

Future Technology Laboratory

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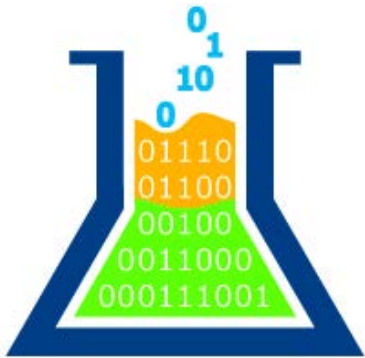

innovation
inspiration, incubation, illumination...

VA



U.S. Department of Veterans Affairs

Veterans Health Administration
Office of Connected Care



Future Technology Laboratory

Guidance to Submission to OSEHRA for Certification

The VHA Innovation Program's Future Technology Laboratory (FTL) is the "VA's sandbox cloud," a development infrastructure and software used as a service platform that is publicly accessible and external to the VA's internal network. The FTL provides many useful services and now hosts instances of the Enterprise Health Management Platform (eHMP). The FTL is a valuable technical resource for VA employees, contractors, and 3rd party developers, whose goals are to develop software to improve healthcare for Veterans.

The purpose of this document is to help development teams ensure that their code will be ready for submission into Open Source – such as OSEHRA, into VA Production systems, and otherwise.

The information below explains the following:

- Redaction
- Repositories
- Document Standards
- Sample OSEHRA Submission Checklist
- OSEHRA Submission Guide

Redaction

In the hopes of avoiding the brunt of a redaction process, development of innovation projects are to be performed on systems in the Future Technology Laboratory (FTL) {a.k.a., 'Sandbox'}. By doing this, the use of internal VA sensitive IP addresses, system names, protected health information (PHI), personally identifiable information (PII), and accidental inclusion of any usernames and passwords is avoided.

Repositories

All project groups are given a [github](#) repository for their project in which to openly and collaboratively develop. Outside developers can also peruse the code and make suggestions and ask questions. The FTL repositories are located here: <https://github.com/VHAINNOVATIONS>

Anyone can sign up for a free account and a ticket into the [FTL help desk](#) system can be used to request the repository. It is necessary to provide the GitHub 'username' NOT email address to assign repository access.

Document Standards

The following list details mandatory documents that shall be included in each Innovation project GitHub repository.

Documentation

- **Installation Guide** – An installation guide shall provide minimal hardware, operating system requirements, pre -requisites, and full instructions on installing the software to create an operable product. The document will assume that there is no operating system installed on a target system(s) for installation. If there are multiple systems that comprise the overall solution, sections within the document will show full instructions for the installation of each system that will yield an operable solution.
- **System Administrator Guide** – A system administrator guide will detail all aspects of configuration and maintenance of the solution to include supporting end-users, migration to alternate hardware, change of IP addresses, as well as backup, recovery, and fixes to common issues.
- **Technical Manual** – A technical manual will detail the solution from a technical perspective providing both text and diagrams of the solution from a physical, logical, business workflow, as well as a software architectural perspective depicting the various models and layers of the solution and methodologies used. The manual must convey how the solution works in parts and as a whole.
- **Testing Manual** – A testing manual will provide in depth details about configuring a new system to setup all project source code and test projects to be ran successfully. The document will assume that there is no operating system installed on a target system for installation. The testing manual will also provide instructions about configuring testing scripts that are used in the automation of software builds under Jenkins.
- **Developer Guide** – A Developer Guide will provide full instructions on copying the source code, installing all software development languages, compilers, utilities, user interfaces, test harnesses, any and all 3rd party libraries, APIs, and frameworks to step new

developers through successful compilation and successful test execution on new computer hardware. The document will assume that there is no operating system installed on a target system for installation. Information contained in the developer guide will include the directory layout for the application, installation of required software components, organization of source code, provide descriptions of the development processes by providing for example code and reference documentation for all functions, methods, and configuration restraints within the software.

- **User Manual** – A User Manual will contain full instructions on the use of the software by end users. The manual shall contain at a minimum the following general information: system overview (describing major functions performed by the system), project references, points of contact, where to get help, logging on, layout of the software interface, description of the system menus, complete documentation of all system operations a user would be able to perform, and special instructions for error correction.
- **Release Notes** - Release Notes will include a detailed description of changes since the previous release, bug fixes, known issues, and a manifest of remaining items to complete the project.

Software License

- **Apache 2.0 Open Source License** – This license will be present in the root of the GitHub repository.

Source Code

- **Complete Source Code** – As the solution is developed all project and sub-project application source code will be created and worked on by checking in, out, modifying, and committing back to the repository by development team members. Source code will be comprised of but not limited to the following types of files: MUMPS routines, Java, JavaScript, HTML, CSS, XML, JSON, Eclipse projects, ANT, Maven BOM, Cron scripts, batch files, README, INSTALL, junit tests, Jasmine tests, Mocha Tests
- **References** - References to all 3rd Party Dependencies including URLs and license information for any proprietary dependencies.
- **Project files** - Eclipse, Caché Studio, Visual Studio, or Xcode, as determined by platform IDE used for project development. Project files will include complete references to all project and sub-projects in order to provide a compile-able software project.
- **Makefiles** – Ant, Maven and any other build scripts will be included with all project source code.
- **Tests Projects** – All test projects will be included with project files in order to perform successful compilation and execution of test projects
- **Test Source Code** – All test project source code will be included with test projects
- **Test Scripts** – Test scripts in CRON format will be provided along with test projects and test project source code for inclusion and successful execution by Jenkins software for automated regression testing and reporting.

- **Test Data** – Test data will be provided along with instructions for setting up the test environment. Test data may be comprised of configuration files, database samples, and any other relevant system data that is necessary to run successful tests of the software project.
- **DevOps** – A VagrantFile, Puppet, Vortex (or similar virtual machine automated provisioning script) or collection of such files will be provided along with any ancillary configuration files that will generate the software

Sample OSEHRA Submission Checklist

1. Has this software been installed in a production environment? If yes, please provide details (e.g. installed in a single site, regionally, nationally? dates? etc.) in the comments.
 Yes No Comments:
2. Has this software ever been tested but not installed in a production environment?
 Yes No Comments:
3. Has this software been installed in the VHA Innovations Sandbox?
 Yes No Comments:
4. Does your project contain any automated tests (e.g. unit, integration, functional, etc.)?
 Yes No Comments:
5. If this project new software (as opposed to a modification to existing software)?
 Yes No Comments:
6. Does your software contain any modifications to any protected national software? If yes, please provide details in the comments.
 Yes No Comments:
7. Does your software deal with PHI/PII?
 Yes No Comments:
8. If your software FDA regulated?
 Yes No Comments:
9. Is your software already licensed? If so, please provide the license type (e.g. Apache2, MIT, BSD, etc. – note: your software will be licensed with Apache2 when submitted to OSEHRA as are all projects there)
 Yes No License, if yes:
10. Please briefly describe the business need for your software:

11. I have committed my code to GitHub. The URL of my repository is below. **Please note:** If you answered yes to 1 or 2, please use caution you don't commit any sensitive information!!

Yes No URL:

OSEHRA Submission Guide

1. Create an account at <http://www.osehra.org>
2. OSEHRA general submission instructions are at <http://www.osehra.org/content/submitting-osehra-technical-journal>
3. Go to the OSEHRA submission URL at <http://code.osehra.org/journal>
4. Click **SUBMIT/PUBLICATION**
5. Fill out the form to provide information about your project and click '**Submit**'
6. Select the programming language(s) that were used in the development of your project and then click '**Submit**'
7. Copy the link provided as a '**handle**' to where your project will reside on OSEHRA
8. Edit your abstract document and paste the '**handle**' link into the document and save it
9. Click upload to select and upload your Abstract document which now includes the '**handle**'
10. Click to reference a git repository or upload a zip file containing the project source code, which must not contain any VA PHI/PII or internal IP addresses, internal FQDNs, etc.
11. Check the boxes to reference what operating systems the project runs under
12. Select whether the code has test code and whether it should be ran or not
13. Click '**Submit**' to complete the upload processes and finish submission

Helpful Tips and Information

- **Additional materials for the Future Technology Lab:** Visit our website at <http://vaftl.us>.
- **Help Desk Support:** Submit a question to us via the FTL Help Desk at <https://help.vaftl.us>. Remember that you'll need to create an account to enter the web portal.