



CS Labs – Web

Open Source Selection Report

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Contribution Breakdown

<i>SUM of Total</i>	<i>User</i>				
<i>Time Sheet</i>		Barel	Chase	Jason	Grand Total
	0:00:00				0:00:00
08/11/2019		15:00:00			15:00:00
08/25/2019		5:00:00		3:00:00	8:00:00
09/01/2019			7:30:00		7:30:00
09/08/2019		9:30:00		5:15:00	14:45:00
09/15/2019		7:45:00	13:00:00	8:12:00	28:57:00
09/22/2019		3:00:00	2:15:00	5:55:00	11:10:00
09/29/2019		11:45:00		16:45:00	28:30:00
10/06/2019				8:30:00	8:30:00
10/13/2019		5:30:00	5:00:00	12:25:00	22:55:00
10/20/2019				9:45:00	9:45:00
10/27/2019			2:00:00	10:30:00	12:30:00
11/03/2019				33:45:00	33:45:00
11/10/2019				5:10:00	5:10:00
Grand Total	0:00:00	57:30:00	29:45:00	119:12:00	206:27:00

Key Personnel Information

Jason Gallavin – Project leader, contributes by creating reports, deciding architecture and larger project decisions.

Barel Musenga – Full Stack Developer, contributes by implementing the front end and back end, and parts of the lab automation.

Chase Benston – Full Stack Developer, contributes by implementing the front end and back end, and parts of the lab automation.

ASP .Net Core

1. Are the open source license terms compatible with my business requirements?

ASP.NetCore is released under MIT licensing. This means we can use the framework commercially without any issue. If we were to copy the source then we have to attach the license to that as well but we are not copying the software, only using it.

2. What is the strength of the community?

Microsoft is focusing their efforts on .Net Core for the future. The community loves the idea of being able to run .Net on Linux. There are 35 million total downloads of this package.

3. How well is the product adopted by users?

ASP.Net Core is still a newer package but is used by several large companies. Stack Overflow being on of the companies at the top of the list use ASP.Net Core and saved months of their development time.

4. Can I get a warranty or commercial support if I need it?

LTS versions are supported for 3 years. ASP.net does not provide any commercial support as issues are handled through github issues.

5. What quality assurance processes exist?

ASP.Net Core uses Azure pipeline to run tests and automated regression tests. This provides good quality releases.

6. How good is the documentation?

The documentation on the controllers are very good. A lot of the basic necessities that this framework provides just works with a simple and easy to understand format.

7. How easily can the system be customized to my exact requirements?

ASP.Net core uses a dependency injection system that allows you to customize many aspects of request handling. Many features like Middleware, JSON encoding, and dependency injection are configurable.

8. How is this project governed and how easily can I influence the road map?

Microsoft governs the roadmap of this project in correspondence with the .Net Core releases. If you submit a feature request that a lot of people find is needed then it will be considered for the road map.

9. Will the product scale to my enterprise's requirements?

ASP.Net Core is faster than ASP.NET which is battle tested in large scale enterprise environments. With the .Net Ecosystem and safe typing, the project can scale to a very large size without causing breaking changes in improper refactoring.

10. Are there regular security patches?

Microsoft provides regular releases on the github releases page found here <https://github.com/aspnet/AspNetCore/releases>. There have been 84 releases showing steady flow of security fix and features.

Entity Framework Core

1. Are the open source license terms compatible with my business requirements?

Entity Framework Core uses the Apache 2.0 License which allows commercial use of the product. This will provide for all of our requirements.

2. What is the strength of the community?

Entity Framework Core has a strong community backed by Microsoft. There are 44k Downloads per day with 60 million total downloads. Microsoft is choosing to invest their future into .Net Core and .Net Core packages which is a really smart move.

3. How well is the product adopted by users?

Entity Framework Core had its 1.0 release back in 2016. Over the past 3 years, they have made 5 major releases and over 72 total releases. Microsoft is going to be putting more and more emphasis on .net Core which means Entity Framework Core will continue to grow. Microsoft and many others are using Entity Framework Core to pave the way to a better way to develop.

4. Can I get a warranty or commercial support if I need it?

Entity framework is completely free. Support is provided by Microsoft in the form of github issues. You can submit an issue on GitHub and if urgent, they will release a fix quickly.

5. What quality assurance processes exist?

The project runs through an automated testing pipeline provided by Azure pipelines. If tests fail then they will not release the new version. This includes regressions tests. Breaking changes are detailed in major version changes.

6. How good is the documentation?

The documentation outlines the core set of features of the package. It is a little better than Microsoft's standard level of documentation. Microsoft hasn't been the best at documentation in the past but this documentation is definitely a big step in the right direction.

7. How easily can the system be customized to my exact requirements?

Entity Framework Core can be ran on Any OS. It has less options than Entity Framework 6 (EF 6) but soon all of the features of EF 6 will be ported over to EF Core. Entity framework core supports all of the relations we are using in our project out of the box.

8. How is this project governed and how easily can I influence the road map?

Microsoft governs this product and accepts PR's from the public. Large corporations could possibly influence the roadmap but Microsoft is controlling the roadmap in tandem with .Net Core. You can see that roadmap at <https://docs.microsoft.com/en-us/ef/core/what-is-new/index>. You can also see weekly updates at <https://github.com/aspnet/EntityFrameworkCore/issues/15403>.

9. Will the product scale to my enterprise's requirements?

Entity framework core is serving as a predecessor of Entity framework. Entity framework is battle tested with large corporation and Microsoft itself. .Net Core is rising to prime time as more and more people want to run .net on linux.

10. Are there regular security patches?

There are regular security fixes that are tracked on the releases page on the github repo <https://github.com/aspnet/EntityFrameworkCore/releases>. Microsoft takes security issues seriously and patches security flaws as soon as possible.

ReactJS

1. Are the open source license terms compatible with my business requirements?

Reactjs is released under MIT licensing. This means we can use the library commercially without any issue. If we were to copy the source then we have to attach the license to that as well but we are not copying the software, only using it.

2. What is the strength of the community?

The ReactJS community contains millions of developers. There are hundreds of conferences every year to showcase ways to use ReactJS. They include a link to many discussion forums and Q and A websites for help directly from their site. <https://reactjs.org/community/support.html>

3. How well is the product adopted by users?

ReactJS has a massive user base. Companies like Facebook, Instagram, Netflix, Yahoo, and WhatsApp use ReactJS in their products. ReactJS is also used by a lot of smaller companies as well because of its low level of entry.

4. Can I get a warranty or commercial support if I need it?

ReactJS is fully open source and free. There is no commercial support offered. However ReactJS is so ubiquitous that you can use 3rd party companies to provide support for you.

5. What quality assurance processes exist?

React uses CircleCI for their automated testing. These tests are run before every release to make sure features are not broken. There are enough tests in the system that React was able to do a complete rebuild off of the current set of tests and had a working product at the end of it.

6. How good is the documentation?

React contains comprehensive docs on their page. The great thing about react is there isn't much to it. A lot of the extra features are added by 3rd party packages. The documentation can be accessed here <https://reactjs.org/docs/getting-started.html>.

7. How easily can the system be customized to my exact requirements?

ReactJS provides a way for your UI to react to your variables. It is very small and portable allowing you to bootstrap it into many existing applications. That being said, we are only using the main features of the project and won't need to venture outside of that.

8. How is this project governed and how easily can I influence the road map?

The project is governed by the contributors with edit access. Public users can start issues in github and if many other people want that feature too then it will be considered to be added to the roadmap.

9. Will the product scale to my enterprise's requirements?

ReactJS supports chunking to allow for massive scale. Pages and other sections of code can be loaded incrementally to provide a smaller bundle to the user. ReactJS is used in many Enterprises proving that React can support enterprise needs.

10. Are there regular security patches?

React protects against XSS and is only used on the frontend. It can't be used to compromise your backend. That being said ReactJS does not give any specific word for security as XSS is the main security issue on front end projects and it has been covered.

Typescript

1. Are the open source license terms compatible with my business requirements?

Typescript uses the Apache 2.0 License which allows commercial use of the product.

2. What is the strength of the community?

Typescript is backed by microsoft and contains a large amount of js developers. There are conferences that thousands of developers go to each year.

<https://www.typescriptlang.org/community/>

3. How well is the product adopted by users?

Typescript was chosen as the primary language by Angular. It has fantastic support in Reactjs as well with some react libraries migrating their projects to Typescript.

4. Can I get a warranty or commercial support if I need it?

Through a microsoft subscription you can get support for all kinds of technology including Typescript.

5. What quality assurance processes exist?

The language runs through an automated testing pipeline provided by Azure pipelines. If tests fail then they will not release the new version. This includes regressions tests. Breaking changes are detailed in major version changes.

6. How good is the documentation?

The documentation is excellent. The great integration with angular and react provide an easier transition from normal js. <https://www.typescriptlang.org/docs/home.html>

7. How easily can the system be customized to my exact requirements?

Typescript has tens of compiler options that include setting actions are allowed and how to load types.

8. How is this project governed and how easily can I influence the road map?

The language is governed by the contributors with edit access. Public users can start issues in github and if many other people want that feature too then it will be considered to be added to the roadmap.

9. Will the product scale to my enterprise's requirements?

Typescript is built for enterprises. The type checking allows the project to grow to a massive scale and prevent refactoring from breaking the project.

10. Are there regular security patches?

Typescript releases a new minor version few months. Typescript is just a type layer on top of js with no runtime usage so it has very few security related concerns.

MariaDB

1. Are the open source license terms compatible with my business requirements?

MariaDB is governed by GPL-2.0 license. It can be found at <https://mariadb.com/kb/en/library/licensingfaq/>. It allows commercial use without any licensing.

2. What is the strength of the community?

MariaDB contains a lot of the community for MYSQL. MariaDB's community is more open providing more transparent goals. Many hosting providers like Azure provide MariaDB as an option because of its large user base.

3. How well is the product adopted by users?

MariaDB is adopted and sponsored by IBM, Microsoft, CBS, and more. Having Microsoft as a sponsor increases the confidence that this project will continue to thrive.

4. Can I get a warranty or commercial support if I need it?

Commercial support is provided through MariaDB Platform that provides many of the enterprise features that you would expect from a Relational database including Automatic failover and read / Write Splitting.

5. What quality assurance processes exist?

The project has automated tests ran through appveyor. These tests provide regression testing preventing from working features breaking in the future. MariaDB has a dedicated time each week where they answer new contributor questions and anyone can get answers from real developers on the MariaDB Team.

6. How good is the documentation?

There is documentation detailing all the features of the database server. It includes examples with a comments section where people can elaborate on concepts taught.

7. How easily can the system be customized to my exact requirements?

MariaDB contains a my.ini file that contains hundreds of settings allowing you to customize the database to

8. How is this project governed and how easily can I influence the road map?

By using MariaDB enterprise you can get a larger say in what features are selected for the road map.

9. Will the product scale to my enterprise's requirements?

MariaDB is used in enterprises across the Globe. The database can handle Millions of records but this application does not create a large amount of data because rows are only inserted when users start a new lab, a user is registered, or a new module is created.

10. Are there regular security patches?

MariaDB fixes critical bugs within hours. Medium bugs will be released in the next planned release per the release schedule. <https://mariadb.org/about/security-policy/>