

WeCasa

Calendar DAR Report

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Github Repository:

<https://github.com/githelsui/WeCasa>

Calendar DAR Version Table

Version	Description	Date
1.0	Initial DAR <ul style="list-style-type: none">- Use Cases- Technologies, Metrics, Evaluation	12/05/2022
1.1	Content Improvements <ul style="list-style-type: none">- Reduced weights- Added more quantifiable metrics based on business needs	12/07/2022

Table of Contents

Calendar DAR Version Table	2
Table of Contents	3
Business Needs & Metrics	4
Technology Comparison	4
Recommendation	6
References	7

Business Needs & Metrics

Cost: WeCasa wants to reduce our technology costs to \$0. So any calendar API that requires an upfront cost is not ideal, and will be scored as a 0.

Security: Security concerns in regards to the calendar API include insecure API key generation, accidental key exposures, DDoS attacks, and more (Mehta, 2022). The score in this category will be based on whether the calendar API will provide protection against these concerns.

Frontend Framework Compatibility: The calendar API must work seamlessly with WeCasa's frontend framework, ReactJS. The score in this category will be based on the extensibility of the calendar API's component libraries and tools to support ReactJS.

Browser Compatibility: It is important that the technology is compatible with Chrome, which is the primary browser that WeCasa will be run on.

OS Cross-compatibility: Since our development team uses a combination of MacOS and Windows operating systems, we need a calendar API that supports both of these. For the calendar API, our cross-compatibility metric will include operating system compatibility.

Views: The API should allow users to alternate between month, day, and weekly views.

Event creation & deletion: The API should allow users to add and remove events from the calendar.

Technology Comparison

Scale: 1-1.75, based on how influential that metric is in our decision making. Higher numbers indicate more importance.

Scores: 0-1, based on how well they match our desired use case.

Metrics	Google Calendar API	Calendly	FullCalendar
Cost - 1.5	All use of the Google Calendar API is available at no additional cost. Exceeding the quota request limits doesn't incur extra charges and your account is not billed. (Google Developers, 2022) - 1.5	GET and POST requests to API endpoints are free through the Basic plan. Any other requests require a paid subscription to Professional, Teams, or Enterprise plans (Calendly Developer, 2022) - 0.5	Offers free tier with limited functionality and features (Fullcalendar pricing, n.d.) - 0.5

Security - 1.75	Google APIs use the OAuth 2.0 protocol for authentication and authorization. Google supports common OAuth 2.0 scenarios such as those for web server, client-side, installed, and limited-input device applications. (Google Developers, 2022) - 1.5	JSON requests, HTTP methods, authentication, response codes, supports OAuth 2.0 to authenticate requests (Calendly Developer, 2022) - 1.25	No known security vulnerabilities belonging to FullCalendar's production dependencies of direct and indirect packages (View Fullcalendar, n.d.). - 1.5
Frontend Framework Compatibility - 1.75	RESTful API - 1.75	REST-based - 1.75	Generates ReactJS virtual DOM nodes to optimize the rendering engine (React component, n.d.) - 1.75
Browser Compatibility - 1	Supports Chrome, Firefox, Edge, and Safari - 1	Supports Firefox, Edge, Safari, and Chrome - 1	Supports FireFox, Chrome, Safari, Edge, and IE 11+ (Getting help, n.d.) - 1
OS Cross-compatibility - 1.5	Can run on both Windows and iOS, iOS requires additional libraries (eray diler, 2018) - 1.25	Supports most operating systems, however Calendly integration with Windows XP+ Outlook plugin is faulty (Troubleshooting, 2022) - 0.5	Ability to run on both Windows and iOS, however some functionality is faulty on iOS (Shaw, 2015) - 1
Views - 1	Supports custom calendar views for each user (Google Developers, 2022) - 1	Can specify date range for viewing calendar (Calendly Developer) - 0.5	Unable to view specific dates in timeline view (Fullcalendar pricing, n.d.) - 0.5

Event creation & deletion - 1	Supports adding and deleting events (Google Developers, 2022) - 1	Supports event cancellation and inviting Users. Does not support creating events and custom event types (Calendly Developer, 2022) - 0.25	Supports event creation and removal (Addeventsource, n.d.) - 1
Total	12.8	8.5	10.4

Recommendation

Google Calendar API

References

- API Reference | Google Calendar API | Google Developers. (2022). Google Developers. <https://developers.google.com/calendar/api/v3/reference>
- Addeventsource. Calendar. (n.d.). Retrieved December 7, 2022, from <https://fullcalendar.io/docs/Calendar-addEventSource>
- Calendly Developer. (2022). Calendly Developer; Calendly Developer. https://developer.calendly.com/?_ga=2.70511704.994121877.1670466276-912723457.1670466276
- eray diler. (2018, June 15). How to use the Google Calendar API on iOS - Hipo. Medium; Hipo. <https://blog.hipolabs.com/how-to-use-the-google-calendar-api-on-ios-563ad3abb006>
- Fullcalendar pricing. FullCalendar. (n.d.). Retrieved December 7, 2022, from <https://fullcalendar.io/pricing>
- Getting help. FullCalendar. (n.d.). Retrieved December 7, 2022, from <https://fullcalendar.io/getting-help>
- Google Calendar API | Google Developers. (2022). Google Developers. <https://developers.google.com/calendar/api/>
- Mehta, A. (2022, September 7). The top API security risks and how to mitigate them. Appinventiv. Retrieved December 7, 2022, from <https://appinventiv.com/blog/how-to-mitigate-api-security-risks/>
- React component. FullCalendar. (n.d.). Retrieved December 7, 2022, from <https://fullcalendar.io/docs/react>
- Shaw, A. (2015). Better support on iPad and mobile devices · issue #994 · Fullcalendar/fullcalendar. GitHub. Retrieved December 7, 2022, from <https://github.com/fullcalendar/fullcalendar/issues/994>
- Troubleshooting the outlook plug-in – help center. (2022, March). Retrieved December 8, 2022, from

<https://help.calendly.com/hc/en-us/articles/360025031873-Troubleshooting-the-Outlook-Plug-in>

Using OAuth 2.0 to Access Google APIs | Authorization | Google Developers. (2022). Google Developers.

<https://developers.google.com/identity/protocols/oauth2>

Using the Google Calendar API in React.js: An In-Depth Guide. (2022). Fusebit.

https://fusebit.io/blog/google-calendar-react/?utm_source=www.google.com&utm_medium=referral&utm_campaign=none

View Fullcalendar on SNYK open source advisor. Snyk Advisor. (n.d.). Retrieved December 7, 2022, from <https://snyk.io/advisor/npm-package/fullcalendar>