Re: Takeaways for Decision Advantage UI Improvements

Adrian Rami <adrian.rami@c3.ai>
Tue 12/12/2023 10:21 AM

To:Farhaan Razi <Farhaan.Razi@c3.ai>;Remington Barrett <Remington.Barrett@c3.ai>;Ryan McGinnity <Ryan.McGinnity@c3.ai>;Thomas Higginbotham <Thomas.Higginbotham@c3.ai>;Philong Duong <Philong.Duong@c3.ai>;Norris Philleo <Norris.Philleo@c3.ai>;Luis Fernandez de la Vara <luis.fernandez-de-la-vara@c3.ai>;Peter Hwang <Peter.Hwang@c3.ai>;Ben Sullivan <Ben.Sullivan@c3.ai>;Joao Fernandes <Joao.Fernandes@c3.ai>
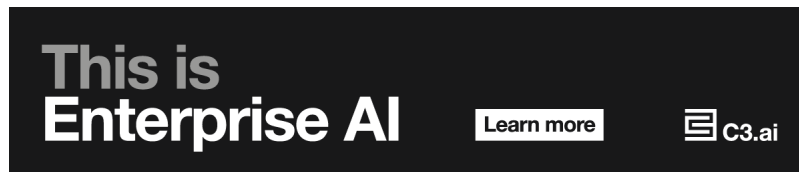Cc:Edward Cardon <Edward.Cardon@c3.ai>;Kevin Eveker <kevin.eveker@c3.ai>;Jon Siegal <Jon.Siegal@c3.ai>;Andrew Hoeft <andrew.hoeft@c3.ai>

+ [@Joao Fernandes](#)

Adrian Rami
Vice President, Applications

M (832) 723-8089
O (650) 503-2200
Redwood City, CA

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From: Farhaan Razi <Farhaan.Razi@c3.ai>
Sent: Tuesday, December 12, 2023 6:53:04 AM
To: Remington Barrett <Remington.Barrett@c3.ai>; Ryan McGinnity <Ryan.McGinnity@c3.ai>; Thomas Higginbotham <Thomas.Higginbotham@c3.ai>; Philong Duong <Philong.Duong@c3.ai>; Norris Philleo <Norris.Philleo@c3.ai>; Adrian Rami <adrian.rami@c3.ai>; Luis Fernandez de la Vara <luis.fernandez-de-la-vara@c3.ai>; Peter Hwang <Peter.Hwang@c3.ai>; Ben Sullivan <Ben.Sullivan@c3.ai>
Cc: Edward Cardon <Edward.Cardon@c3.ai>; Kevin Eveker <kevin.eveker@c3.ai>; Jon Siegal <Jon.Siegal@c3.ai>; Andrew Hoeft <andrew.hoeft@c3.ai>
Subject: Re: Takeaways for Decision Advantage UI Improvements
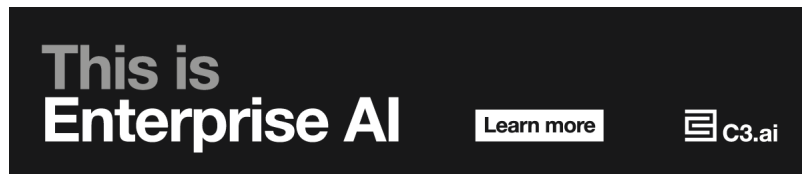
Hi folks,

I agree with the comments about questioning the anduril UI. The only tool I've seen to do everything that's displayed there is in CESIUM. Cesium is great, but we really need to define what we want to Viz. I think there are certain usecases a simple 2D Map with timeseries overlay works great, while a 3D globe/space tool is great for scenario reconstruction, or a 3D modeler tool to display CAD drawings or airflow/RCS scatterers on missiles/aircraft is good for optimizing design decisions.

We've started to define usecases and requirements we want the 2D/3D Viz tools to meet. I'm noticing there are some requirements discussed below, so I highly recommend lets congeal on a core set of Key requirements we want the Viz tools to meet. Usecases, requirements, and details are being captured here. 📊 [Defense and Intelligence User Experience Enhancement.pptx](#)

I think as a platform, we want to support multiple viz options, develop data connectors for each, allow easy component building on top of those tools, and export data from them easily as well.

Thanks.

Farhaan Razi
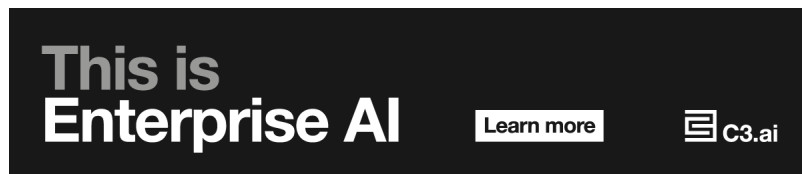Senior Delivery Manager

Tysons, Virginia

From: Remington Barrett <Remington.Barrett@c3.ai>
Date: Tuesday, December 12, 2023 at 9:31 AM
To: Ryan McGinnity <Ryan.McGinnity@c3.ai>, Thomas Higginbotham
<Thomas.Higginbotham@c3.ai>, Philong Duong <Philong.Duong@c3.ai>, Norris Philleo
<Norris.Philleo@c3.ai>, Adrian Rami <adrian.rami@c3.ai>, Luis Fernandez de la Vara
<luis.fernandez-de-la-vara@c3.ai>, Farhaan Razi <Farhaan.Razi@c3.ai>, Peter Hwang
<Peter.Hwang@c3.ai>, Ben Sullivan <Ben.Sullivan@c3.ai>
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<Jon.Siegal@c3.ai>, Andrew Hoeft <andrew.hoeft@c3.ai>
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+@Luis Fernandez de la Vara, @Farhaan Razi, @Peter Hwang, & @Ben Sullivan who TS tasked to
recommend the new UI library this week.

Remington Barrett
Director, Strategic Solutions

Tysons, Virginia

From: Ryan McGinnity <Ryan.McGinnity@c3.ai>
Date: Tuesday, December 12, 2023 at 09:29
To: Thomas Higginbotham <Thomas.Higginbotham@c3.ai>, Philong Duong
<Philong.Duong@c3.ai>, Norris Philleo <Norris.Philleo@c3.ai>, Adrian Rami
<adrian.rami@c3.ai>
Cc: Edward Cardon <Edward.Cardon@c3.ai>, Kevin Eveker <kevin.eveker@c3.ai>, Jon Siegal
<Jon.Siegal@c3.ai>, Remington Barrett <Remington.Barrett@c3.ai>, Andrew Hoeft
<andrew.hoeft@c3.ai>
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Thomas,

Thanks for the operational context here. Cesium is on the list of options that we are exploring and one of
the key metrics we're using in evaluation is the ability to operate on government networks.

Regarding the smaller, front-end focused companies around INDOPACOM, do you have a short list that we could start researching?

Looking forward to hearing your takeaways from AFTENCAP and amplifying information on Thresher.

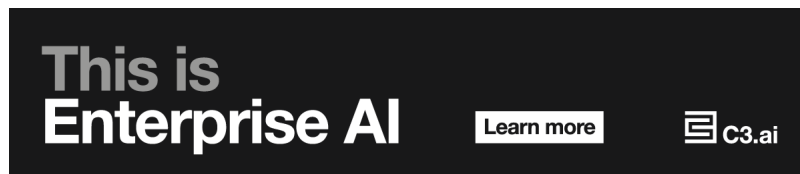I won't hesitate to reach with any additional questions.

All the best,
Ryan

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Ryan McGinnity
Delivery Manager

Chicago, Illinois

From: Thomas Higginbotham <Thomas.Higginbotham@c3.ai>
Date: Monday, December 11, 2023 at 11:33 PM
To: Philong Duong <Philong.Duong@c3.ai>, Norris Philleo <Norris.Philleo@c3.ai>, Ryan McGinnity <Ryan.McGinnity@c3.ai>, Adrian Rami <adrian.rami@c3.ai>
Cc: Edward Cardon <Edward.Cardon@c3.ai>, Kevin Eveker <kevin.eveker@c3.ai>, Jon Siegal <Jon.Siegal@c3.ai>, Remington Barrett <Remington.Barrett@c3.ai>, Andrew Hoeft <andrew.hoeft@c3.ai>
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Gents,
I heard back from several folks over the weekend and today to gather some facts and hear some best practices to help our Decision Advantage product and, more broadly, our UI "situation". I don't know who must answer to Tom on this but here are some takeaways:

1. Nobody that I've talked to has seen Lattice OS actually look like the video Tom keeps showing. If there's a version of Lattice that looks like that video, it's not deployed in INDOPACOM right now. My experience on TITAN (where we have extensive competitive intelligence on Anduril) concurs with what they're saying: Good marketing but the technology is not built for operations yet. **Recommendation: Let's open the aperture to other rising defense tech companies because Anduril's Lattice may not be our best target UI.**

2. There are several small companies that hover around INDOPACOM with flashy user interfaces (e.g., 3D graphics, seamless replay, embedded map layers). None of them are in "production" and all of them under prototype contracts and SBIRS. **Recommendation: We need to consider 1) acquisition of one of the smaller companies and/or 2) an Alliances strategy that builds an ecosystem of companies specializing in front-end UI development whereby we provide the enabling backend. These niche software companies that build applications for "Command and Control" are everywhere, sometimes they are also well-positioned with the customer.**

3. Some of the production GOTS solutions with UIs similar to MMEF (e.g., visualization of 100s of 1000s of entities) use a timeseries DB called Accumulo, developed by the NSA, for timeseries but

"jury is still out on whether it is more scalable than Cassandra". I am waiting for one friend to get information on Thresher, GOTS solution that has truly impressive timeseries recall, even on government systems. **Recommendation: Products/Solutions should explore integration with Accumulo to see if it address some of our limitations for rendering timeseries data (e.g., play/fast-forward/replay functionality).**

4. One impressive production GOTS solution has a 3D replay rendering, similar to the Anduril video, that uses the Cessium Gaming Engine in the backend. **Recommendation: If we're going to explore a 3D rendering, we should look into Cessium because I got this one from a trusted source that did his homework for another company (Jeff).**

I am headed to AFTENCAP early next week to check out some TS/SCI software programs with Bomb Milhous and I'll send back notes as able. I'll also send details on Thresher when I get them.

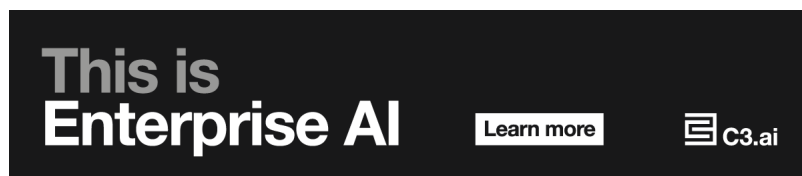I know I'm just an enterprise software sales guy but let me know where I can help.

-Thomas

Thomas Higginbotham
Senior Director, Strategic Solutions

M 719-651-6391
Remote, United States