

Attachment E – Approach Criteria Evidence Supplementary Evidence

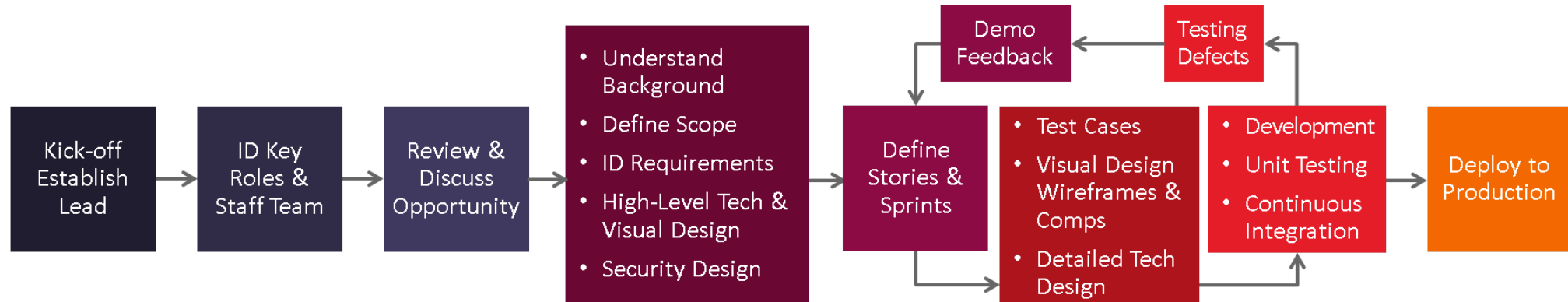
Request for Quotation No. 4QTFHS150004
Agile Delivery Services (ADS I)

Sapient

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Our Approach / Process



Criteria

A

B

C, E, F, G

D, F, G, I, K, L, M, N

H, J, O, P, Q

Roles

- Product Manager

- Product Manager
- Delivery Manager

- Product Manager
- Delivery Manager
- Business Analyst
- Digital Performance Analyst
- Developer
- Visual Designer
- Other Creatives

- Everyone

- Everyone

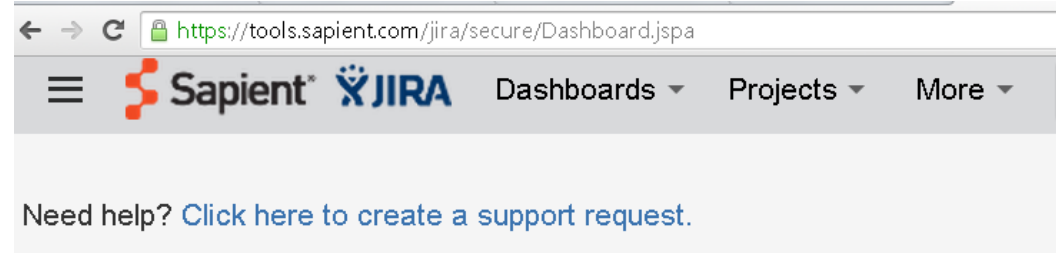
- Technical Architect
- Frontend Web Developer
- Backend Web Developer

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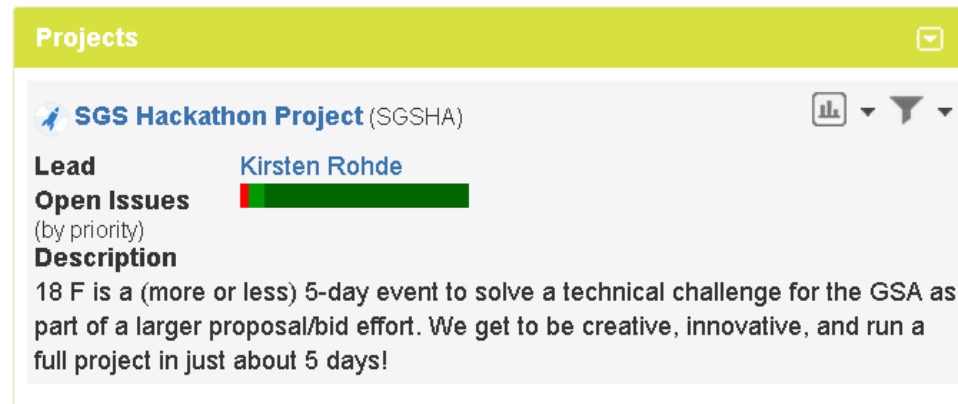
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Criteria B	Pg. 5	Criteria K	Pg. 20
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Criteria A

assigned one leader, gave that person authority and responsibility, and held that person accountable for the quality of the prototype submitted



SGS Hackathon Project Board



KIRSTEN ROHDE, FEARLESS LEADER. Kirsten is responsible for managing track leads, dividing/combining/shuffling sub-teams, and ensuring the quality of the final prototype. To the right, we provide a snapshot of our JIRA Project Board, which shows Kirsten as our lead.

Criteria B

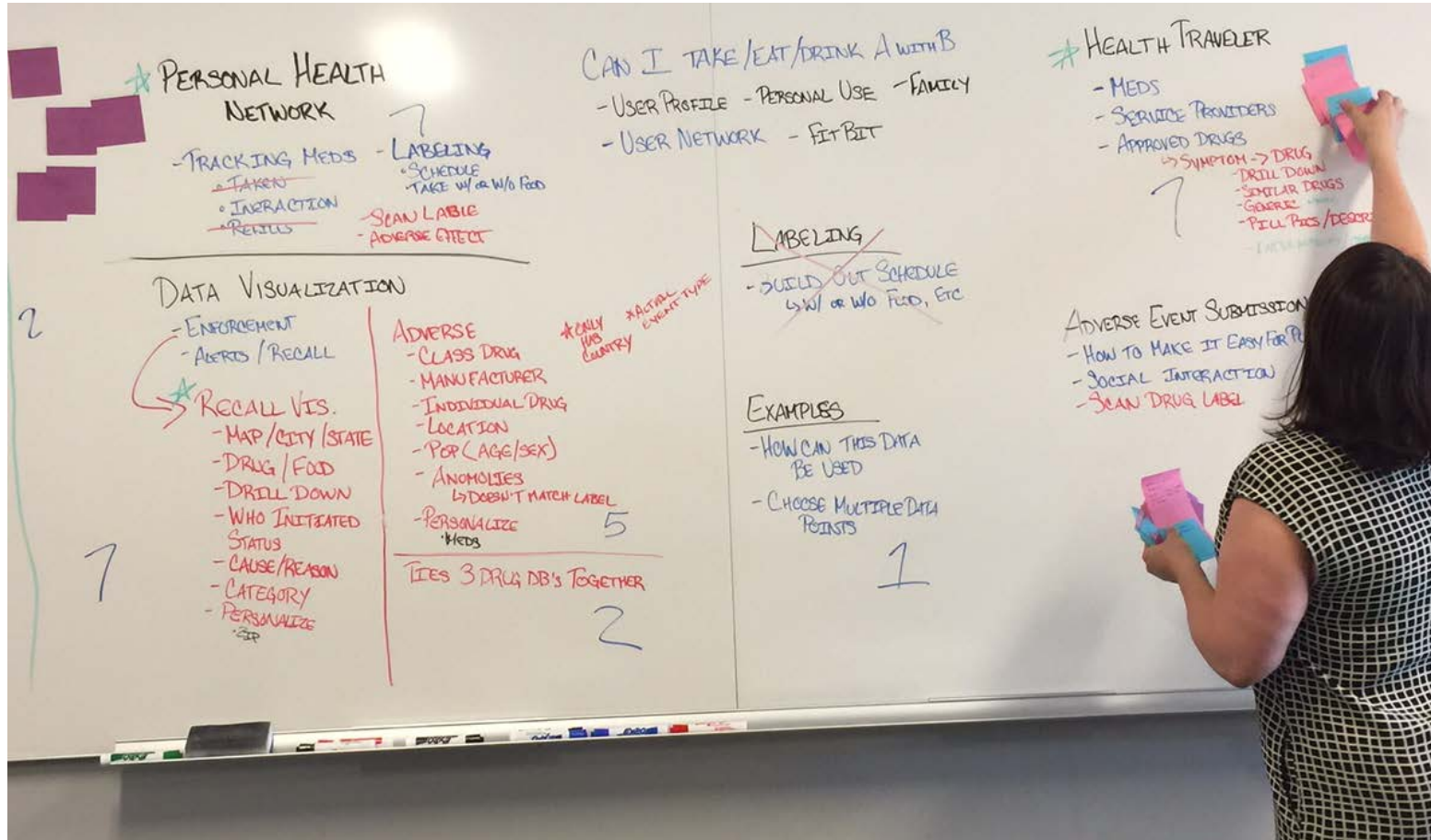
assembled a multidisciplinary and collaborative team including a minimum of 5 labor categories from the Full Stack Pool labor categories to design and develop the prototype



THE PROJECT TEAM. Our project team was composed of team members across all thirteen LCATS in Pool Three.

Criteria C

understand what people need, by including people in the prototype development and design process



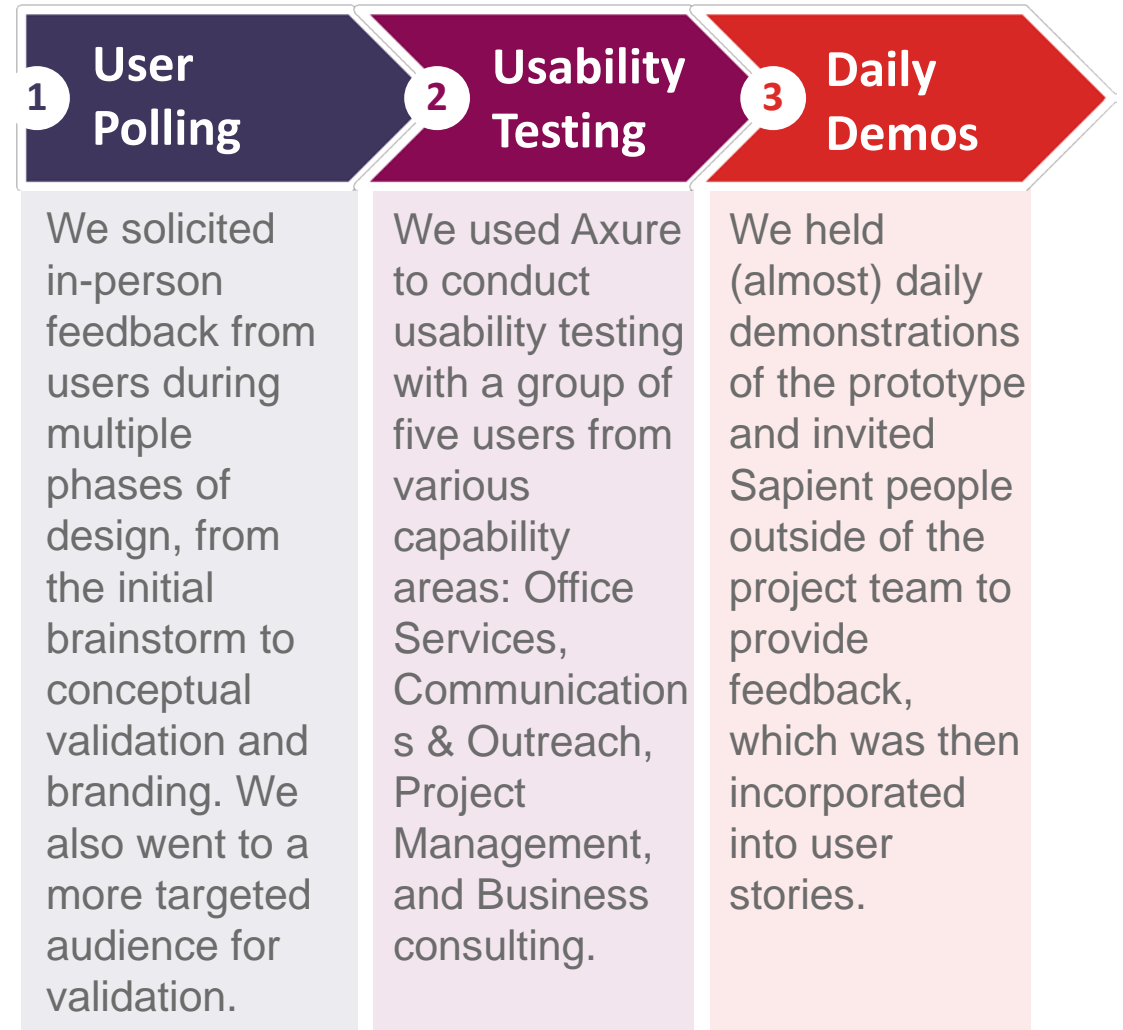
JUNE 18, 2015. VOTING ON POTENTIAL PROTOTYPE IDEAS. Business Analyst

Jessica collects sticky notes after a voting session. We brought in five Sapient employees outside of the Sapient project team to participate in the vote. Jessica facilitated the session and presented the context and concept for the ideas developed by the project team. Voters were each given three votes. Significantly, the chosen concept was “undoable” and we had to go back to the drawing board.

Criteria D

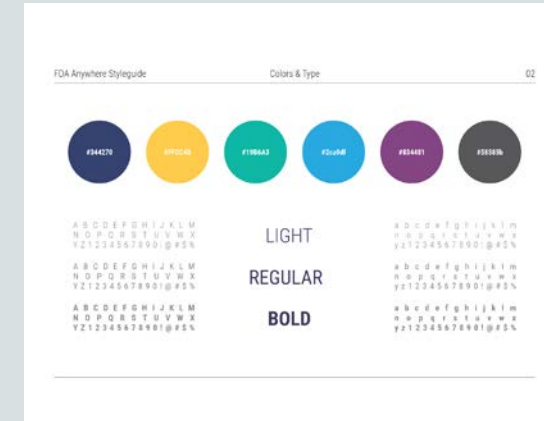
used at least three "human-centered design" techniques or tools

Our design process is driven by feedback from users.



Criteria E

created or used a design style guide and/or a pattern library



A SIMPLE STYLE GUIDE. We developed a high-level style guide as a reference for the creative and development team members (excerpt shown above). We've included a copy of our style guide in our repository: <https://github.com/sapientgov/openfda-travel/blob/master/styleguide-fda-anywhere.pdf>

Criteria F

performed usability tests with people

From: Kirsten Rohde
Sent: Tuesday, June 23, 2015 9:45 PM
To: GSA Hackathon 2015
Subject: Usability tests

Next Last

I ran two usability tests tonight with two individuals who both have to deal with long-term health conditions. Both really liked the use of the application. Below are some of the notes. Both had some suggestions for changes and clarifications.

Mother of 3; with one severely handicapped child; like to travel a lot; have family in the area where kids spend many weekends:

- Want to look all meds and allergies at the same time, not one by one (summary view)
- Would like ability to add physician's contact info and send that person my profile info
- Label for recall of drugs needs to be clearer—in the US, elsewhere? Why would I want to know?
- Translator for brand name to generic/commonly recognized name
- Meds—esp. for kids (frequency and dosage being taken) important based on weight for children (not as important for adults); need to know dosage for adults as well. – create space to be specific morning/evening, etc.
- Last refill should be option to add
- Ability to share only parts of the profile, such as allergies only (especially with non-family members)
- Create multiple groups that can work in different locations/events
- Print option for new doctor with meds/allergies, etc.
- Diagnosis info (free text)
- Use case: meds lost; dr prescribes sth different to be able to get with insurance; cross check on allergies/other meds.

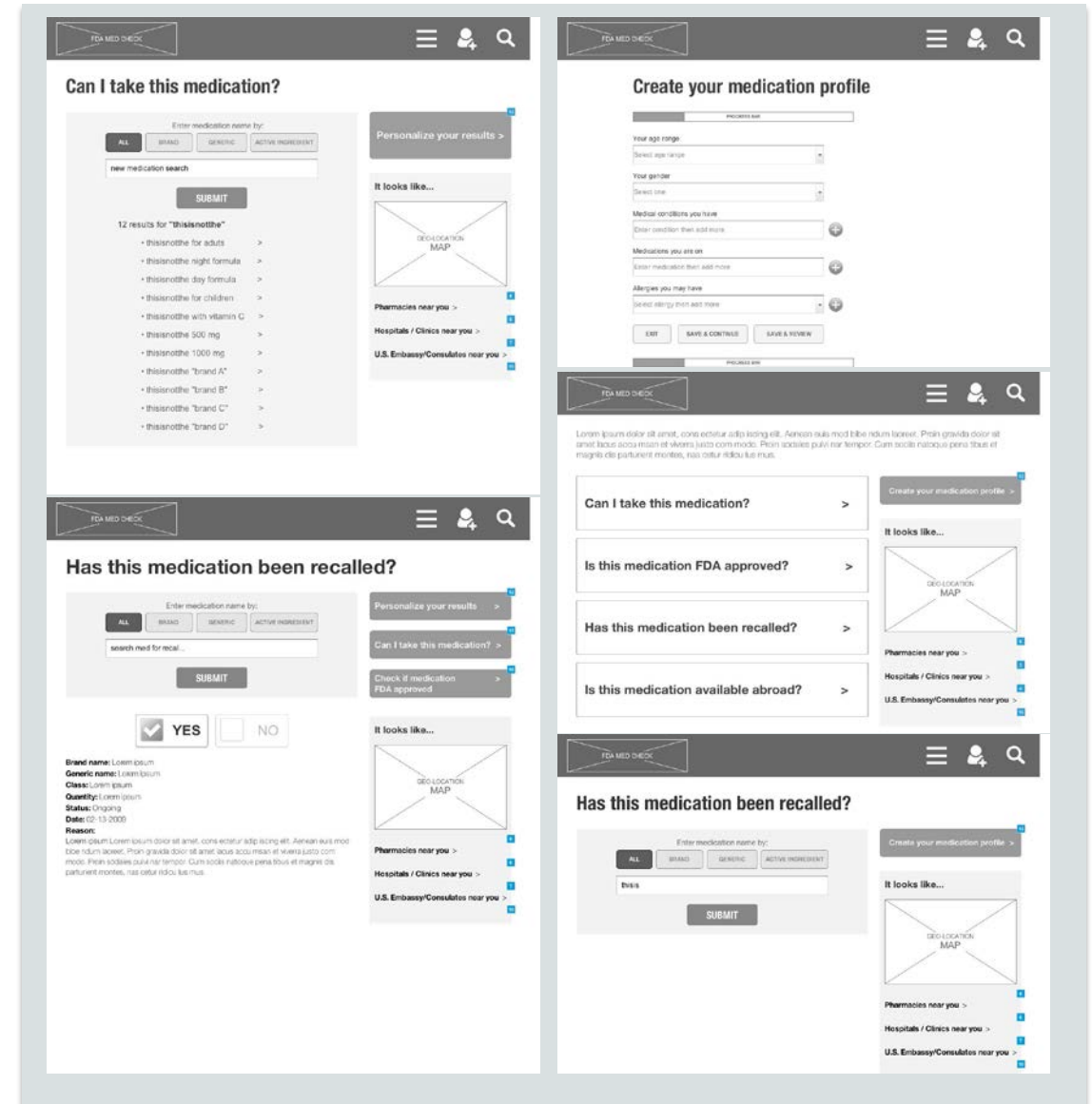
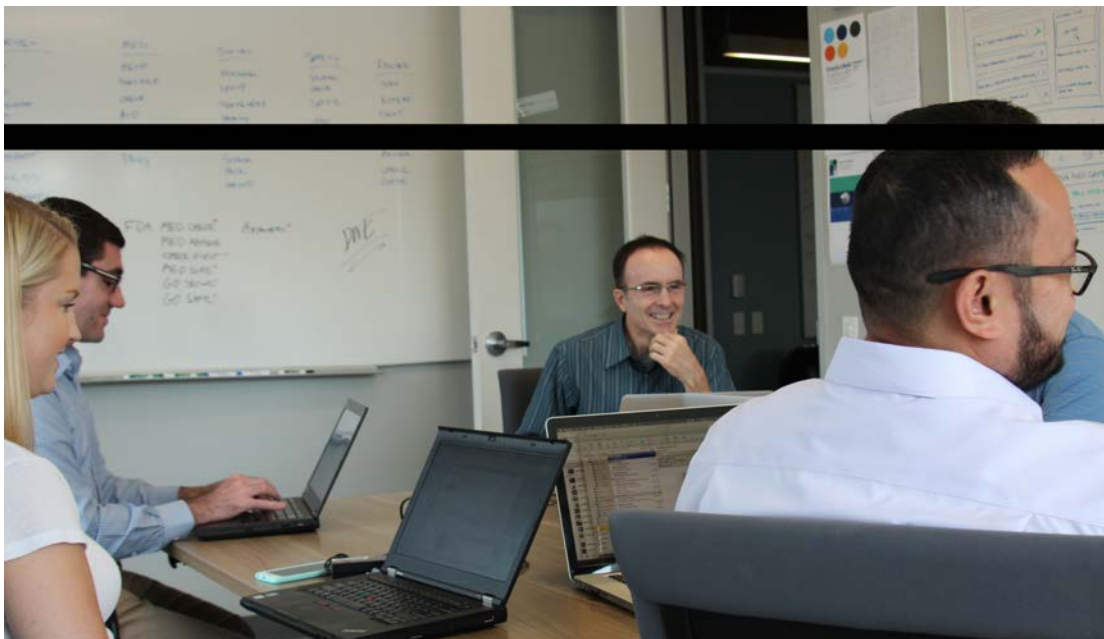
USABILITY TESTS. Once we had a validated concept, we took our prototype to a more targeted audience, including caregivers and users with chronic health conditions.

We spoke with three users who both validated the concept and provided us with a wealth of ideas for future development. (Left) An e-mail excerpt from Kirsten Rohde to the project team, detailing the results of a usability test.

Criteria F, Continued

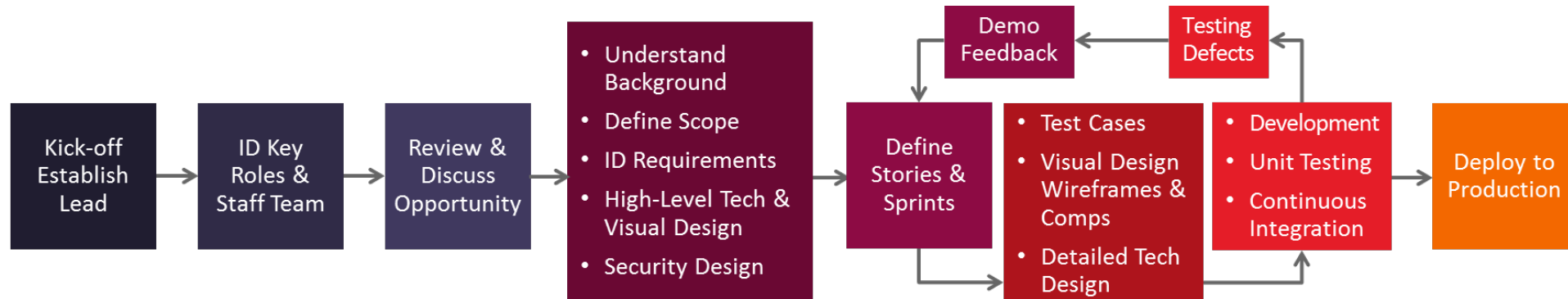
JUNE 23, 2015. USABILITY TESTING. (Below)

Jacques, Interaction Designer / User Researcher / Usability Tester, guides a group of five users (Sapient employees outside of the project team) through usability testing on Axure. (Right) Desktop screenshots of Axure. Users tested the prototype on desktops, tablets, and mobile phones.



Criteria G

used an iterative approach, where feedback informed subsequent work or versions of the prototype



We initially clarified a broad understanding of the background, defined scope, identified high level requirements and high-level tech and creative design.

We then used a Scrum-based Agile Framework for iterative development using consecutive Sprints as time-boundary definitions:

- Requirements (wireframes, story definition, sprint definition)
- Design (creative visual design comps, detailed technical design)
- Development (story development, continuous integration, unit testing)
- Testing (test case creation, usability testing, identify known defects)
- Review (daily demo, user acceptance, feedback capture, identify new defects/enhancements)

Daily demo feedback was looped back into the process as either new defects or potential enhancements entered into the product backlog, prioritized and potentially carried over to the next Sprint.

Criteria G, Continued

used an iterative approach, where feedback informed subsequent work or versions of the prototype

We used JIRA as our application lifecycle management (ALM) tool. In the following slides, we show screenshots of the evolution of our JIRA project and Agile dashboard, tracking the increase in stories, test cases, and defects from sprint to sprint.














We developed user stories based on test cases, defects, and feedback from demos and usability test throughout the life cycle of this project.

Criteria G, Continued

BACKLOG. To the right, we show snapshots of our backlogs from Sprints 2 and 3, demonstrating the increase in backlog as a result of feedback from daily demonstrations, defect triage, and offline discussions.

Backlog 8 issues
















Create Sprint

  SGSHA-62 Add Profile	
  SGSHA-63 Personlaize label details from profile	
  SGSHA-64 Map view widget	
  SGSHA-65 Map POI	
  SGSHA-66 FDA approved questions	
  SGSHA-67 Initial Questions Display	
  SGSHA-17 Has Recall Page	
  SGSHA-19 Can I take Page	

+ Create issue

Backlog 11 issues

Create Sprint

  SGSHA-18 FDA Approved Page	
  SGSHA-11 Jenkins Setup	
  SGSHA-64 Map view widget	
  SGSHA-60 Recalls details display	
  SGSHA-62 Add Profile	
  SGSHA-63 Personlaize label details from profile	
  SGSHA-65 Map POI	
  SGSHA-71 Drug Search by 'All' Option	
  SGSHA-72 Add Additional Profiles	
  SGSHA-73 Manage Profiles	
  SGSHA-74 Log In/Logout	

Criteria G, Continued

SPRINTS 1 AND 2. Below is a screenshot of our Project Dashboard, which provides an overview of the user stories tracked in Sprints 1 and 2.

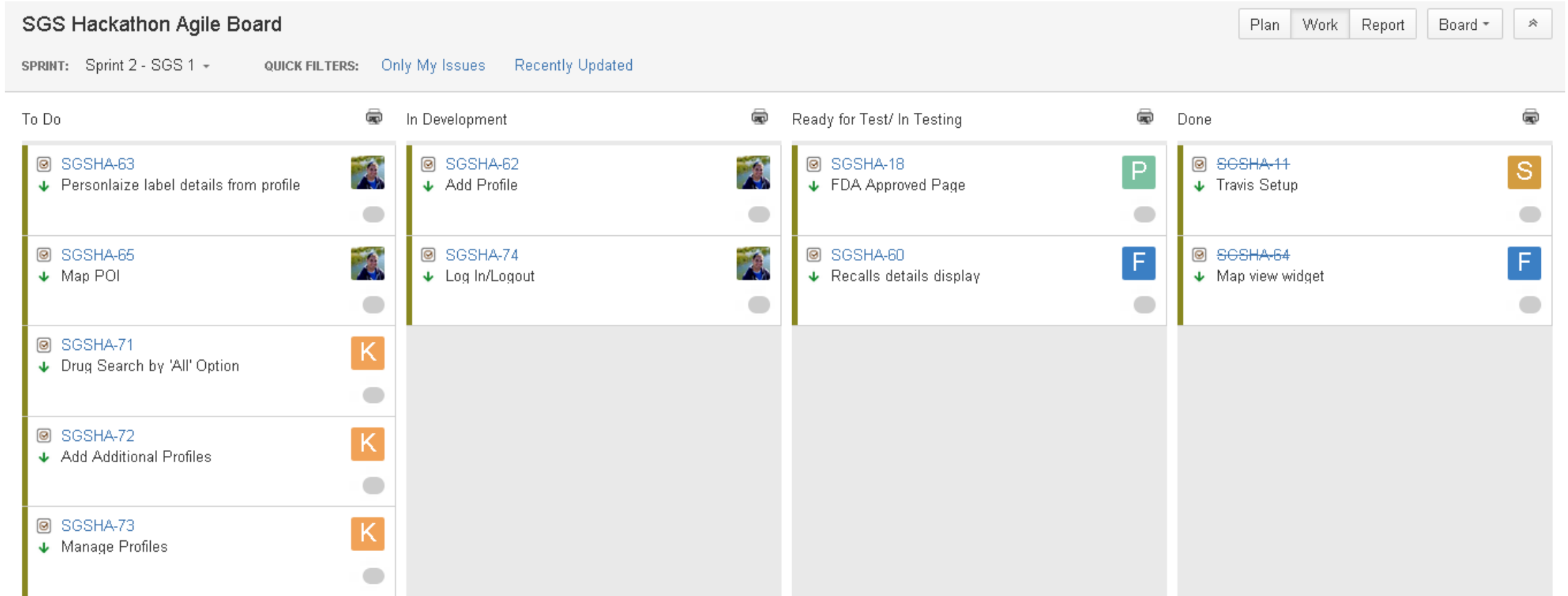
Two Dimensional Filter Statistics: Sprint 1 Tech Stories			
Assignee	Status		
	CLOSED	DROPPED	T:
Christopher Perry	3	3	6
Divya Murali	0	1	1
Farooq Khan	1	0	1
Preeti Roy	1	0	1
Umar K. Munroe	0	1	1
Total Unique Issues:	5	5	10
Showing 5 of 5 statistics. Filter: Sprint 1 Tech Stories			

Two Dimensional Filter Statistics: Sprint 2 Tech Stories					
Assignee	Status				T:
	OPEN	CLOSED	IN DEVELOPMENT	READY FOR TESTING	
Christopher Perry	2	0	2	0	4
Farooq Khan	0	1	0	1	2
Kirsten Rohde	3	0	0	0	3
Preeti Roy	0	0	0	1	1
Scott Andrew Magee	0	1	0	0	1
Total Unique Issues:	5	2	2	2	11
Showing 5 of 5 statistics. Filter: Sprint 2 Tech Stories					

DEFECT TRACKING. Below, we show a snapshot of our defects overview, showing the number of defects by status and priority.

Two Dimensional Filter Statistics: Defects				
Priority	Status			T:
	OPEN	CLOSED	READY FOR TESTING	
↑ P2 - Critical	1	0	0	1
↑ P3 - Major	0	3	3	6
↓ P4 - Minor	6	5	6	17
Total Unique Issues:	7	8	9	24
Showing 3 of 3 statistics. Filter: Defects				

Criteria G, Continued



AGILE BOARD. Above is snapshot of our JIRA Agile board, a dynamic view of progress made against stories.

Criteria H

created a prototype that works on multiple devices, and presents a responsive design

Our prototype is responsive and works on multiple devices. <http://fdaanywhere-fifteenfifteen.rhcloud.com>

Criteria I

used at least five modern and open-source technologies, regardless of architectural layer (frontend, backend, etc.)

**Modern open-source technologies
utilized in the development of our
prototype include:**

- Node.JS
- Backbone.JS
- mongoDB
- Express
- Compass
- Grunt
- Karma
- Jasmine
- jQuery

Criteria J

deployed the prototype on an Infrastructure as a Service (IaaS) or Platform as a Service (PaaS) provider, and indicated which provider they used

We utilized OpenShift, as evidenced by our URL. OpenShift is a Red Hat Platform-as-a-Service (Paas). <http://fdaanywhere-fifteenfifteen.rhcloud.com>

Criteria K

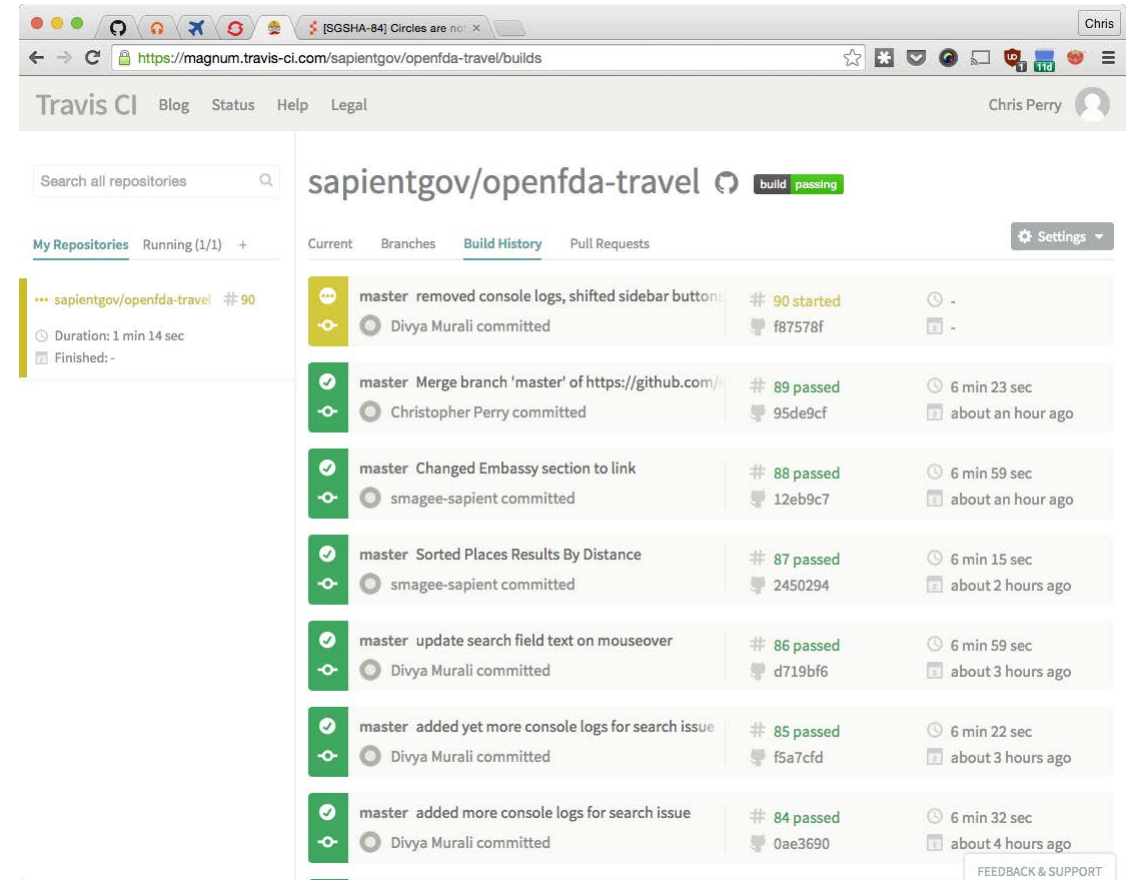
wrote unit tests for their code

Our unit tests can be found in our GitHub repository. <https://github.com/sapientgov/openfda-travel/tree/master/test/>

Criteria L

set up or used a continuous integration system to automate the running of tests and continuously deployed their code to their IaaS or PaaS provider

We utilized Karma (script runner that builds and executes unit tests locally) and Travis CI (build, execute unit tests, and deploys to server) as our continuous integration / continuous deployment system.



SCREENSHOT OF TRAVIS CI

Criteria M

set up or used configuration management

Use of configuration management is demonstrated in the code. We used Git (github.com) to version control code. Grunt, a JavaScript task runner, is used to automate the application build for multiple environments.

Criteria N

set up or used continuous monitoring

Continuous monitoring starts with a security impact analysis of the application/system will be used to drive the security requirements and control based on the application technical architecture. A threat assessment, similar to 18f_threat_assessment.html conducted for FDA Anywhere, is an example of a security impact analysis. Implementing security is then incorporated into the entire SDLC from design, to code reviews, to continuous integration executing static and dynamic security tests. With security tests (e.g. Wapiti) integrated into an automated build process using a continuous integration tool like Travis CI, the security vulnerabilities such as of the application can be tested with each code check-in. When deployed, active intrusion detection systems and firewalls (software and/or appliance) at application and network level can be deployed to detect and prevent security threats. A security plan is implemented where security assessments are performed periodically to verify that the security stance is maintained.

An example of the vulnerability report generated by Wapiti on each successful deploy of FDA Anywhere can be found in github in xxxxx.xxx.

Criteria O

deploy their software in a container (i.e., utilized operating-system-level virtualization)

Our solution has been setup for deployment with Docker (<https://www.docker.com/>) which packages application with all of its dependencies into a standardized unit for software development. We have included a Docker build file (<https://github.com/sapientgov/openfda-travel/blob/master/Dockerfile>) that will execute the build steps (running unit tests and ensuring all dependencies are available), and generates a VM with the deployed application that can be run in an independent virtual hosting environment.

Criteria P

provided sufficient documentation to install and run their prototype on another machine

Our documentation is provided in the
README file.

<https://github.com/sapientgov/openfda-travel/blob/master/README.md>

Criteria Q

prototype and underlying platforms used to create and run the prototype are openly licensed and free of charge

The prototype architecture consists of only technologies freely available on the internet with variations of open source libraries (see our response to Criteria I). Source code is hosted on GitHub and is freely accessible.

Want to see more?

Check out our Medium site!

(<https://medium.com/@Sapientgov/sapient-government-services-640e83187da1>)