**The Cambria Way**

Developing a system prototype utilizing the core values of agile practices, people centeredness first and foremost along with a working product, integrates powerfully with how Cambria Solutions works for its clients. From its founding, Cambria's approach is to deliver excellence by first hearing the people, and then responding with innovative and creative solutions for every task and project. What better way for us to demonstrate how we put this into practice than by engaging in a challenge to develop a human-centered prototype while displaying our agile approach.

**Our People-Centered Approach**

*"Customer collaboration over contract negotiation"*

The required components: 1) establish and manage foster parent profile 2) view children's residential facilities in parent's zip code 3) and communicate with the case worker via private inbox.

While these key system requirements are clear and straightforward, we reached beyond the basics to create a user experience that was intuitive to the needs of actual foster parents and case workers and included user relevant features for every page. In order to ensure we were properly capturing these components, we incorporated our users and SME from day one, during discovery, and conducted usability testing continuously with each iteration. We also referred to research from scholarly sources and government reports. With this collective knowledge, we developed personas to inform how we prioritized the prototype's core characteristics.

**Agile in Action**

*"Individuals and interactions over processes and tools"*

Over the last two weeks, our experienced and cross-functional team met face to face in conference rooms, spent hours in break out meetings, and spoke daily in sprint planning sessions to develop the best possible prototype based on the personas we had discovered.

*"Working software over comprehensive documentation"*

*"Responding to change over following a plan"*

The best way for us to ensure this new thing worked properly was to keep iterating. We tested each core feature and made adjustments based on raised issues and feedback from our regular sprint retrospectives. From fixing bugs and issues to tweaking wireframes and visual design, every aspect of each lifecycle was open to adjustments to ensure the prototype functioned and responded the way our users needed it to.

**Requirements for the Prototype**

a.

We assigned one leader to be our Product Manager and Agile Coach who was given the authority to lead the prototype development utilizing agile practices, and the responsibility for ensuring the quality of our submission. His role included defining roles, providing guidance throughout all phases of the agile process, assisting the team in prioritizing and quality control, ensuring team members understood his or her role with each iteration, and removing barriers for success.

b.

The team assembled represented diverse backgrounds including a few resources working remotely in other parts of the country and the world. We gathered developers, designers, business analysts, subject matter experts, and policy consultants. Based on the varied expertise of those who showed interest in taking on this new collaborative challenge, we inserted them into their relevant roles. These roles included: Product Manager, Technical Architect, Interaction Designer/ Usability Tester, Writer/Content Strategist, Visual Designer, Front End Web Developer, Back End Web Developer, DevOps Engineer, Deliver Manager, Agile Coach, Business analyst, and Users.

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/The%20Team.pdf

c.

We determined that the best product could only be developed and designed by knowing, empathizing with, and understanding the user. As such, we assigned four of our staff to take on the user roles. We invited them to our initial discovery/user interaction meeting and encouraged their contribution. One of our users is a subject matter expert who also has personal experience with the foster care system. Her knowledge and personal story became a valuable resource as we worked to identify the target audience and their most pertinent needs for this application.

d.

In developing this prototype, we utilized the following human-centered design techniques:

1) User Stories 2) Personas 3) User Interviews 4) Rapid Prototyping using Wireframes 5) Screen design sketches 6) Usability Testing.

For a full description of how human-centered design guided our entire process, see our Human-centered Design document.

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Human-Centered-Design/Human%20centered%20design%20document%20v3.docx

e.

We developed the style guide keeping in mind its significant impact on the way users perceive and feel about their interactive experience and the brand itself. Because all the information is visually-presented, finding the right look and feel was essential. We prioritized the following objectives: the use of inspirational pictures, friendly and empathetic tone, persona based branding, being intuitive and relevant, conversational nature, and presentation of the Cambria brand.

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Style%20Guide.pdf

f.

Our Usability testing focused on understanding the users, their needs, and what they value. Our representative users, who were located different geographical areas, became our testers and utilized a variety of devices and platforms. Based on their feedback, we noted enhancements as issues for every Sprint, a used the information collected to evaluate the usability of the application, and recommend improvements with each successive sprint. The users began testing in sprint 2 and continued throughout all subsequent sprints.

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Usability%20Testing%20Approach.docx

g.

We used an iterative approach which was informed by feedback for subsequent versions throughout all phases of the prototype development. Our team conducted four sprints corresponding with our four user stories. Each sprint cycle began with sprint planning meetings, and were followed by live prototype demonstrations, and concluded with retrospective meetings. The Product Manager assisted the team by providing feedback for necessary adjustments which we then applied to the upcoming sprint.

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Agile%20Techniques.md

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Cambrias%20Client-Focused%20Agile%20Process.pdf

h.

This prototype works on multiple devices including android, iPhone, iPad, and tablet. We conducted usability testing on various devices to ensure its ease of use and responsive design.

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Responsive%20Design%20-%20multiple%20devices.pptx

i.

Modern software practices coincide with structured development methodology that is flexible enough to satisfy evolving needs. With this in mind, we built our solution on a foundation of mature open-source tools and technologies that facilitate collaboration between members of a cross-disciplinary team, as well as rapid prototyping and iteration without compromising the stability of the end product .

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Technology%20Stack.md

**j.        Deployed the prototype on an Infrastructure as a Service (Iaas) or Platform as Service (Paas) provider, and indicated which provider they used.**

We used Heroku as our PaaS provider because it allows us to focus on development while conveniently configuring and managing infrastructure needs. It also hosts our web server and postgres database as well as minimizes effort without compromising control of and visibility into what's going on.

<link to deployment model or screen shots>

see vencore - <https://github.com/vencoreinc/18FAGILEPROTOTYPE/wiki/Evidence-j>

**k.    Developed automated unit tests for their code**

We chose to use pytest for unit testing as it ensures logic is working as expected and regressions do not creep in. For functional tests, we used webtest in order to simulate real user interactions with the website, which allowed us to incorporate QA feedback reducing the burden on the QA team.

<link to evidence needed; doesn't need to have lots of explanation>

see Vencore -<https://github.com/vencoreinc/18FAGILEPROTOTYPE/wiki/Evidence-k>

**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.**

We chose Travis for our continuous integration system, which enabled us to run tests in isolated container environments and deploy to Heroku all with a single 'git push' command.

<link to steps which also should include screen shots>

see Vencore's example -- <https://github.com/vencoreinc/18FAGILEPROTOTYPE/wiki/Evidence-l>

**m.** Setup or used configuration management

Git allowed us to share and collaborate on code and assets, while Github hosts our git repository and has collaboration and sprint/issue tracking features built in for productivity and project management needs.

<link to description as to how we actually used it during our process>

see Vencore's example --<https://github.com/vencoreinc/18FAGILEPROTOTYPE/wiki/Evidence-m>

**n.       Setup or used continuous monitoring**

We used Librato for continuous monitoring because it is a complete solution that monitors and analyzes the metrics that impact the application at every level of the stack. We integrated Librato with Heroku to provide detailed information about the application’s performance. We added LogEntries to provide real-time logging, aggregated live-tail search and context views, and the ability to search events as they occur.

<link to screen shots of monitoring> We can move some of the above description to the supporting artifact/file with the screen shot to save on space.

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

<THIS NEEDS TO BE COMPLETED - text and evidence>

link to Vencore's example - <https://github.com/vencoreinc/18FAGILEPROTOTYPE/wiki/Evidence-o>

p.

Included in this documentation are specific instructions to install and run the prototype on another machine.

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/SETUP.md

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Quick%20Start%20Guide.pdf

q.

In creating this prototype, we used exclusively open source technologies and the prototype itself is also openly licensed and free of charge.

Open source technologies:

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/artifacts/Technology%20Stack.md

Prototype open source license

https://github.com/CambriaSolutions/ADPQRFI-75001/blob/master/LICENSE