



OpenDOF Development Process

Technical Steering Committee

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Background

The Technical Steering Committee (TSC) charter specifies that the committee will propose technical rules surrounding the development process. This document contains the current accepted rules and development process.

The OpenDOF Project Board of Directors has ultimate authority to oversee the policies of the TSC. As emphasized in the TSC Charter, the guiding management principle is to establish an open and transparent process with fair, open, and consistent communications.

The TSC Charter further specifies the responsibilities of the TSC, which are:

1. Manage release planning and systems,
2. Establish release quality standards,
3. Establish technical best practices,
4. Monitor technical progress,
5. Mediate technical conflicts, and
6. Foster collaboration.

This document includes the information for each of these responsibilities.

Projects

The TSC Charter identifies a project as the basic element for code contribution. It further specifies that projects have a well-defined scope, a set of assigned committers, and be part of a working group.

Projects shall be created by the TSC in response to requests as defined later in this document. An important aspect of a project is the artifacts that it releases. Ultimately all releases tie back to a project.

Working Groups

Working groups are established by the TSC to group and coordinate projects. Each project belongs to a working group. Working groups represent areas of development that span long time periods and may contain many projects of either short or long duration.

Working groups shall be created by the TSC in response to project creation and when the new project does not logically fit into an existing working group as defined later in this document.

Voting Procedures

There are two types of voting procedures identified in this document. The first represents voting for people, the second represents voting on issues.

Voting for People

The TSC Charter specifies that elections of persons follow a multiple candidate process using an instant-runoff. Votes for people are established and notice given by the chair of the voting group or the TSC chair. The ballot shall be formed from all eligible candidates that have not withdrawn (by written notification to the chair who called the vote). In the case of a tie in those receiving the lowest number of votes during a round all tied candidates are removed from the next round. In the case of a final tie the chair shall decide the winner out of those remaining.

All votes for people will use the voting mechanism of the member site (<https://member.opendof.org>). The vote and ballot shall be announced at least two weeks before the date of the vote, with ballots being cast starting three days before the closing date of the vote.

The TSC may modify the typical voting procedure as circumstances require.

Voting for Issues

The TSC Charter specifies that voting for issues is done by simple majority. Ties are broken by the chair of the group holding the vote.

Votes for issues may use either the member site or a vote during a meeting at the determination of the person establishing the vote. The issue of the vote and the result shall be kept in the minutes of the meeting in which the vote occurred or on the member site if used.

Project and Working Group Creation

The following sections detail the creation of projects and working groups.

Project Creation

Requests to create projects are initiated through email to the TSC at tsc@member.opendof.org. The request must include:

- The proposed purpose and scope of the project.
- The proposed initial set of committers to the project. These individuals must already be contributors as defined in the IPR Policy.
- The proposed working group for the project (which may be ‘new’).

The request may include other details as desired, including recommendations on any of the final details indicated below.

The TSC will create a discussion forum for the request, and members of the TSC can discuss the details of the project. This discussion will result in determining all information in preparation for a vote, including:

- The project name and description.
- The purpose and scope of the project.
- The initial set of committers.
- The working group for the project.
- The repositories and other resources for the project (including issue tracking, etc.).

The TSC chair will establish an issue vote of the TSC as described earlier. The TSC will then vote on the issue. If accepted, the new project and any associated working group will be created.

Working Group Creation

Working groups are established by the TSC as required by projects. During the discussion of a project (presented above) the determination of the appropriate working group is included. If the discussion results in creating a new working group then the vote for the project will include that issue as part of the vote.

If the project attached to a new working group is accepted a vote for the chair is scheduled as discussed earlier. The only exception to the general case is that the TSC chair would break any tie in the voting as there would be no existing working group chair.

Managing Release Planning and Systems

The TSC establishes goals for release timing and provides systems used to create releases.

Release Planning

Releases are done by project and contain a defined set of artifacts. The TSC chair must give 10 days' notice to the Board before the public release of a Major Modification, which in the context of the development process is any release that increases the major or minor version of an artifact.

Board review may occur in parallel with other release preparation (testing, etc.).

Systems Used For Releases

The TSC establishes systems for the management of source, the building of artifacts, and the release of artifacts.

Currently the approved systems are:

- <https://source.opendof.org>, an Atlassian Stash server, for all source code. Each project is allowed a set of repositories on this server as defined by the project.
- <https://build.opendof.org>, a PMEase QuickBuild server, for all automated builds. This server is not open to the public.
- <https://opendof.org>, a WordPress server, for the distribution of announcements and released artifacts.

Release Quality Standards

Each project proposes the quality level of the artifacts that it produces for approval by the TSC. The quality level can be one of:

1. **Production.** This is the highest quality level, indicating that the artifact is suitable for use in products.
2. **Reference Implementation.** This is a high quality level, indicating that the artifact could be used in products after some modification or customization.
3. **Pre-release.** This is a variable quality level depending on the particular release. A pre-release artifact may be used for external testing, product development or evaluation. It should not be used in a product release.
4. **Sample.** This represents a lower quality level as sample may eliminate error checking to increase understandability.

The quality level of an artifact may be changed during the lifecycle of the project. Changes should be approved by the TSC.

All releases must pass a minimum level of quality which ensures:

1. The artifacts are traceable (see the section on best practices).
2. The quality level of the artifacts is clear to a user.
3. Issues can be reported against the artifacts.
4. Users can view or obtain the results of any formal testing that has been done on the artifacts.

Test plans should exist for each artifact. Test plan creation is ultimately the responsibility of the project itself and should be monitored by the TSC.

Technical Best Practices

The following best practices should be followed by all projects.

Design Documentation

Each project should document its designs. This may include design documents, code comments, or other means appropriate to the artifacts being produced.

Code Style

Each project should establish a coding style and use that style consistently. In general, coding style should flow from the TSC to the working group and finally to the project. Committers should ensure consistent style before committing, and non-conforming individual styles should not be allowed.

Consistency

External APIs and general terminology should be consistent across projects. Terminology should flow from the TSC to the working group and finally to the project. External APIs should be approved by the working group before release.

Versioning

Each artifact should be versioned. The versioning shall follow these rules:

1. Each version has a major, minor, patch and build.
2. The build is typically not shown to the user but is available.
3. Patches must not make any public API changes. This means that two artifacts that differ only in patch can be interchanged.
4. Minor versions must be backward compatible. This means that two artifacts that differ by minor versions may introduce new capabilities but not remove existing capabilities.
5. A major version change is unrestricted in what it can change.

The name of an artifact can be changed at any time, although it is discouraged. The same is true for adding or modifying dependencies.

Build Automation

Artifacts that are released should always be built using the systems provided by the TSC and always using automated processes. No artifact should be built by an individual on their own equipment. Artifacts from third parties should be committed to source control.

Monitoring Technical Progress

The TSC is responsible for monitoring the technical progress of projects. This responsibility is delegated to the working group chairs for day-to-day monitoring. The working group chairs will report to the TSC on progress during TSC meetings.

Projects are highly encouraged to define plans and use development methods that promote visibility into tasks and completion percentages so that progress can be tracked. The TSC provides tools through both the issue tracker and the member site to manage task assignments and completion. Projects are also encouraged to dedicate sufficient time to design and testing to both produce good plans and minimize the risk of release slippage due to issues found during testing.

It is understood that most technical progress occurs because of donated time by contributors and as such adherence to schedules may not always be possible.

Mediating Technical Conflicts

Conflict is unavoidable as individuals become invested in particular solutions over others. The overall goal of the project is to be open and consistent in the way that decisions are made. An emphasis should be placed on finding the best solution to a problem given the documented requirements and constraints.

In all cases, conflict resolution should begin at the project level. The committers are those primarily involved in the discussion. If the committers cannot resolve the conflict then they should elevate to their working group chair.

The working group chair can leverage the project committers and other committers in the working group to resolve the conflict. If the working group is not able to come to a resolution then the conflict should be elevated to the TSC chair.

The TSC chair can either:

1. Immediately decide the issue or resolve the conflict.
2. Leverage the TSC for input, including calling votes or using discussion groups.
3. Open the issue for discussion among multiple working groups.

The decision of any technical conflict can be appealed either to the working group chair or the TSC chair. In either case the issue is treated as if it were unresolved at the lower level.

There is no appeal for decisions made by the TSC chair.

To the extent possible discussions should be documented. This can be in the form of meeting notes or discussions on the member site.

Fostering Collaboration

The TSC meets its goal to foster collaboration by providing both tools and example.

Collaboration Tools

The OpenDOF Project contracts with VTM to provide day-to-day management as well as technical support. The Causeway system is available at <https://member.opendof.org> as the primary means for members, committers, and contributors to collaborate.

Working groups, projects, the TSC and board all can leverage the features of the site to share documents, hold discussions, track deadlines and meetings, delegate and track tasks, and hold votes.

All technical documents should be stored either using the member site or in an authorized source repository. Other resources and tools must not be used without explicit approval from the TSC.

Example

The TSC should be an example of open collaboration. To the extent possible all TSC documents should be accessible.

The TSC will watch the working groups and point out areas where openness and collaboration could be improved.