

MICHIGAN STATE
UNIVERSITY

Project Plan

Browser Sharing for Customer Support

The Capstone Experience

Team Amazon

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From Students...
...to Professionals

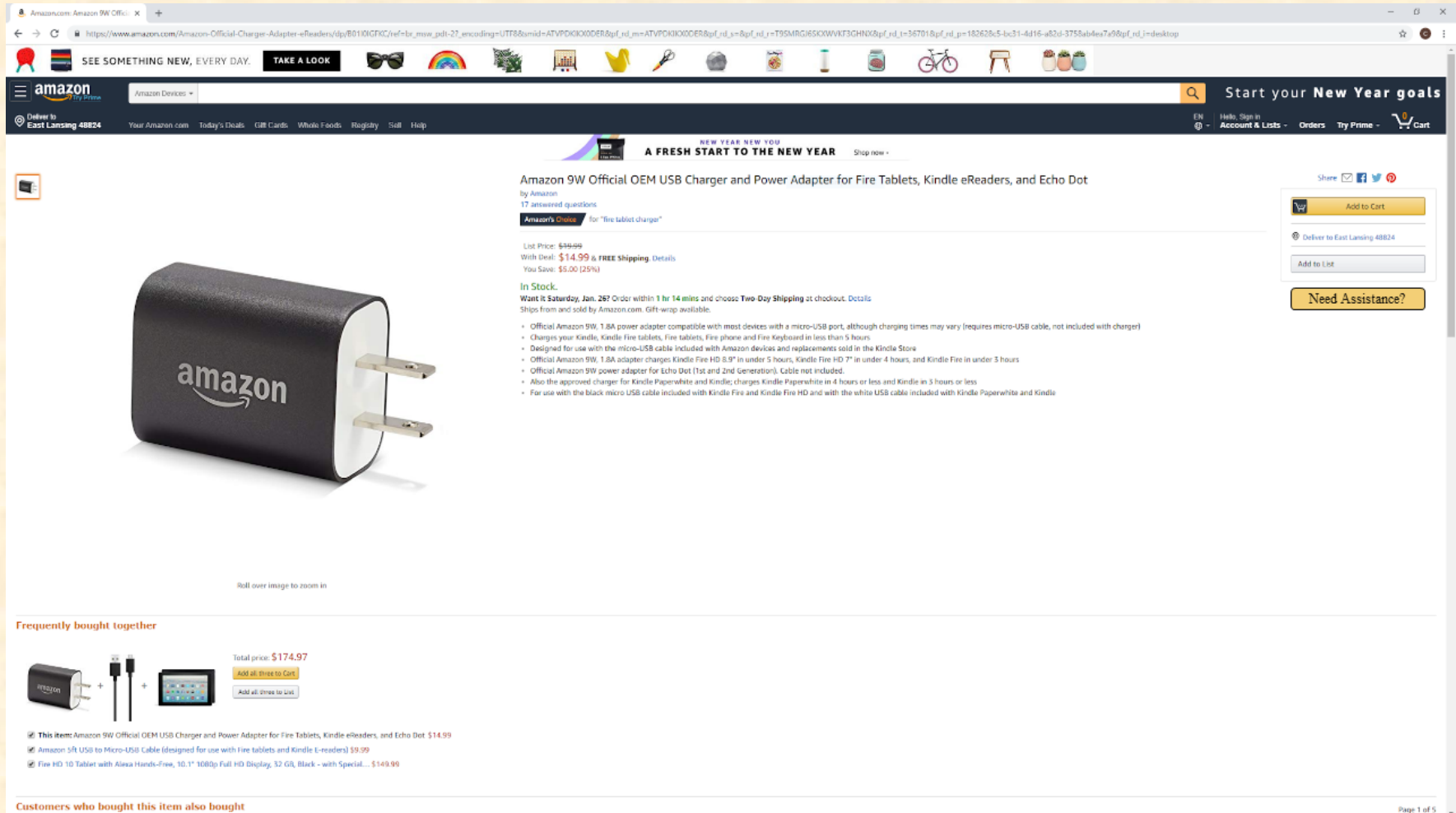
Functional Specifications

- Co-Browsing between customer and support representative with no installation required.
- The customer joins a queue for help with the press of a button.
- The representative can see exactly what the customer sees, and can chat to work through the problem.

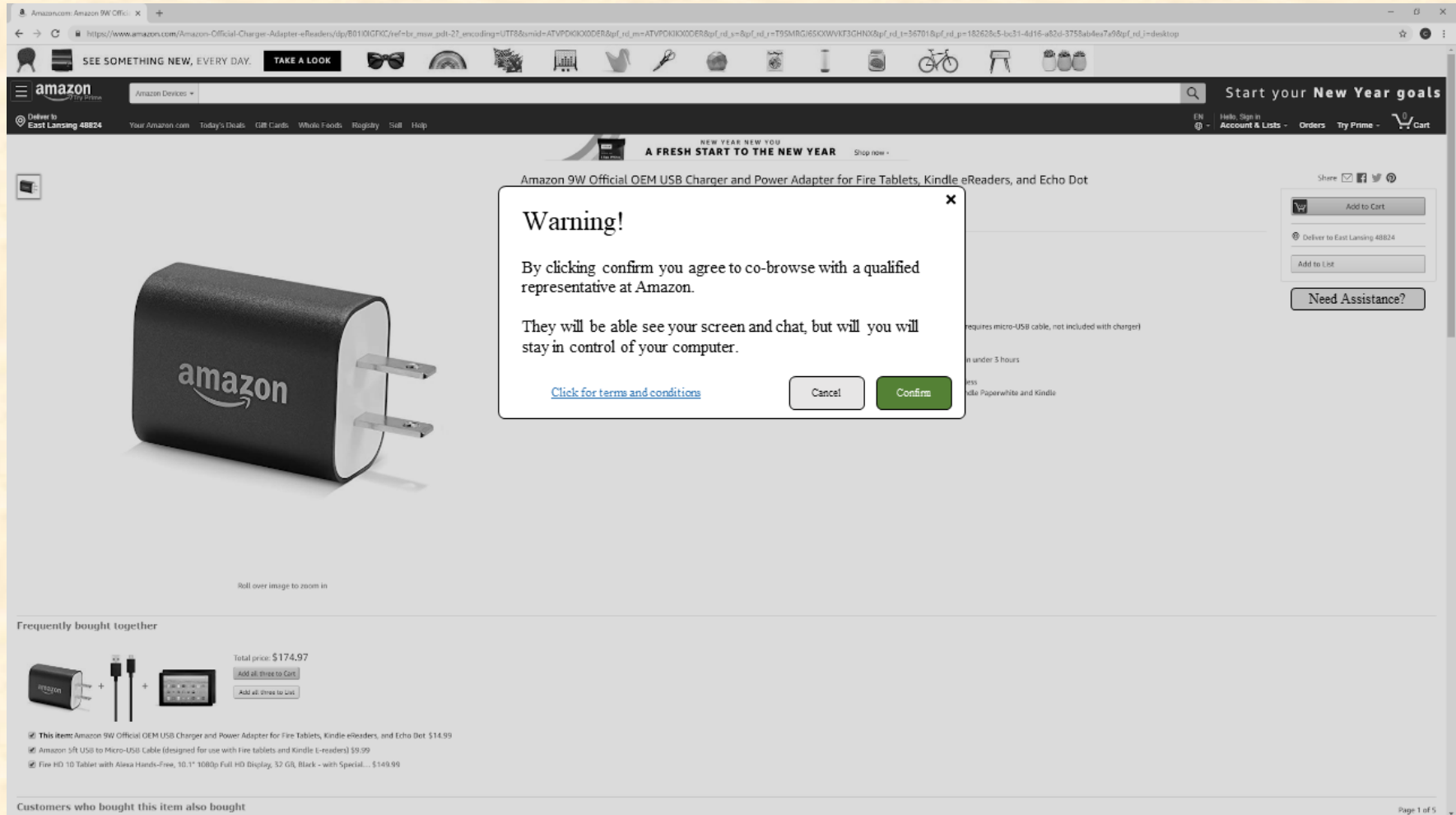
Design Specifications

- Recorder
 - Capture DOM events that are happening.
 - Remove private customer credentials.
- Mediator
 - Send and receive customer interactions with the webpage.
 - Keep messages recorded from representative and customer.
- Replay
 - Display events onto representative's side.

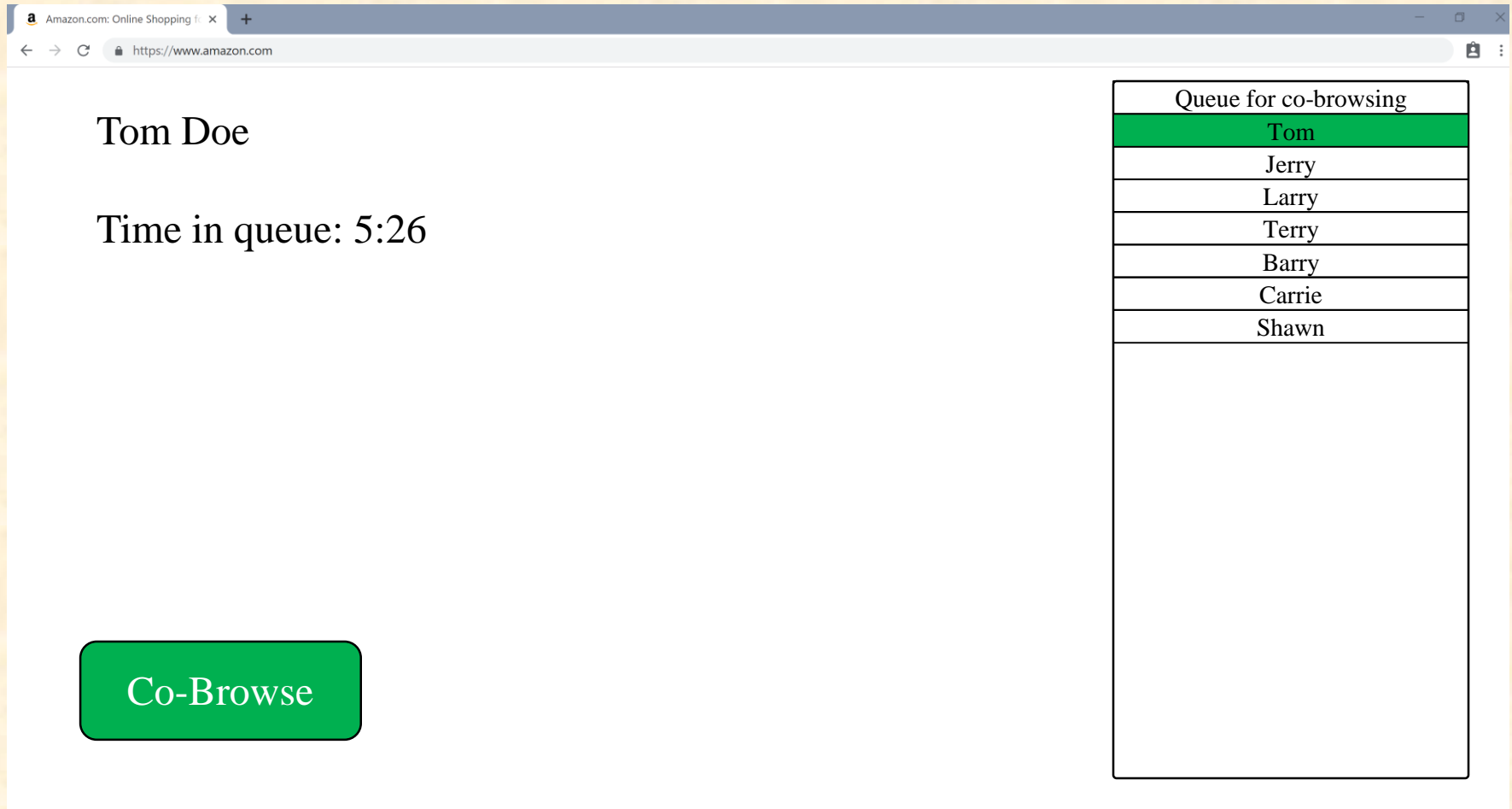
Screen Mockup: Customer Assistance



Screen Mockup: Co-Browsing Notification



Screen Mockup: Support Queue



Screen Mockup: Chat (Customer)

The screenshot displays the Amazon product page for the "Amazon 9W Official OEM USB Charger and Power Adapter for Fire Tablets, Kindle eReaders, and Echo Dot". The product is a black, cylindrical charger with the Amazon logo. The price is listed as \$14.99, with a "FREE Shipping" offer. A chat window overlay is visible in the bottom right corner, featuring a header with a green status indicator and the name "Colin Zhong". The chat area contains a blue button with the text "Hi I am Colin with Amazon Support how can I assist you?" and a text input field with the placeholder "Type a message...".

Amazon.com: Amazon 9W Official OEM USB Charger and Power Adapter for Fire Tablets, Kindle eReaders, and Echo Dot

by Amazon

17 answered questions

Amazon's Choice for "fire tablet charger"

List Price: \$14.99
With Deal: **\$14.99 & FREE Shipping** Details
You Save: \$5.00 (25%)

In Stock.
Want it Saturday, Jan. 26? Order within 1 hr 14 mins and choose **Two-Day Shipping** at checkout. Details
Ships from and sold by Amazon.com. Gift-wrap available.

- Official Amazon 9W, 1.8A power adapter compatible with most devices with a micro-USB port, although charging times may vary (requires micro-USB cable, not included with charger)
- Charges your Kindle, Kindle Fire tablets, Fire tablets, Fire phone and Fire Keyboard in less than 5 hours
- Designed for use with the micro-USB cable included with Amazon devices and replacements sold in the Kindle Store
- Official Amazon 9W, 1.8A adapter charges Kindle Fire HD 8.9" in under 5 hours, Kindle Fire HD 7" in under 4 hours, and Kindle Fire in under 3 hours
- Official Amazon 9W power adapter for Echo Dot (1st and 2nd Generation). Cable not included.
- Also the approved charger for Kindle Paperwhite and Kindle; charges Kindle Paperwhite in 4 hours or less and Kindle in 5 hours or less
- For use with the black micro USB cable included with Kindle Fire and Kindle Fire HD and with the white USB cable included with Kindle Paperwhite

Roll over image to zoom in

Frequently bought together

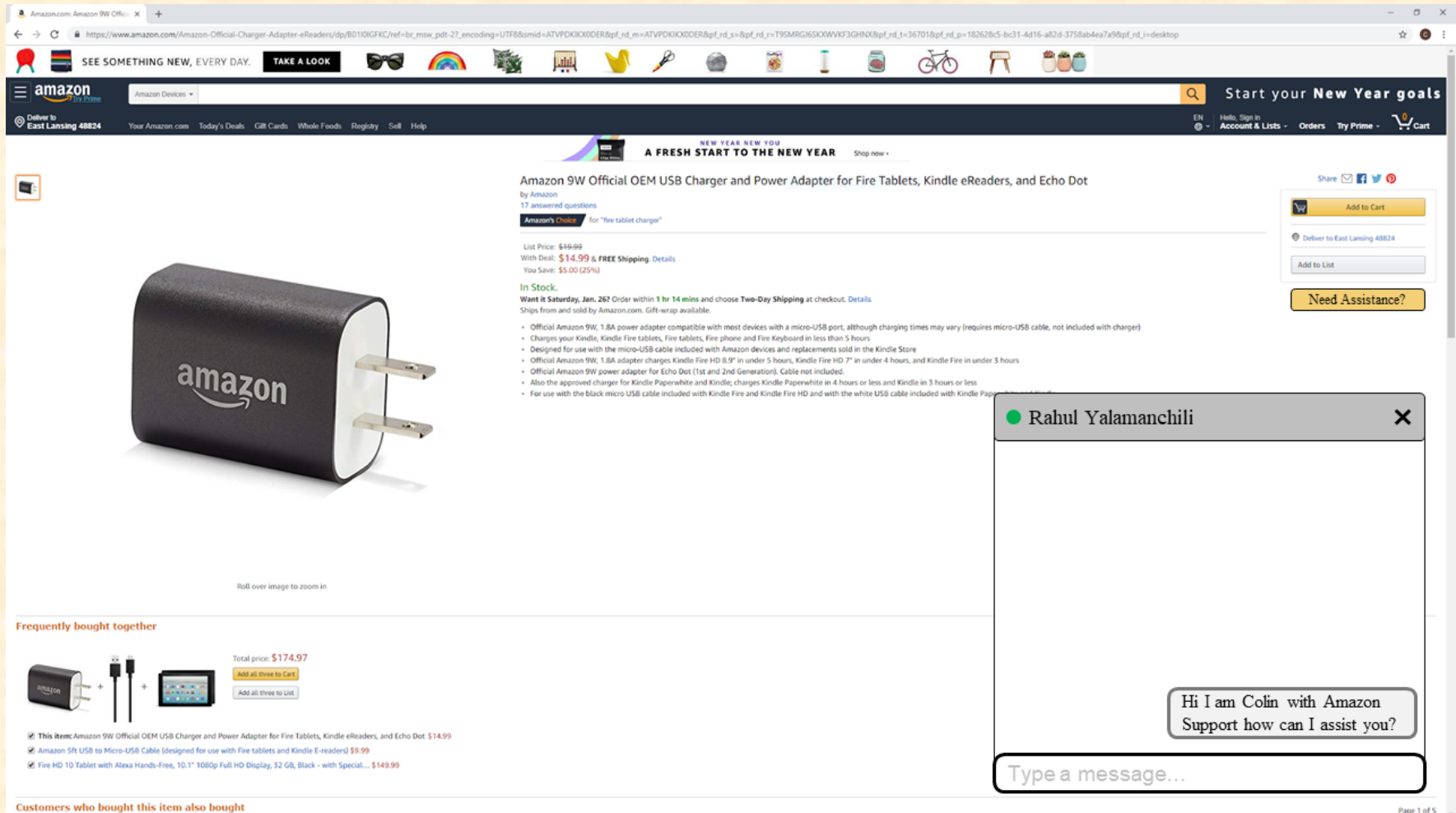
Total price: **\$174.97**
[Add all three to Cart](#)
[Add all three to list](#)

- ☒ **This item:** Amazon 9W Official OEM USB Charger and Power Adapter for Fire Tablets, Kindle eReaders, and Echo Dot \$14.99
- ☒ Amazon 5ft USB to Micro-USB Cable (designed for use with Fire tablets and Kindle e-readers) \$9.99
- ☒ Fire HD 10 Tablet with Alexa Hands-Free, 10.1" 1080p Full HD Display, 32 GB, Black - with Special... \$149.99

Customers who bought this item also bought

Page 1 of 5

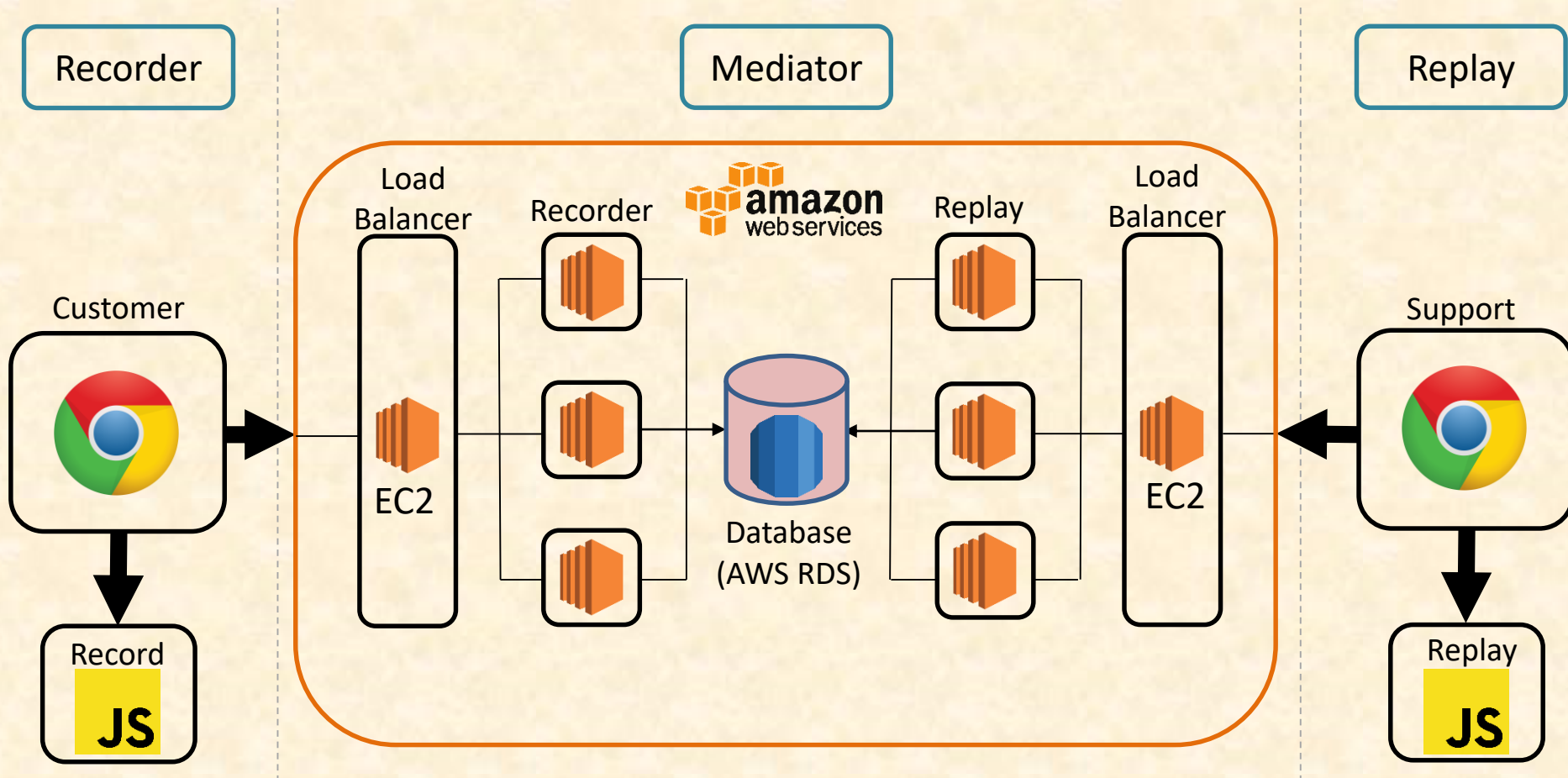
Screen Mockup: Chat (Support)



Technical Specifications

- Amazon Web Services (AWS) EC2 Server
 - Used to store session data into the AWS database.
- AWS RDS: SQL Database
 - Contains the co-browsing sessions' data.
- Fiddler - Web Debugging Tool
 - Used to inject our recording script into websites.
- Swagger - API Tool
 - Used to create the REST API for receiving and sending DOM event data.
- JavaScript
 - Record and replay of DOM events within browsers.

System Architecture



System Components

- Software Platforms / Technologies
 - AWS Elastic Compute Server
 - AWS Elastic Load Balancer
 - AWS API Gateway
 - AWS RDS: SQL Database
 - JavaScript
 - Browser APIs (e.g. W3C DOM API)

Risks

- Fidelity of capturing DOM events
 - All events need to be captured for playback accurately.
 - Research and find out what, if any, events need special cases.
- Cross browser support
 - DOM events could be different for different browsers.
 - Translate DOM events into an object that is universal.
- Amount of data to replay
 - We have to capture and send the web page for display.
 - Sending a snapshot of the web page at first and only the changes that occur after.
- Fidelity of DOM replay
 - We must replay events exactly as they happened for the user.
 - Research the accuracy of replay and make positions relative.



Questions?

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