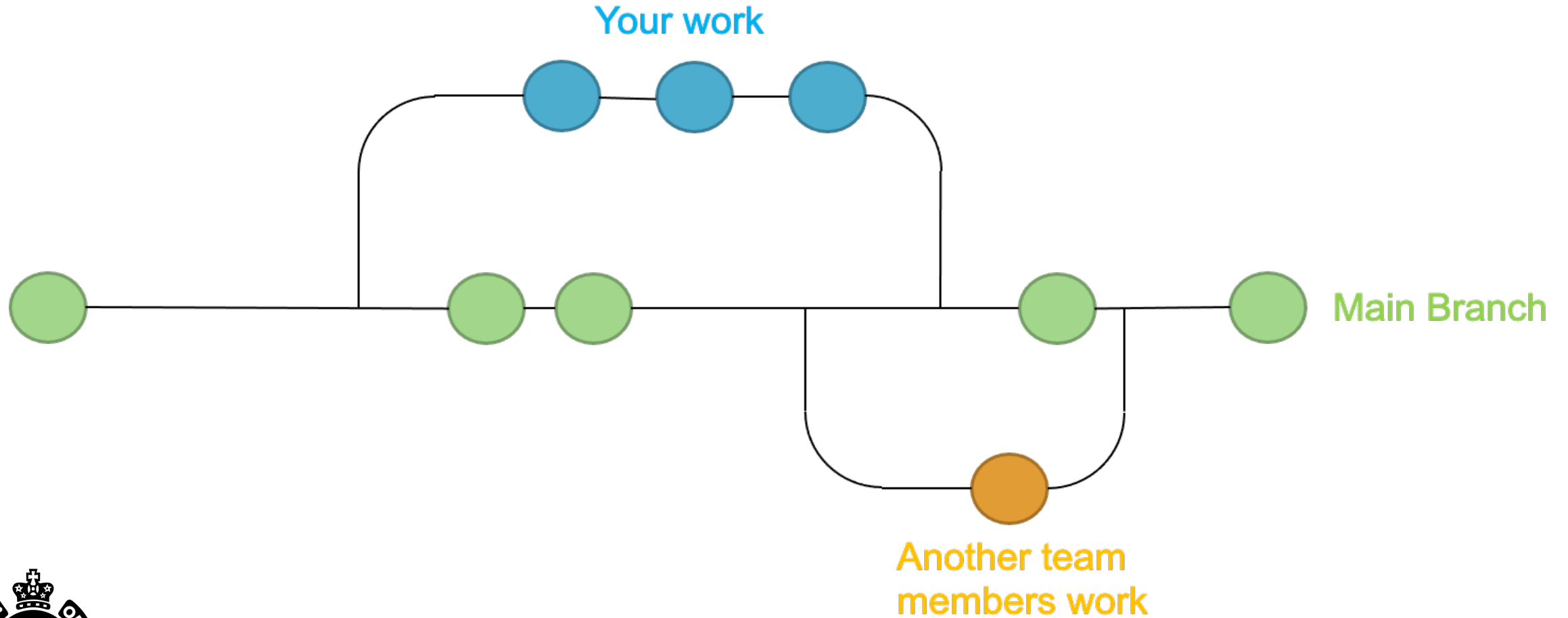


Main line

Another car pulled for repair



Source Control Systems



Transition To Software Testing



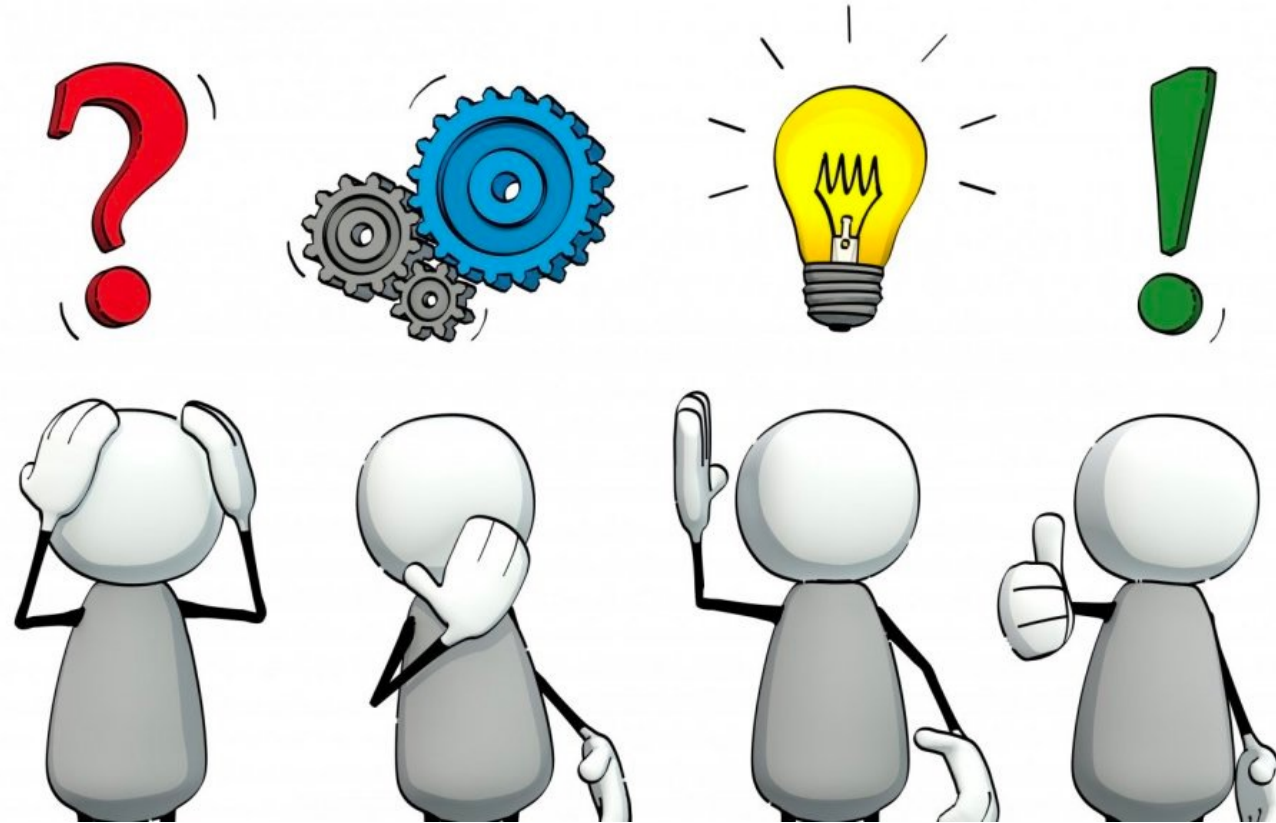
Discovering the missing ingredients

- Everyone was responsible for quality because everyone is aware they can influence it.
- Quality team representative was a **quality coach** to the wider team.
- Focus on issue prevention and early detection.
- Data is used to provide learning opportunities.
- Ways of working is continuously reviewed and always open to change.



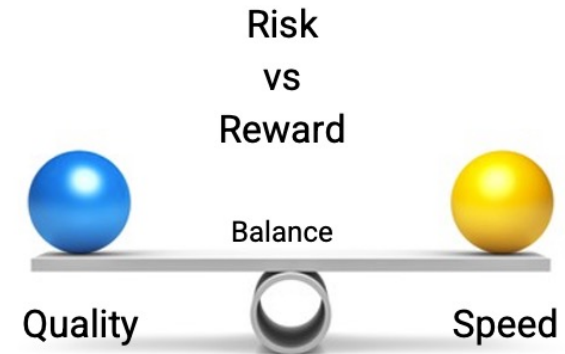
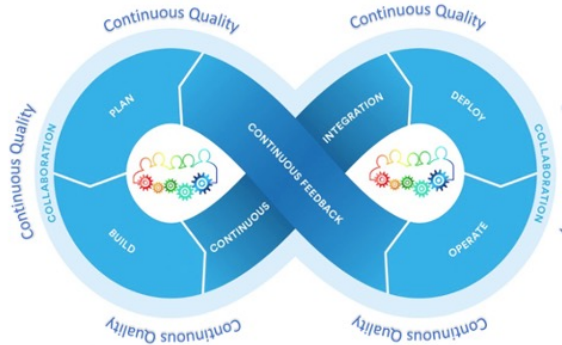
What is Quality Engineering?

And How Can We Enable & Grow Careers Beyond Software Testing



Quality Engineering at Dunelm

The Vision



Quality first and for all

We promote a culture of Quality First and whole team ownership, which means that everybody in the team should consider the quality of what needs to be delivered from the start and take ownership of how they contribute to achieving it.

Removing the divide between disciplines to work collaboratively as one, and make decisions on the right level of quality needed.

Continuous Quality

Focusing on building in and measuring quality from the very start of a new idea all the way through into production.

Learning how our customers use our end products to measure if the right thing is being and been delivered.

Using that data to feedback into the start of the lifecycle to continuously improve

Deliver the right quality value at sustainable speed & frequency

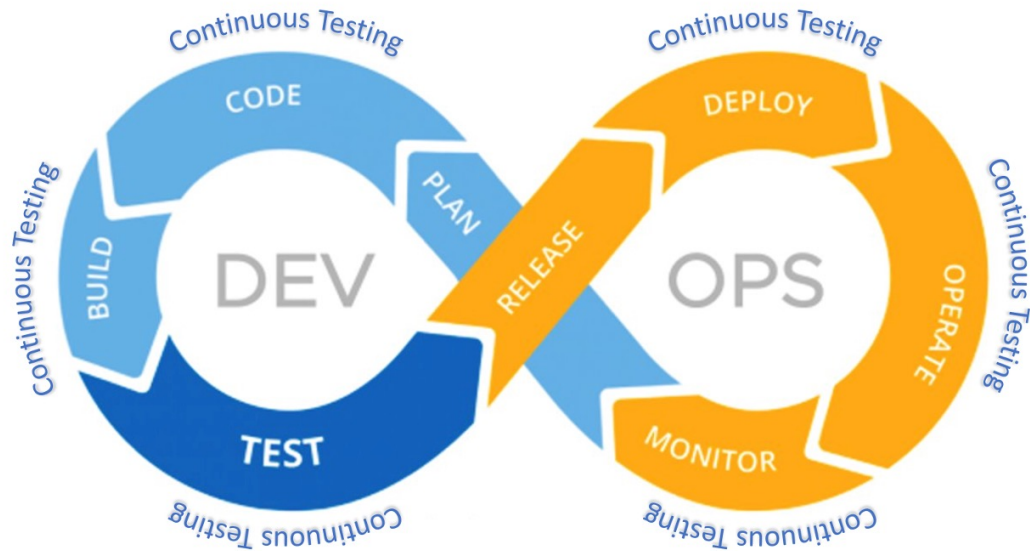
Aligning our ways of working, our cross discipline architecture, engineering, testing principles and tooling to enable our ability to deploy the right quality value to our customers at sustainable speed and frequency.

Finding the balance between Risk vs. Reward.

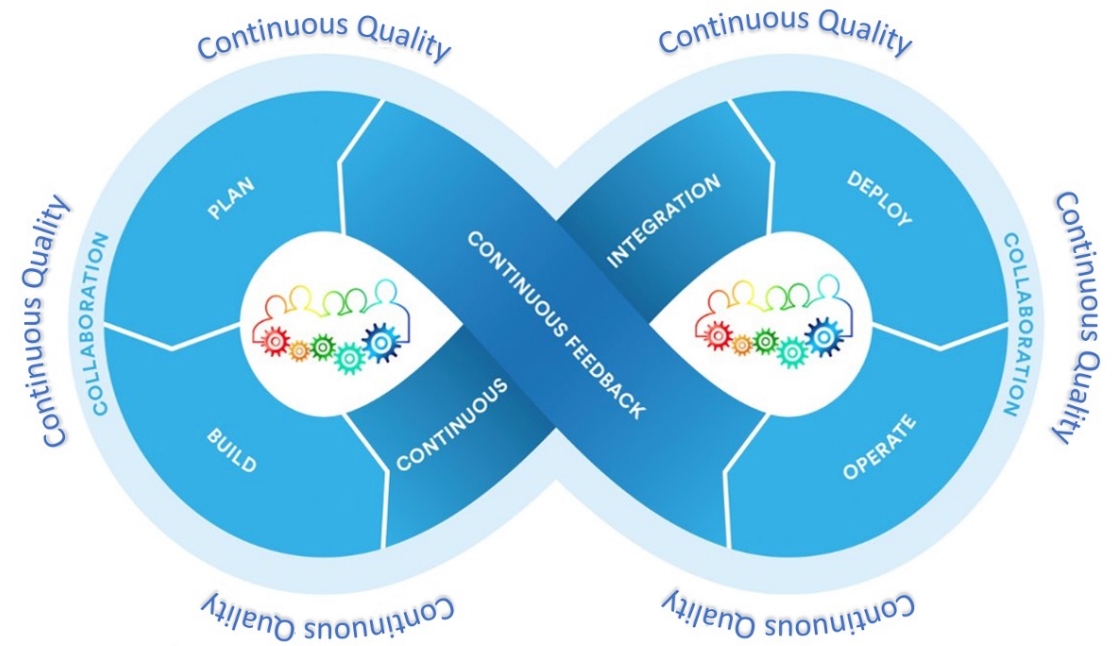
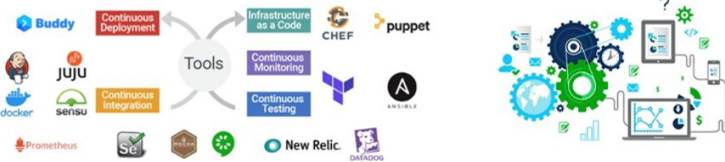


Quality Engineering at Dunelm

The Vision



Tools & Automation...



Quality Engineering at Dunelm

Engineering Principles & Behavioral Values

Engineering Principles

Behavioral Values

Performant

Its more than just load testing

By following performance engineering principles we design, build, test, analyse and monitor with performance in mind at every stage of the SDLC whilst learning and improving as we go

Testable

If it can't be tested, it can't be proven.

Everything we design and build should be done so with the ability to test in mind. Considering the "What", "How" and "Where" testing can and will be done to gain fast feedback.

Automation

Automate what adds value, not everything.

Automated checks provide fast feedback and reduce repetition, thus enabling speed & agility. Automation should be built & refactored as we go and supplement other testing techniques to deliver high quality value. It should not be seen as a silver bullet.

Traceable

Through practices like BDD we can trace agreed requirements through development and test. Through collaborative version control we can trace individual changes all the way through to production. This makes fixing forward much easier if required.

Releasability

Release safely, often and with confidence.

Releasability should be built in the from the start, ensuring we can deliver high quality value fast with minimal customer impact e.g. independent, reversible, feature flags/canary, stability

Reliability

Reliability build trust and confidence

Working closely with site reliability engineers to ensure that what we build and test is stable, and will continue to be in production, ensuring a good user experience.

Maintainable

Reviews and refactors that follow our agreed design patterns and quality standards encourage the use of common tools and languages, reduce complexity and maximize readability

Scalable

Working closely with platform engineers to ensure what we build and test will scale with our organizations needs, helping us avoid difficult and expensive changes late in a product's development.

Secure

Security risk are everywhere...be aware

Understanding security implications for any change we make is crucial for protecting our selves and our customers. Lost trust is hard to win back. Security should be built into our designs and supplemented with testing

Quality First Mindset

OVER Testing "Phase".

Quality and how it is achieved is at the forefront of everyone's mind from the very start.

Team Ownership

OVER QAs Responsibility.

Developing T shaped team members to enable the whole team to take ownership and contribute to the quality of the end product collaboratively.

Continuous Collaboration

OVER Quality Gates.

Collaborating to build quality in and gather feedback at every opportunity from the start, all the way through to and in production; rather than testing quality in later.

Measuring Quality

OVER Counting Tests.

Using insights to measure the quality of what has been delivered to our customers and how, not the number of tests that have passed or failed, or the number of automation tests there are.

Speed with Quality

OVER Quality Bottlenecks.

Shifting left & right with cont. collaboration, testing & feedback loops. Leveraging automation & cont. integration, delivery & deployment.

Issue Prevention

Over Defect Logging

Using collaboration techniques such as 3 amigos & pair coding/testing to bring developers, QAs & PO/BAs throughout ideation, refinement and build to highlight potential issues before they are built into the software.

Exploration

Over Scripted Expectations

Leveraging exploratory testing techniques alongside automated checks to learn more about the product as we build it. Putting ourselves in the customers shoes.

Failing Fast

Over Slow and Over Cautious

Embracing failure and creating phycological safety to enable experimentation & learning supported by testing early, fast feedback and fixing forward quickly

Trust & Transparency

Over Reports and Box Ticking

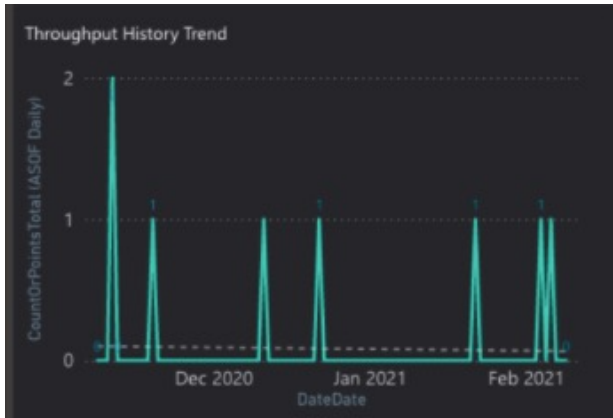
Trusting our teams to make the right decisions when it comes to quality and being transparent with issues to enable continuous improvement



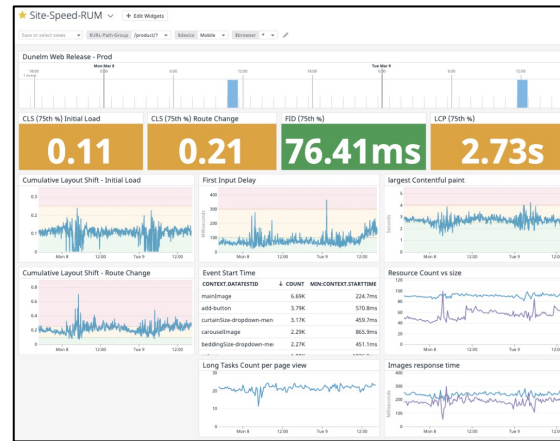
Quality Engineering Insights?

Using Insights to Guide and Make Informed Decisions

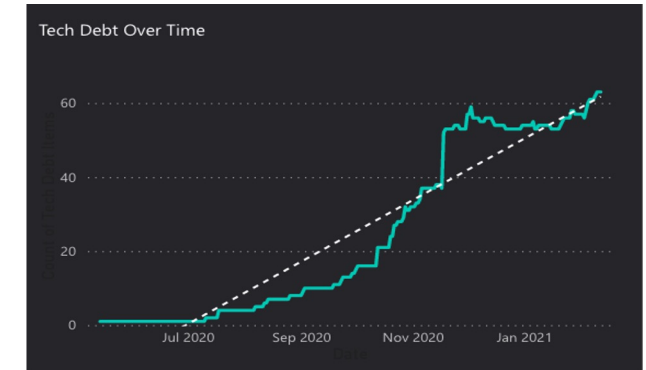
Escaped issues



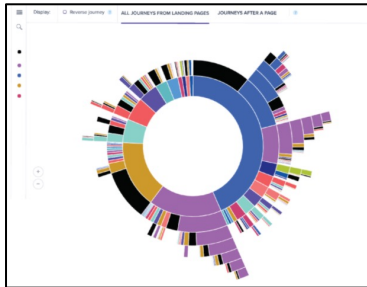
Systems Performance trends



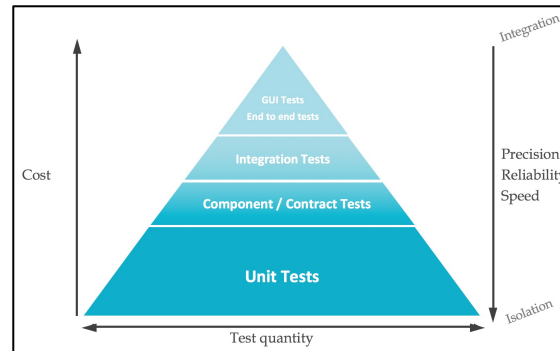
Tech Debt



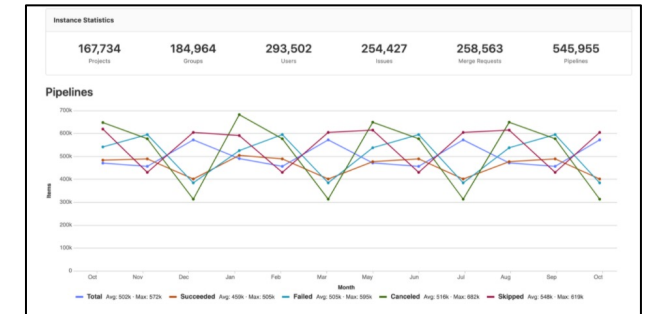
Customer Feedback & Behaviours



Test Coverage

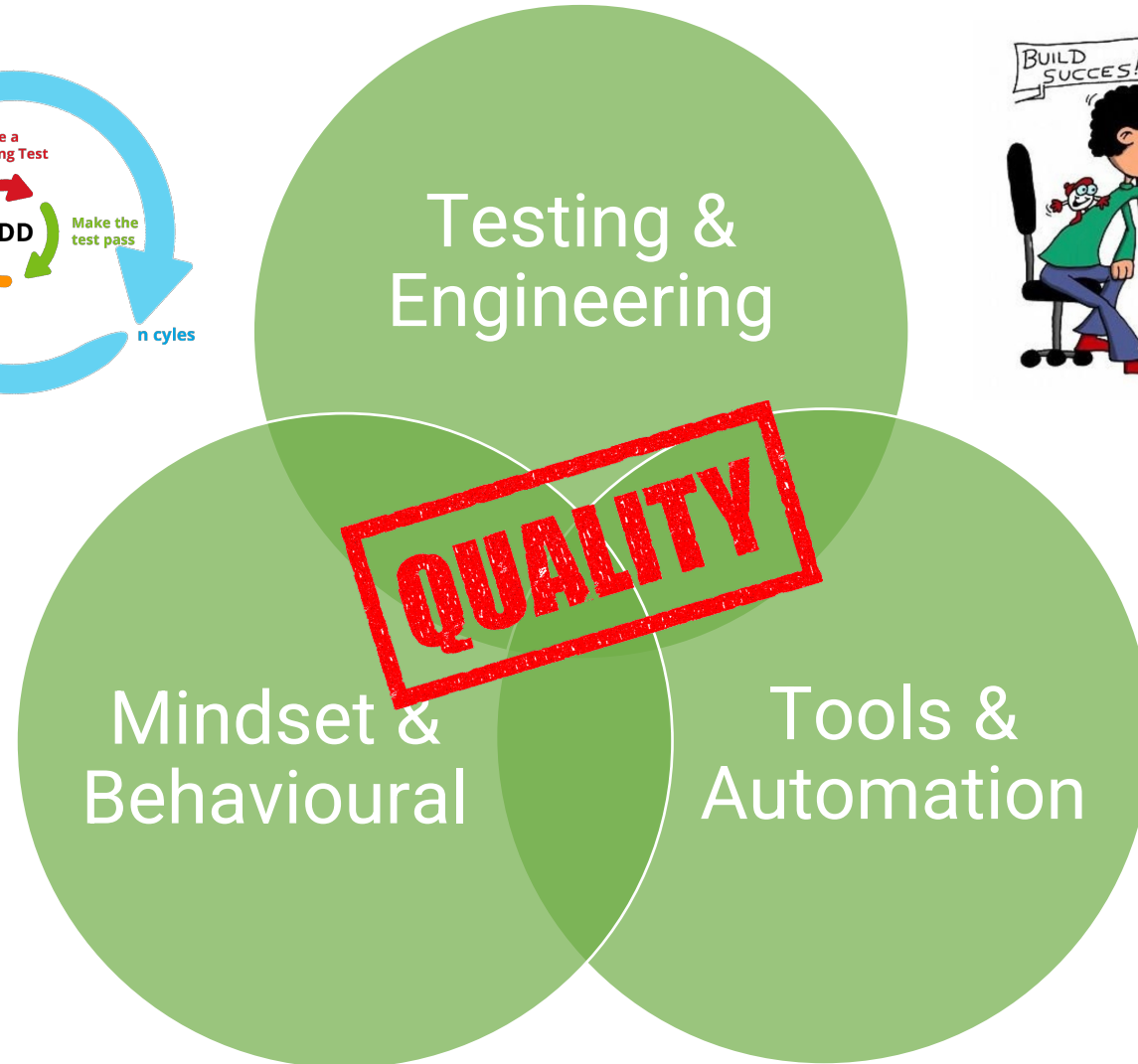
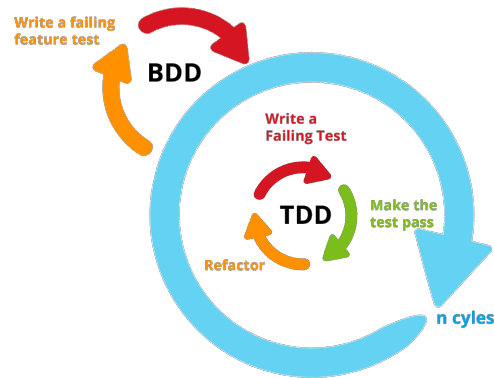


Pipeline & Release trends



Different Types of Skills?

Bringing Those Skills Together – Never Seek A Unicorn



Breadth & Depth of Skills?

T Shaped OR More Accurately - Tree Shaped Team Members

Agile Delivery Lead	Business Analyst	Product Owner	Quality Engineer	Software Engineer	UX Designer	Platform & SR Engineer
Agile Delivery Scrum/Kanban;	User stories, Requirements & writing user stories, Acceptance scenario	Understanding Customer needs & behaviours through insights	Building quality into products	Review code, unit/comp. test & architecture design	UX Lessons	Continuous Integration, delivery & deployment pipeline
Delivery Planning & Forecasting	Requirement gathering	Story mapping	Software Testing and tooling	Writing production code	Javascript, HTML, CSS	Systems and OS
Agile Facilitation	Process Modelling	Product Strategic Vision	Understanding automation	Design system architecture	Image, Icon, Logo design	Cyber Security
Agile Coaching	Data Modelling	Value Stream Mapping	Release management	Solution design	A/P Testing	Monitoring & Support
			Environment	Write unit & comp. tests		
			Cloud & Migration			

Breadth

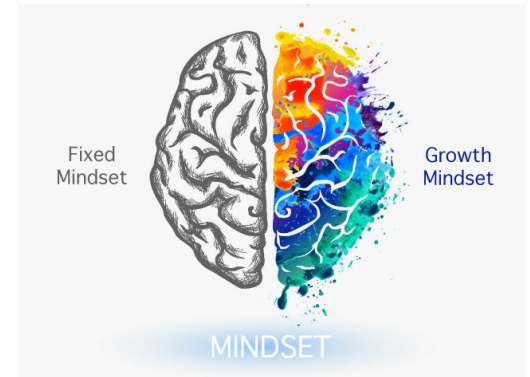
Depth



Building and Enabling Talent Pipelines

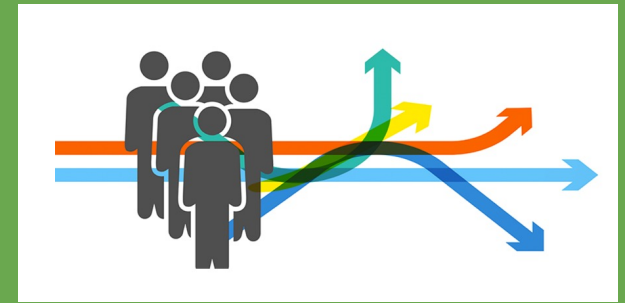
Talent Is Everywhere, So Where Do you Look?

Find diverse talent with a growth mindset looking for an opportunity to grow a career in tech...



...and provide them with the training, mentoring and coaching to enable and support that career

Learning & Development Journey



Building and Enabling Talent Pipelines

Talent Is Everywhere, So Where Do you Look?

EXPLORING



Store Colleagues

Returns to Work



Parents, ex-forces,
change of careers



Other colleagues

School Leavers



Those who won't
go to university

PARTNERED WITH



Building a Learning Culture

Dunelm Learning Charter

"When we stop learning, we stop growing"

Purpose

Everyone has the same opportunities and ownership of their personal development to be the best version of themselves.

Our commitment to you

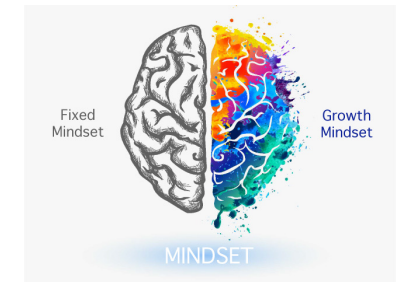
Create and enable an environment that will provide you with opportunities, guidance and support to own your personal development goals.

Your commitment to yourself & others

Take ownership and provide support to each other to ensure you are making the best of the opportunities available.



- Psychological Safety
- Diverse and Inclusive
- Empowerment
- Ownership
- Embrace & Celebrate Failure
- Leadership Support & Enablement



Learning & Development Journeys

Everyone's Journey is Different and Move at Different Speeds

Web Application Testing Fundamentals

API Testing Fundamentals

BDD Fundamentals

Agile Fundamentals

Agile Testing Fundamentals



Dunelm (Soft Furnishings) Ltd



PLURALSIGHT



Learning Communities At Dunelm

Everyone Learns Differently



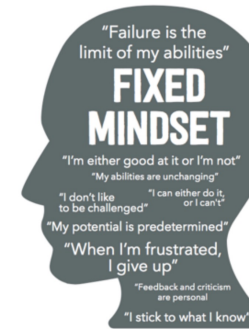
Quality Coaching, Mentoring & Training

Focus on coaching, mentoring & training at a 1-2-1, crew and wider business level to support and enable a Culture of Quality.



Guild, Workshops and Overviews sessions

Monthly opportunities for Dunelm to learn and share from internal & external experts, focusing on Quality.



Online Quality Academy

Learning platform to support the growth mindsets and career paths of our Quality Advocates and the wider organisation in relation to a Culture of Quality



Chapter Gatherings & Meetups

Hosting regular Chapter gatherings & Meetups, focused on building internal & external networks & bringing external learning closer to our teams



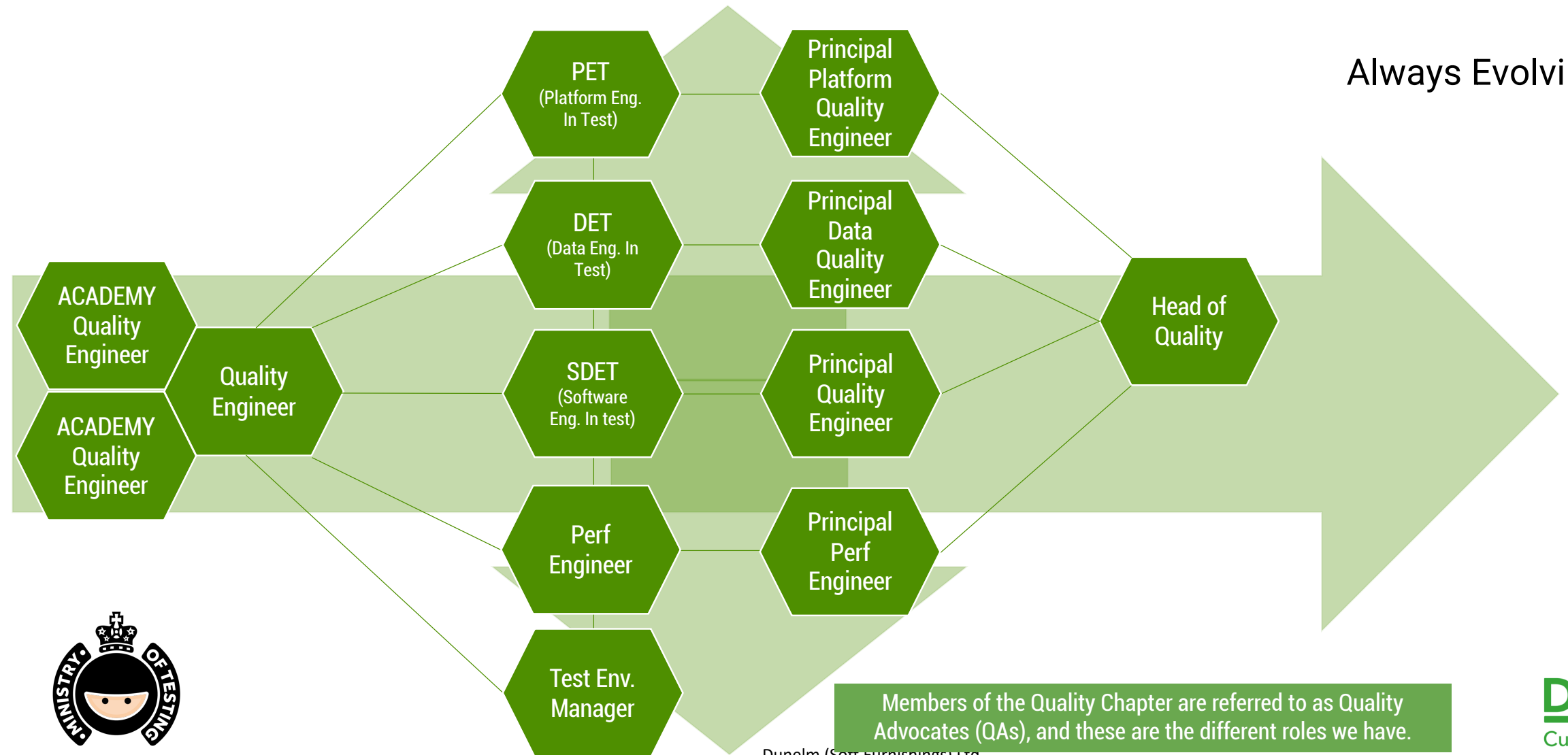


The Chapter has grown from around 20 people to 65 people since Sep 2020 – Supporting across all of technology

Quarterly Chapter Days

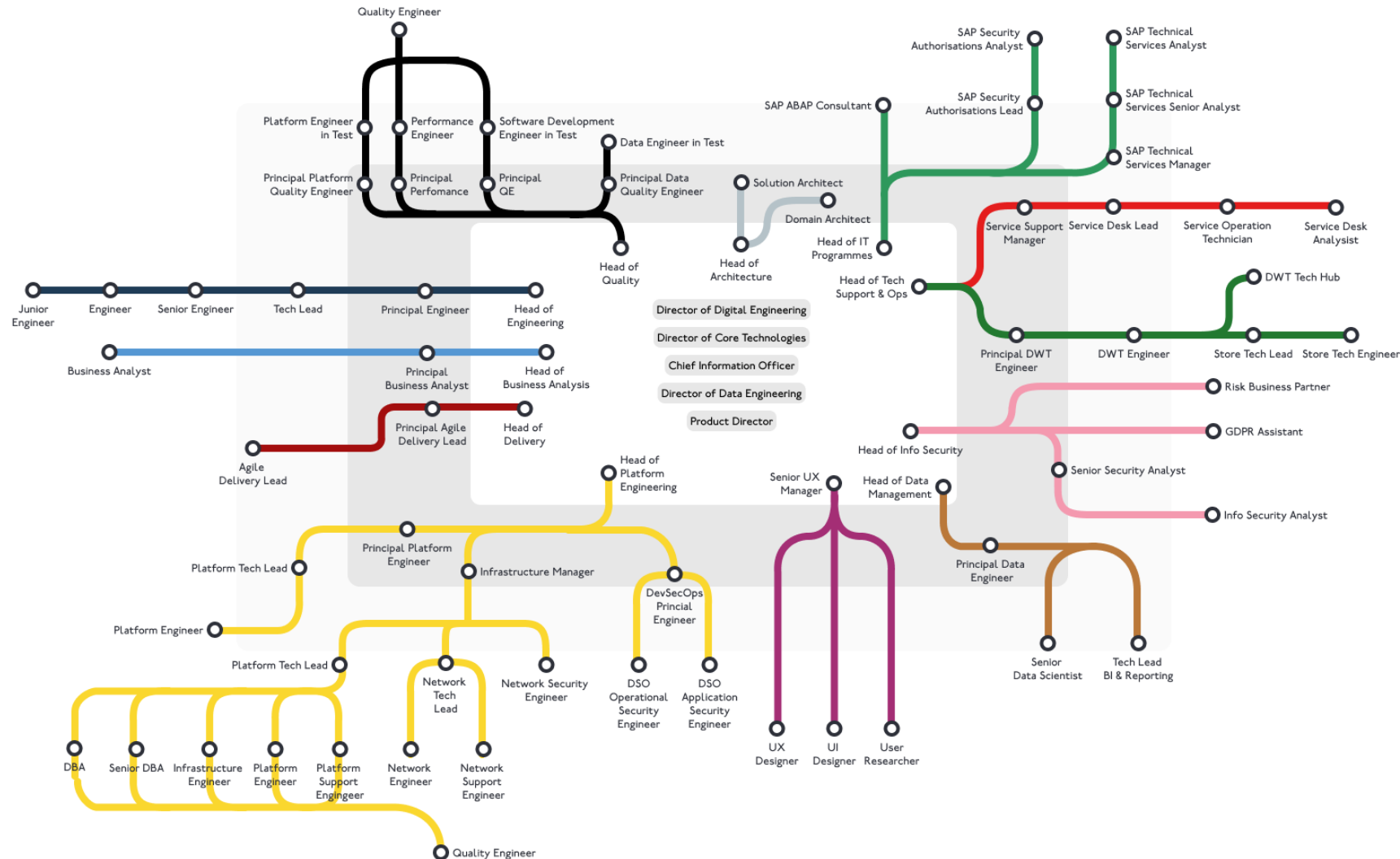
Quality Career Journeys at Dunelm

Always Evolving



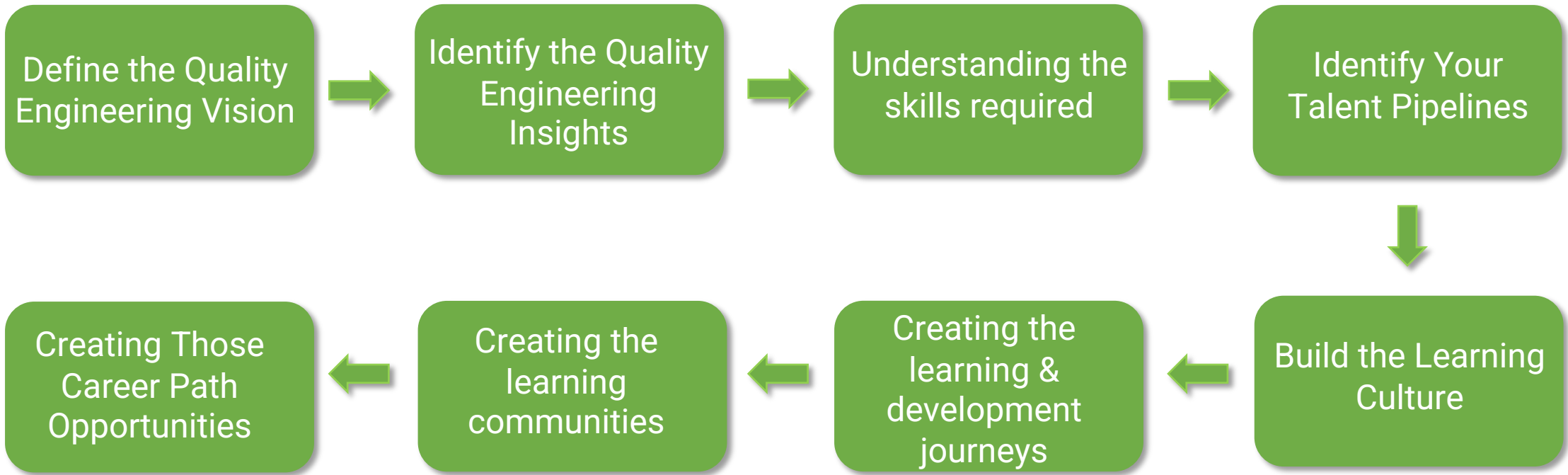
Members of the Quality Chapter are referred to as Quality Advocates (QAs), and these are the different roles we have.

Tech Career Journeys at Dunelm



To Summarise the Journey

Bringing It All Together For Everyone



Questions

