Digital Twin Consortium
Open Collaboration
QuickStart Project Proposal

Congratulations on choosing to explore an Open Collaboration Project through the Digital Twin Consortium. This document is intended to give you an overview of the space that DTC is offering, the reasons behind it, and what you should expect at each stage of your project's process. Welcome.

Project Types

Digital Twin Consortium (DTC) has chosen the term 'Open Collaboration' for projects instead of the more common 'Open Source' for a few reasons. While the mechanisms may be similar in running open collaboration projects and the communities around them, the intent of the projects often varies widely from the traditional goal of producing working software. Projects might exist to provide space to collaborate on an implementation guide for a specification, to communally create a data set intended as a benchmark for machine learning, or to create the more usual application, library, or plug-in.

We have three Project Types, and each project is categorized as one Type, based on the intent.

Open Source

The most familiar style of Open Collaboration Project (OCP), the intent of this project is to produce an asset that will be compiled or interpreted into an executable environment to produce work. This may be a full application, a library, a plug-in to an existing tool, or other software artifact. While the project may include example data, or documentation, those exist only to facilitate the creation or use of the primary asset.

Open Data

Open Data describes a project that is intended to host and curate data for further analysis. Examples here might be a large data set for machine learning (ML) to train ML systems with a common benchmark, or to provide sample data for commercial product comparison. While the project may contain software for an example viewer tool, or documentation on utilization techniques, they would only exist as a companion to the data set.

Open Content

If a project is neither Open Source, nor Open Data, as described above, then it is designated as Open Content. The intent is to share the content widely and provide for it to be openly

collaborated on by a broader community. A FAQ, an ontology, a glossary, a taxonomy, an implementation guide, a handbook, or training materials would all fall under this category.

The above categories reflect the best practices of current open community operation, help to focus the project and contributors towards a commonly understood goal, and work to eliminate assumptions among potential users of the asset in the future.

Licensing

Because the intent behind these differing assets can occupy a wide space, it is important to have the license for a project closely reflect the intent of the project. To that end, each Project Type has a list of approved licenses that it may choose from, to best support the intent of that Type.

We appreciate community contributions to the DTC Open Collaboration repositories and we follow standard practice to ensure that the community is free to use your contributions. This is accomplished by use of a Contributor's Licensing Agreement (CLA).

Review the CLA document

The DTC Open Collaboration Contributor License Agreement (CLA) document is available for review

All licenses below have undergone review and vetting for alignment with the DTC mission, and deemed to be 'not incompatible' with the DTC Intellectual Property Rights (IPR) policy. These licenses were chosen because they are ubiquitous, well understood by the majority of corporate legal departments, and are simple and clear. If your favorite license is not listed below, it does not mean that it is not available, only that a more formal review is required. You may request the addition of a license to these choices through the DTC Technical Advisory Committee (TAC) and DTC Steering Committee. License requests may or may not be approved and extended time may be required for legal review.

Project Type:

Open Source	Open Data	Open Content
Project Licenses:		
Apache 2.0	CDLA Sharing 1.0	CC-BY
MIT	CDLA Permissive 1.0	CC-BY-SA
BSD 3-clause	CDLA O-UDA	CC-BY-ND
	CDLA C-UDA	

References for these licenses are included at the end of this document.

Project Proposal

The application process to propose a project is streamlined and accomplished by accessing https://www.digitaltwinconsortium.org/initiatives/open-source-form.htm
Applying for an OCP will send your application to the TAC. The proposal application has four sections, which we will step through below.

General Information

In this section, we are looking to learn your view of the project, and how it connects to our larger OMG/DTC ecosystem of communities. The name of the project and the scope are straightforward: what is the project going to do? The connection to a Sponsoring Body, however, needs a bit of explanation.

Each OCP within the DTC space should promote the overall mission and all of its member communities. To this end, each OCP must be 'sponsored' by an existing community or group within the DTC ecosystem. This could be any one of our Communities. The intent is that there is a connection between the project being proposed, and the existing community space. In practice, this will not be a difficult bar to meet, our communities are filled with passionate people looking to advance the state of the art.

Here we are asking for the Sponsoring Body, and a brief description of why this is a good fit between the Sponsor and the Project.

Finally, we request the names of the official (but initial) Leads for the project. To help fulfill the mandate that there be a strong connection to the larger DTC ecosystem. This provides the highest probability of success by ensuring that the project is being mentored by individuals experienced with the process and the communities.

Project Governance

This next section addresses how the project will be governed. The first two questions are addressed above, as they ask for the Project Type and desired License. (Again, if another license is desired, you may request it, but it will delay the process and your request may not be fulfilled in the end. If time is of the essence, we strongly suggest that you choose one of the licenses on the application.)

Next, there is space to list the initial contributors of content, if they differ from the Leadership listed in the prior section. Combined with the next item, asking for known current or expected future resources, helps the review team know what the incoming state and initial trajectory of the project may be.

The next two questions regard the ongoing processes of the project. How will you decide which pull requests to accept, and which to deny? Do you have a plan for a regular release schedule, or will it be determined by the state of the project? These are important considerations for estimating what the ongoing viability will be. While these policies for each community will

undoubtedly be tailored over time as the community around the project evolves, having at least a good concept of what the operations of the project will look like is a way to avoid failure.

Finally, as a prompt for not just avoiding failure, but planning for success, what does success look like for this project? Is there a specific industry that is being targeted for adoption? Is there a community that needs assistance with a specific task? Are there industry metrics that this will affect? Perhaps a target number of university courses that will use the material? Is the project intended to be an incubator for a future specification? Consider what the end goal is.

Technical Information

How the project connects with other technologies or projects will be useful in seeing how it fits and connects into the overall ecosystem of communities. The first question discusses what other OCP projects the proposal may be related to. If this project complements other projects, that is important for letting the reviewers know to facilitate putting the projects teams in contact for possible further collaboration. Finally, if there are projects that the proposed project simply overlaps with, consider how this proposed one might work with the others to find common solutions to the overlapping areas. Essentially, consider the possibilities for collaboration with other projects and communities.

Next, describe any technologies that the project will depend on, including libraries, required operating systems, toolchains, or other requirements. Indicate what licenses may be required for each, and whether they are commercial or openly available. Finally, discuss the potential longevity of the dependencies. Is there a critical library that is currently a single students' class project? Does the project rely on a specific version of a tool that has a deprecation or license horizon? This provides an insight into the solidity of the foundation on which the project is being built.

Likewise, if there are any standards or specifications that are being used in the project, list and discuss them, preferably with URLs to the official definitions. This is useful for learning if the project is using a specification as a platform to innovate on top of, or if it intends to potentially extend a given specification in novel ways.

Any communications channels that the project is using, or plans to use, should be briefly discussed. This gives a sense of how large or active a community may already be formed around the project.

Finally, if the proposed project is likely to incur security liabilities, discuss whether the project has a Security Response Plan, and if so, what the plan entails. If this is not relevant, leave blank.

Other Information

There are a number of other discussions that can help provide context for the proposed project and offer insights into the project fit.

Are there any financial ties, such as grants, awards, or corporate sponsorships that are supporting the project? If so, list and briefly describe them.

Are there any known issues of longevity of the technologies among the project dependencies, or in the project itself? Consider possible filings for IP protection (patents, trademarks, etc), or other IP time-bound expirations that may be on the horizon that could cause potential issues in the future.

Are there any other liabilities, known or foreseen, that could encumber and endanger the project?

Is there a logo for the project? If so, provide a URL or upload the image file. It should be a vector graphics file in either SVG or EPS format.

Finally, are there any other factors or information that you believe the assessment team should know?

Next Steps

Submitting the completed application will send the application directly to the TAC assessment team.

Assessment

The assessment of a project proposal is performed by a dedicated review body, Technical Advisory Committee (TAC).

The application will be assessed according to the Proposal Assessment Criteria: DTC-Open-Collaboration-Project-Assessment-Criteria.pdf (*digitaltwinconsortium.org*)

The goal of the assessment panel is to review the project proposals and ensure project alignment with the mission and goals of the DTC.

Formation

Once a project is approved, it will generate a number of documents that need to be signed by responsible parties to begin the formal process of formation.

After the charter has been signed and approved, the project will have the support tooling created around it. The primary tool will be, of course, a GitHub repository. By default, the name

of the project will be appended to the DTC GitHub organization space, to result in a URL such as https://github.com/digitaltwinconsortium/myprojectname/

The repository will be initialized with the correct license files, Contributor Licensing Agreement (CLA), and other necessary administrative documentation.

At this point the Project Leads listed in the Charter will be provided with administrative access to the GitHub repository, and they may begin coordinating the initial import and contribution of asset content.

Governance

Lead Responsibilities

The Leads of the project are what provide the spark to keep the project moving along. While the tangible work is optimally contributed from many sources, the Leads provide the vision, the guidance, and set the tone and pace for the project. Ideally, Leads should be responsive to the needs of the project and contributors, including approval of core team members, timely responses to queries, organizing pull request assessments, and other administrative tasks.

In addition to the leadership elements, Leads are responsible for a few concrete items:

- Reporting state of the project to the Sponsoring Body
- Administration of the project through the supplied tools
- Enforcement of the DTC Code of Conduct

Reporting

As each OCP has a Sponsoring Body behind it, the OCP Leads should be in regular contact with and providing updates to the Sponsoring Body. This is often in the form of monthly or quarterly emails to the Chair(s) of the Sponsoring Body. The report should provide a snapshot of the 'state of the project'.

References

Licenses

- Apache 2.0
- BSD 3-clause
- MIT
- Community Data License Agreement – Sharing, v1.0
- Community Data License Agreement – Permissive, v1.0
- Open Use of Data Agreement, v1.0
- Computation Use of Data Agreement, v1.0
- Creative Commons Attribution 4.0 International
- Creative Commons Attribution-ShareAlike 4.0 International
- Creative Commons Attribution-NoDerivatives 4.0 International