

### CHHS-ADPQ Technical Component Details

| Name  | Initial Release | Description  | License        | Website   | RFI Reference  | Included in POC? |
|---|-----------------|--|----------------|---|--|------------------|
| The open components below are used in the POC and pass the “modern” definition. |                 |  |                |   |  |                  |
| Spring Boot   | 2014            | Spring Boot makes it easy to create stand-alone, production-grade Spring based Applications that you can "just run".   | Apache License | <a href="http://projects.spring.io/spring-boot/">http://projects.spring.io/spring-boot/</a> | B.2.i Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.)  | Yes              |
| Docker (Machine, Swarm, Compose, Engine)  | 2013            | Docker is an open platform for developers and sysadmins to build, ship, and run distributed applications, whether on laptops, data center VMs, or the cloud. | Apache License | <a href="https://www.docker.com">https://www.docker.com</a>                                 | B.2.j Deployed their software in a container (i.e., utilized operating-system-level virtualization)<br>B.2.L. Setup or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider | Yes              |
| Bower   | 2012            | Web sites are made of lots of things — frameworks, libraries, assets, and utilities. Bower manages all these things.   | MIT License    | <a href="http://bower.io/">http://bower.io/</a>   | US Digital Playbook : Automate testing and deployments   | Yes              |

### CHHS-ADPQ Technical Component Details

|   |      |  |             |   |  |     |
|---|------|--|-------------|---|--|-----|
| Slack   | 2013 | A team communications tool that allows team members to interact in group or private conversations, and share files and project materials. It helps reducing the dependency on emails between team members when communicating about a topic or an issue. Slack is also accessible from different platforms and devices. | Proprietary | <a href="https://slack.com/is">https://slack.com/is</a>         | -  | Yes |
| Bootstrap   | 2011 | Bootstrap is a popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.  | MIT License | <a href="http://getbootstrap.com/">http://getbootstrap.com/</a> | prototype that works on multiple devices, and presents a responsive design       | Yes |
| The open components below are used in the POC and still industry active; however they were published more than 5 years ago. |      |  |             |   |  |     |
| AngularJS   | 2010 | AngularJS is an modern, Open source JavaScript based web application framework for building responsive web applications.   | MIT License | <a href="https://angularjs.org/">https://angularjs.org/</a>     | B.2.h Prototype that works on multiple devices, and presents a responsive design | Yes |

### CHHS-ADPQ Technical Component Details

|        |      |   |                        |   |   |     |
|--------|------|---|------------------------|---|---|-----|
| NPM    | 2010 | npm is the package manager for JavaScript. Find, share, and reuse packages of code from hundreds of thousands of developers — and assemble them in powerful new ways. | Artistic License       | <a href="https://www.npmjs.com/">https://www.npmjs.com/</a>                                       | B.2.L. Setup or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider | Yes |
| Redis  | 2009 | Redis is an open source (BSD licensed), in-memory data structure store, used as database, cache and message broker.   | BSD                    | <a href="http://redis.io/">http://redis.io/</a>   | Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.)                         | Yes |
| GitHub | 2008 | GitHub is a web-based Git repository hosting service. It offers all of the distributed revision control and source code management (SCM) functionality of Git         | N/A                    | <a href="https://github.com/">https://github.com/</a>   | 4d. A repository consisting of all prototype source code, design assets, and all associated documentation   | Yes |
| Bamboo | 2007 | Bamboo Server is the choice of professional teams for continuous integration, deployment, and delivery  | Proprietary            | <a href="https://www.atlassian.com/software/bamboo">https://www.atlassian.com/software/bamboo</a> | B.2.L. Setup or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider | Yes |
| JUnit  | 2000 | JUnit is a unit testing framework for the Java programming language.  | Eclipse Public License | <a href="http://junit.org/junit4/">http://junit.org/junit4/</a>                                   | B.2.K Developed automated unit tests for their code   | Yes |

### CHHS-ADPQ Technical Component Details

|         |      |   |   |   |   |     |
|---------|------|---|---|---|---|-----|
| Jasmine | 2010 | Jasmine is an open source testing framework for JavaScript.   | MIT License   | <a href="http://jasmine.github.io/">http://jasmine.github.io/</a>           | B.2.L. Setup or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider | Yes |
| Karma   | 2012 | The main goal for Karma is to bring a productive testing environment to developers. The environment being one where they don't have to set up loads of configurations, but rather a place where developers can just write the code and get instant feedback from their tests. | MIT License   | <a href="https://karma-runner.github.io">https://karma-runner.github.io</a> | B.2.L. Setup or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider | Yes |
| Grunt   | 2014 | Automation, performing repetitive tasks like minification, compilation, unit testing and linting.   | This software consists of voluntary contributions made by many individuals. | <a href="http://gruntjs.com/">http://gruntjs.com/</a>                       | US Digital Playbook : Automate testing and deployments  | Yes |

### CHHS-ADPQ Technical Component Details

|                   |      |   |                 |   |   |     |
|-------------------|------|---|-----------------|---|---|-----|
| Spring Initializr |      | Spring Initializr provides an extensible API to generate quickstart project.  | Apache License  | <a href="https://start.spring.io/">https://start.spring.io/</a>                 | US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.)<br>Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.) | Yes |
| Protractor        |      | Protractor is an end-to-end test framework for AngularJS applications. Protractor runs tests against your application running in a real browser, interacting with it as a user would. | The MIT License | <a href="http://www.protractortest.org/#/">http://www.protractortest.org/#/</a> | US Digital Playbook : Automate testing and deployments  | Yes |
| Gradle            | 2007 | Modern Open Source Build Automation for Continuous Delivery   | Apache License  | <a href="http://gradle.org/">http://gradle.org/</a>                             | B.2.L. Setup or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider   | Yes |
| IntelliJ          |      | Java integrated development environment (IDE) for developing computer software  | Apache License  | <a href="https://www.jetbrains.com/idea/">https://www.jetbrains.com/idea/</a>   | US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.)  | Yes |

### CHHS-ADPQ Technical Component Details

|        |      |   |                                     |   |  |     |
|--------|------|---|-------------------------------------|---|--|-----|
| Jersey |      | Jersey RESTful Web Services framework is open source, production quality, framework for developing RESTful Web Services in Java that provides support for JAX-RS APIs and serves as a JAX-RS (JSR 311 & JSR 339) Reference Implementation.  | CDDL version 1.1 and GPL v2 license | <a href="https://jersey.java.net/">https://jersey.java.net/</a> | US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.) Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.) | Yes |
| Tomcat | 1999 | Tomcat, is an open-source web server developed by the Apache Software Foundation (ASF). Tomcat implements several Java EE specifications including Java Servlet, JavaServer Pages (JSP), Java EL, and WebSocket, and provides a "pure Java" HTTP web server environment in which Java code can run. | Apache License                      | <a href="http://tomcat.apache.org">tomcat.apache.org</a>        | US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.) Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.) | Yes |

### CHHS-ADPQ Technical Component Details

|             |      |  |                |   |  |     |
|-------------|------|--|----------------|---|--|-----|
| NGINX       | 2004 | NGINX is a free, open-source, high-performance HTTP server and reverse proxy, as well as an IMAP/POP3 proxy server. NGINX is known for its high performance, stability, rich feature set, simple configuration, and low resource consumption.                | 2-clause BSD   | <a href="https://www.nginx.com/">https://www.nginx.com/</a>                                 | US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.) Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.) | Yes |
| Spring Data |      | Spring Data makes it easy to use data access technologies, relational and non-relational databases, map-reduce frameworks, and cloud-based data services. This is an umbrella project which contains many subprojects that are specific to a given database. | Apache License | <a href="http://projects.spring.io/spring-data/">http://projects.spring.io/spring-data/</a> | US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.) Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.) | Yes |

### CHHS-ADPQ Technical Component Details

|               |      |  |                                     |   |   |     |
|---------------|------|--|-------------------------------------|---|---|-----|
| Java Mail API |      | The JavaMail API provides a platform-independent and protocol-independent framework to build mail and messaging applications. The JavaMail API is available as an optional package for use with the Java SE platform and is also included in the Java EE platform. | CDDL version 1.1 and GPL v2 license | <a href="http://www.oracle.com/technetwork/java/javamail/index.html">http://www.oracle.com/technetwork/java/javamail/index.html</a> | Messaging requirement between case worker and parents.<br>US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.)<br>Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.) | Yes |
| Solr          | 2004 | Solr is highly reliable, scalable and fault tolerant, providing distributed indexing, replication and load-balanced querying, automated failover and recovery  | Apache License                      | <a href="http://lucene.apache.org/solr/">http://lucene.apache.org/solr/</a>   | Searchability within site. Not specifically mentioned for the prototype. Can be mapped to Choose a modern technology stack play of US Digital Services Playbook.  | Yes |



### CHHS-ADPQ Technical Component Details

|           |      |  |             |   |   |     |
|-----------|------|--|-------------|---|---|-----|
| Amazon S3 |      | Amazon Simple Storage Service (Amazon S3), provides developers and IT teams with secure, durable, highly-scalable cloud storage. Amazon S3 is easy to use object storage, with a simple web service interface to store and retrieve any amount of data from anywhere on the web. | Proprietary | <a href="https://aws.amazon.com/s3/">https://aws.amazon.com/s3/</a> | Profile pictures and any other file storage needs<br>US Digital Services Playbook: Choose a modern technology stack ( In particular, digital services teams should consider using open source, cloud-based, and commodity solutions across the technology stack, because of their widespread adoption and support by successful consumer and enterprise technology companies in the private sector.)<br>Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.) | Yes |
| MySQL     | 1995 | MySQL is an open-source relational database management system (RDBMS).   | GPL         | <a href="https://www.mysql.com/">https://www.mysql.com/</a>         | US Digital Services Playbook: Choose a modern technology stack (The technology decisions we make need to enable development teams to work efficiently and enable services to scale easily and cost-effectively.)<br>Used at least five modern (see Note #2) and open-source technologies, regardless of architectural layer (frontend, backend, etc.)   | Yes |

### CHHS-ADPQ Technical Component Details

|  |      |  |                |   |   |     |
|--|------|--|----------------|---|---|-----|
| AWS  | 2006 | Amazon Web Services offers reliable, scalable, and inexpensive cloud computing services.   | Proprietary    | <a href="https://aws.amazon.com">https://aws.amazon.com</a>                                   | B.2.L. Setup or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider   | Yes |
| JIRA   | 2002 | JIRA is a project management tool for agile teams. It allows project management and tracking, has flexible workflows, agile reporting, and allows for project health and monitoring. | Proprietary    | <a href="https://www.atlassian.com/software/jira">https://www.atlassian.com/software/jira</a> | -   | Yes |
| The open components below were included in our solution design but not included in the initial POC MVP.<br>Provided here so the reader can see our broader term enterprise vision. |      |  |                |   |   |     |
| Audit4j  | 2013 | Audit4j is an open source project to build a highly pluggable, embedded, asynchronous, secure, annotation driven and high performance auditing framework.                            | Apache License | <a href="http://audit4j.org/">http://audit4j.org/</a>   | US Digital Services Playbook: Manage security and privacy through reusable processes (engage the appropriate privacy, security, and legal officer(s) to discuss the type of information collected, how it should be secured, how long it is kept, and how it may be used and shared.)<br>US Digital Services Playbook : Use data to drive decisions | No  |

### CHHS-ADPQ Technical Component Details

|               |      |   |                        |   |  |    |
|---------------|------|---|------------------------|---|--|----|
| JaCoCo / Emma | 2009 | JaCoCo is a free code coverage library for Java, which has been created by the EclEmma team based on the lessons learned from using and integration existing libraries for many years.  | Eclipse Public License | <a href="http://eclEmma.org/jacoco/">http://eclEmma.org/jacoco/</a>                             | US Digital Services Playbook : building a secure service is comprehensively testing and certifying the components in each layer of the technology stack for security vulnerabilities, and then to re-use these same pre-certified components for multiple services | No |
| Cloud foundry | 2011 | Cloud Foundry is an open source cloud computing platform as a service (PaaS)  | Apache License         | <a href="https://www.cloudfoundry.org/">https://www.cloudfoundry.org/</a>                       |  | No |
| Sensu         |      | Monitor servers, services, application health, and business KPIs. Get notified about failures before your users do. Collect and analyze custom metrics.   | MIT License            | <a href="https://sensuapp.org">https://sensuapp.org</a>   | B.2.n Setup or used continuous monitoring<br>US Digital Services Playbook : Use data to drive decisions  | No |
| Logstash      |      | Logstash is a tool for managing events and logs. When used generically the term encompasses a larger system of log collection, processing, storage and searching activities. You can use it to collect logs, parse them, and store them for later use (like, for searching). If you store them in | Apache License         | <a href="https://www.elastic.co/products/logstash">https://www.elastic.co/products/logstash</a> | B.2.n Setup or used continuous monitoring<br>US Digital Services Playbook : Use data to drive decisions  | No |

### CHHS-ADPQ Technical Component Details

|                    |      |   |                |   |   |    |
|--------------------|------|---|----------------|---|---|----|
|                    |      | Elasticsearch, you can view and analyze them with Kibana.   |                |   |   |    |
| Selenium WebDriver | 2009 | Selenium WebDriver is a tool for web automation. It aims to mimic the behaviour of a real user, and as such interacts with the HTML of the application. | Apache License | <a href="http://www.seleniumhq.org/projects/webdriver/">http://www.seleniumhq.org/projects/webdriver/</a> | US Digital Playbook : Automate testing and deployments  | No |
| SonarQube          |      | SonarQube (formerly Sonar[1]) is an open source platform for continuous inspection of code quality.   | LGPL           | <a href="http://www.sonarqube.org/">www.sonarqube.org/</a>  | US Digital Playbook : building a secure service is comprehensively testing and certifying the components in each layer of the technology stack for security vulnerabilities, and then to re-use these same pre-certified components for multiple services | No |
| Postman            |      | Postman helps you develop APIs faster. Helps test REST services easily.   | Postman EULA   | <a href="https://www.getpostman.com/">https://www.getpostman.com/</a>                                     | US Digital Playbook : Automate testing and deployments  | No |

### CHHS-ADPQ Technical Component Details

|         |      |   |                |   |   |    |
|---------|------|---|----------------|---|---|----|
| jclouds | 2011 | Apache jclouds® is an open source multi-cloud toolkit for the Java platform that gives the freedom to create applications that are portable across clouds while giving full control to use cloud-specific features. | Apache License | <a href="https://jclouds.apache.org/">https://jclouds.apache.org/</a> | B.2.q Prototype and underlying platforms used to create and run the prototype are openly licensed and free of charge<br>US Digital Playbook: Choose a modern technology stack (Our choices for hosting infrastructure, databases, software frameworks, programming languages and the rest of the technology stack should seek to avoid vendor lock-in and match what successful modern consumer and enterprise software companies would choose today) | No |
| Dovecot | 2002 | Dovecot is an open-source lightweight IMAP and POP3 server for Linux/UNIX-like systems, written primarily with security in mind.  | MIT and LGPL   | <a href="http://www.dovecot.org/">http://www.dovecot.org/</a>         | Messaging requirement between case worker and parents.  | No |