

**C I V I C**

*knows*

# ***Front End Development Definition***



Our front end development service provides engineers skilled in a number of Javascript based technologies including ES6, React, Angular, jQuery and NodeJS as well as HTML and CSS. Extensive experience delivering progressive web apps (PWAs), single page applications (SPAs) and responsive user interfaces (UIs) for web and mobile. The challenge associated with front end development is that the tools and techniques used to create the front end of a website change constantly and so the developer needs to constantly be aware of how the field is developing. This is where CIVIC's experience and flexibility comes in to deliver a modern front-end application which can last in time with the respective updates. Expertise in creating accessible front-end user interfaces.

## Features

- Expertise in ReactJS, Angular, TypeScript, jQuery, NodeJS, HTML, CSS
- Scalable, responsive, cross-browser applications and websites
- Development of Low Level Designs (LLD), architectures and design systems
- Test Driven Development (TDD) and test automation
- Agile development (SCRUM, Kanban)
- CI/CD and build automation (Jenkins, Gulp, Webpack, etc.)
- Development to GDS standards
- Cross-browser compatibility
- Accessibility compliance with WCAG 2.2AA
- Addition of AI components to enhance any product
- Periodical code checks for vulnerabilities and security patches
- Integrations via secure APIs with any organization platform

## Benefits

- Consistent style and brand throughout services
- High-performance user interfaces with reduced network traffic
- Accessibility conformance with WCAG
- Excellent user experience for end users
- Available on all platforms, including mobile and tablet
- Reliable, maintainable code bases with regular security patches
- Transparent development process with forecasting and issue tracking
- Reliable deployment process, allowing for rapid development
- Developers can pick up existing codebases and develop to standards
- Skills transfer of FrontEnd skills and processes to client organisation.
- AI enhanced components for efficiency

# *Enterprise-grade Software*

## *Maintainable, secure code base*

We use widely recognised coding standards, popular version control workflows and automated testing to promote well documented, reliable code bases that allows for easy collaboration across specialised teams and regular security updates with confidence.

## *Open source technology*

We use market leading open source technology to save time and resources for customised solutions that align with your business objectives and target audiences. Our multi-disciplinary team have extensive experience modernising legacy systems and guiding digital transformations of user experiences.

## *Transparent project progress*

We embrace the core values of Agile software development and pride ourselves in being transparent with our team and clients - giving regular, honest and open feedback on the project's progress to ensure value is added at every opportunity and every important touchpoint with your brand and users.

## *Regular, reliable deployments*

When it comes to understanding what works (and what does not), we never assume. From reusable design systems to fully functioning, distributed solutions - we invest in thorough automated CI/CD pipelines to deliver, monitor and scale high-traffic applications on our ISO27001 certified platforms.

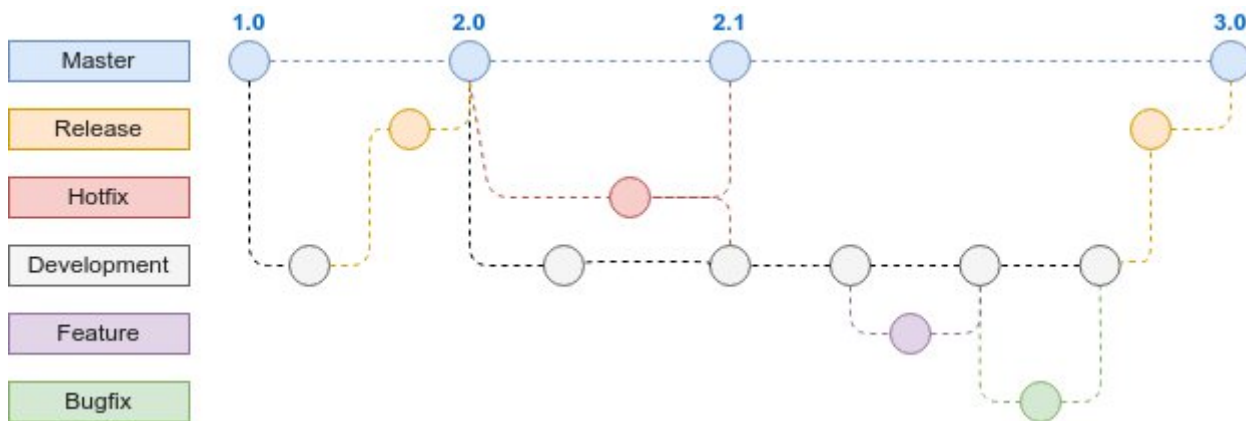
## *Knowledge transfer*

We're committed to sharing our know-how. So, from the basics to deep cuts, we help organisations get to grips with the solutions produced. We encourage shared ownership and collaboration, making it easy to scale teams, partner with experts and benefit from specialist domain knowledge experts.

## *Development Cycle and Processes*

### *Branching Strategy*

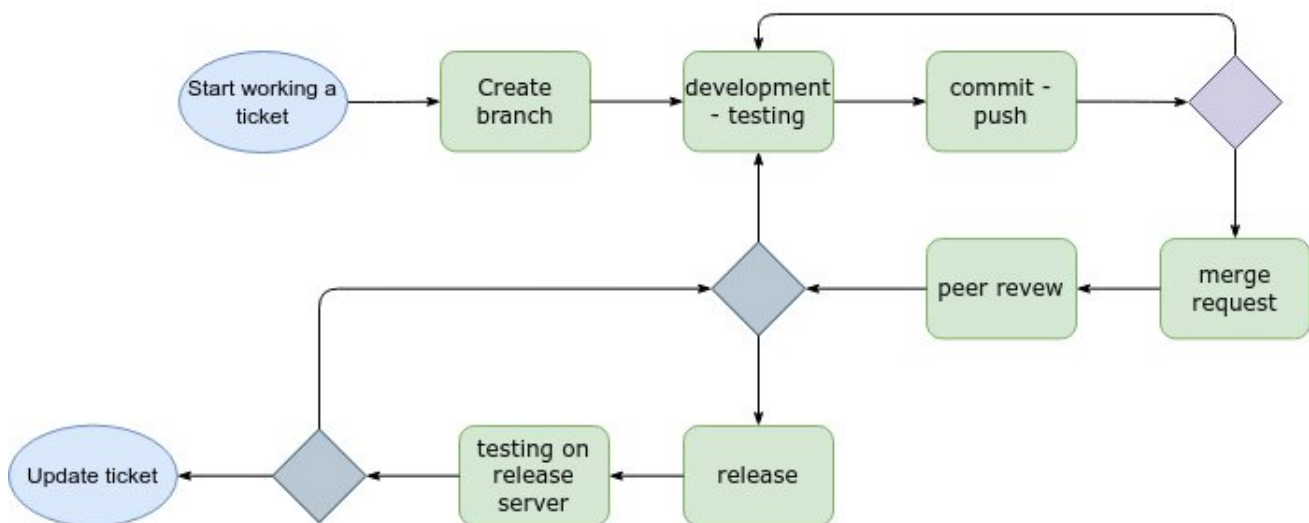
The essence of the git workflow that is followed during the team's development process is captured by the following image



The purpose of enforcing the above strategy across all projects (when possible and when making sense) is to ease the onboarding process of a team member to a project. Furthermore in case of an emergency or in case of an absent team member for whatever the reason might be, another team member will be able to identify what is needed for performing a release or investigating an error. Moreover, we take advantage of the parallel development nature for fixes and features using an efficient collaboration model.

## Implementation strategy

The following image presents the optimum overall way the development cycle goes through.



It, almost always, starts with a ticket assignment which describes the piece of work that needs to be undertaken. A new branch is created, which serves as the backbone of the necessary work. Depending on the nature of the ticket, the appropriate branch is also created. For example, if an urgent bug is identified on the live installation and needs urgent mitigation, a hotfix is necessary. Or if a new feature is under discussion for some future release, a feature branch is necessary. The actual development - testing and commit / push of the work follows. Once work is assumed to have finished a merge request is issued, which results in a peer review of the submission. This is the place of commenting for improvements, identifying unsurfaced bugs etc, which results in some more development. When everything checks out then a release is the next step. Again, depending on the nature of the issue being worked at, the release takes place in the necessary environment, pipelined or manual. Before anything else, testing of the release is performed on the necessary server installation. Relevant merged and released branches can be deleted. Finally, the original ticket is updated with the status of the item. However, ticket progress updates while working on the item, especially for bigger tasks, are always welcome.

### Flow Summary

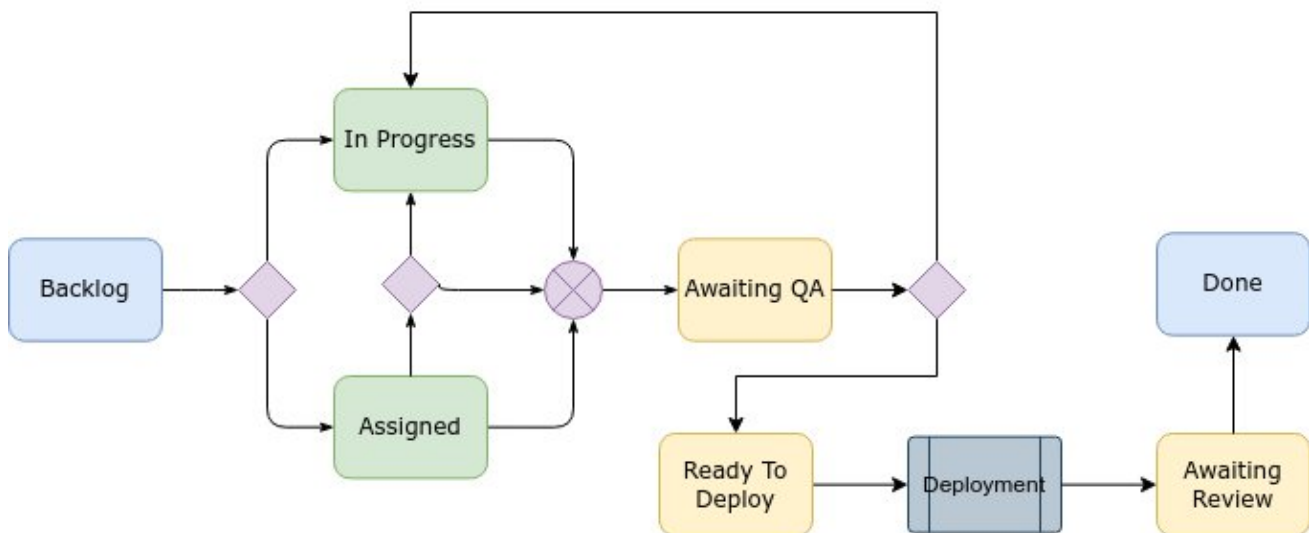
- A "development" branch is created from "master"
- "feature/xxx" branch is created from "development" and once completed it is merged back to it.
- If a live issue is detected, a "hotfix/xxx" branch is created from "master", which is then merged back to it as well as to "development".
- When an issue is detected on staging/dev environment that is related to an already merged "feature/xxx", a "bugfix/xxx" is created, which then is merged back into "development".

### Additional (handy) add-ons

- Whenever pushing something to a branch, a description is used that would help team mates understand the work carried out on the push.
- Whenever a release is performed, the released version is tagged (for quick browsing and overview). Tag naming convention: v.x.x.X

## Jira strategy

The essence of the Jira ticket workflow that is followed during the team's development process is captured by the following image



### Backlog

The main pool of tickets / issues / bugs / tasks, kind of an exhaustive future TODO list. Tickets in this pool can be assigned to a team member or not.

### Assigned

A ticket in this status indicates a short-list of issues that have been selected for implementation, kind of a pre-in-progress room. It can be used for weekly or sprint planning. Tickets in this pool, as the name suggests, need to be assigned to a team member. However, usage of this pool is optional.

**In progress**

Tickets in this pool are the ones that work is being carried out. This actually means that a ticket while being in this pool should not be unassigned and needs to be assigned to a team member. However, since additional work might be needed from another team member, the assignee of the ticket is possible to change.

**Awaiting QA**

A ticket being in this pool signals the fact that the necessary work has been carried out and no further actions is needed. A ticket in this pool means that a team member needs to peer review the functionality and possibly merge any relevant PRs to the appropriate branch. This status is relevant for the technical team.

**Ready to Deploy**

A ticket being in this pool signals the fact that full testing / QA has been carried out by the technical team and the functionality is on queue to be deployed on a dev / staging server.

**Awaiting Review**

A ticket being in this pool signals the fact that the functionality has been deployed on the relevant dev / staging server and that the team leader / product owner / project manager should perform the final test-ing / QA. If everything is found to be as expected then the ticket needs to be moved to status Done.

**Done**

Self explanatory pool of tickets that does not need further clarifications.

## Managed Hosting

It is important that your hosting platform is scalable and secure to allow for peak demand traffic and also provide the peace of mind of knowing your website is in safe hands. At CIVIC, we offer our own managed hosting services: scalable cloud hosting, dedicated servers, and multi-server infrastructures from our secure ISO27001 accredited Tier 3 datacentres in Edinburgh and Glasgow. Our main hosting environment is based at Pulsant in South Gyle, Edinburgh, which is currently the Scottish Government's approved hosting supplier.

To ensure scalability, resilience and security of your website, we recommend that you consider hosting your site on our general purpose clustered hosting platform. Benefits of this service include:

- Operational management, monitoring and backup procedures
- Service Level Agreement (SLA) for network uptime, service response time, support and cover, in and out of office hours
- Physical security, resilience, availability and security of the network
- High bandwidth

Our end-to-end hosting service proposition and the Service Level Agreement which underpins it enables us to offer managed infrastructure services to support both current and future requirements in delivering your web systems. We have built an enterprise level hosting environment to support our clients' business critical systems and ensure maximum 'up time' for their websites and applications. This environment has been designed to create a robust and resilient infrastructure and conforms to current IT best practice.

Our highly secure and robust hosting infrastructure serves both generalist and specialist hosting needs. We also operate a public cluster suitable for websites and applications with fairly common requirements,

plus private single purpose platforms and customised infrastructures for those who require it. There are no single points of failure and business critical hardware is replicated so that it can be deployed immediately if production systems fail. We deliver and take responsibility for a fully managed infrastructure, supported 24/7 from multiple sites in Europe, offering a combined service-desk which incorporates Technical Support, Service Delivery Management, and continuous proactive Quality Improvement.

## Contact

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