CIVIC

knows

Service: Custom Natural Language Processing solutions

Service Title

Custom Natural Language Processing solutions

Service Short Description

CIVIC offers custom made and flexible Natural Language Processing (NLP) solutions that can be applied to any natural language text input, including all widely accepted document types. Uncover valuable insights from text in documents, customer support tickets, product reviews, emails, social media feeds, and more. CIVIC's software provides the tools for analysing human languages and is useful for a wide range of applications. The organization can protect and control who has access to their sensitive data by identifying and redacting Personally Identifiable Information (PII) from documents. There's the ability to apply tailor-made business rules to meet specific business requirements and produce clean and intuitive outputs. Available in stand-alone mode or for integration within a pre-existing system. Processing services are built on top of parsing, tokenization, chunking, sentence segmentation, named entity extraction and the rest of the common NLP tasks.

Features

- Option to train a model according to the business requirements
- Model evaluation
- Open Source technologies and frameworks (no license cost)
- Automated testing
- Agile methodologies
- CI / CD processes
- DevOps automation and support
- Technical Documentation

Benefits

- Sustainable and reliable code bases, via SCM (git, svn)
- Solid automated deployment process allowing ad-hoc patches release
- Processes tailored to the user needs
- Platform independence
- Implementation process through planned updates
- Controlled updates through Continuous Integration / Continuous Development and Deployment (CI/CD) processes

Enterprise-grade Software

Maintable, 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.

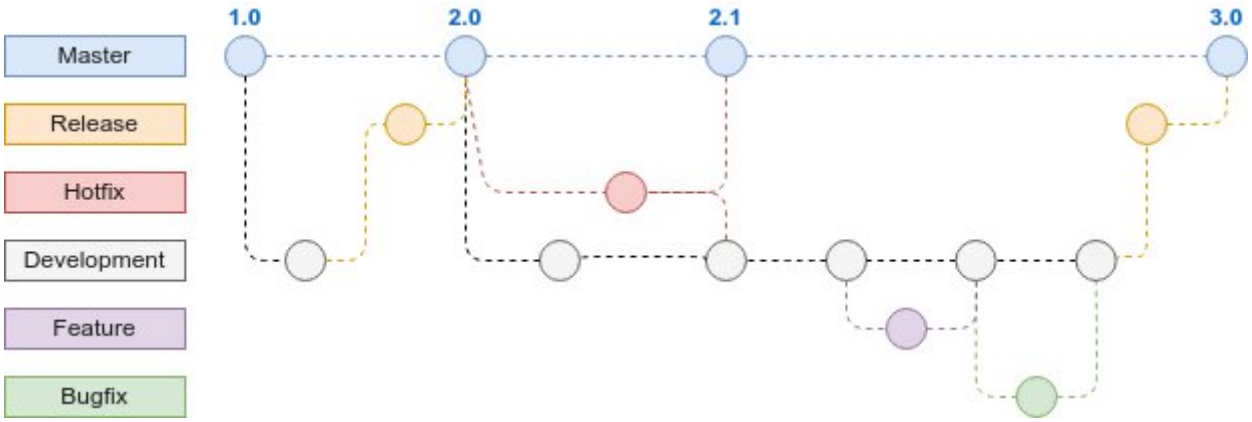
Knowledge transfer

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

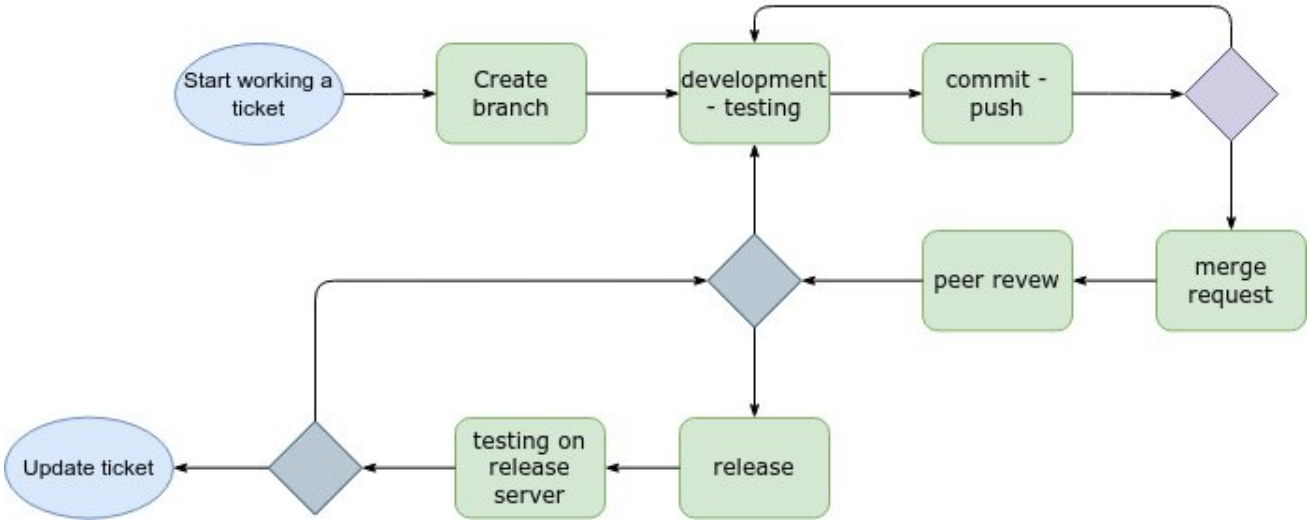
The essence of the git workflow that is followed during the team's development process is captured by the following image



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

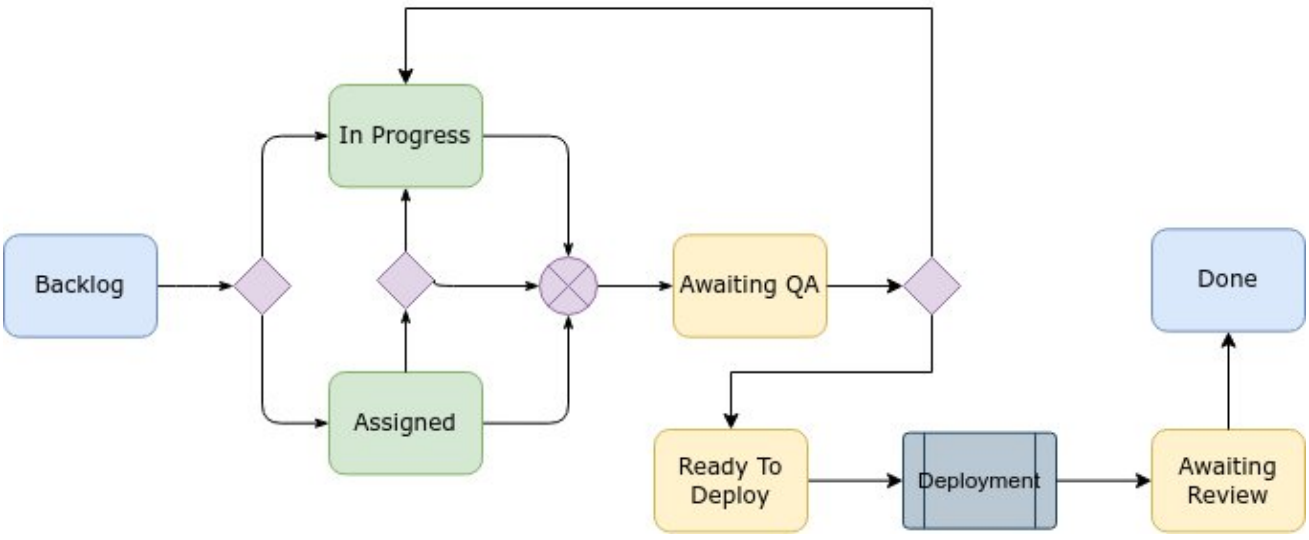
- A “development” branch is created from “master”
- “feature/xxx” branch is created from “development” and once completed it is merged back to it.
- If a live issue is detected, a “hotfix/xxx” branch is created from “master”, which is then merged back to it as well as to “development”.
- When an issue 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 testing / 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.

Clients of our hosting services include Parcelforce, Scottish Qualifications Authority and the Scottish Government Clients on our public cluster include RR Donnelly, NHS, Scottish Government, Scottish Tribunals Service, Education Scotland and the Scottish Legal Aid Board.

Contact

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