Understanding APIs

Plus some other key terms leading up to our Vibe Coding portion of the webinar series

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Today's **Agenda**

- **APIs**
- **MCP**
- OAuth2

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What is an API? (Demo)

Understanding APIs

DONATION ID	NAME		AMOUNT PAID	PROCESSING FEE	AMOUNT AFTER FEES	TRANSACTION ID	DONATION LEVEL	FUNDRAISER	FUNDRAISER TEAM	DONATION DATE
	The Forest	\$100.00	\$100.00	\$0.00	\$100.00			Rachel Carson	Forest Flyers	07/03/202 12:00am E
9258576	Test Donation	\$500.00	\$500.00	\$0.00	\$500.00			Allison Bickel	Forest Flyers	05/23/202 12:00am E
9253854	Test Bickel	\$400.00	\$400.00	\$0.00	\$400.00			Allison Bickel	Forest Flyers	05/22/202 12:00am E
9253850	Kirikou Bickel	\$175.00	\$175.00	\$0.00	\$175.00			Allison Bickel	Forest Flyers	05/22/202 12:00am E
9202032	Ron Synup	\$100.00	\$100.00	\$0.00	\$100.00			Allison Bickel	Forest Flyers	05/08/202 12:00am E

```
"donations": [
    "donation_id": 123,
        "user_id": 123,
        "first name": "John",
        "middle_name": null,
        "last name": "Doe",
        "email": "example@example.com",
        "address": {
            "street": "300 Mill St.".
            "city": "Moorestown",
            "state": "NJ",
            "zipcode": "08057",
            "country_code": "US"
        },
        "dob": "1950-01-01",
        "gender": "M",
        "phone": "555-555-555"
    },
    "on_behalf_of": "Someone",
    "on_behalf_of_label": "On Behalf Of",
    "anonymous": "F",
    "donation_date_ts": 1427132552,
    "donation_amount": "$50.00",
    "processing_fee": "$2.40",
    "amount_paid": "$52.40",
    "fundraiser id": null,
    "fundraiser_name": null,
    "fundraiser_user_email": null,
    "team_fundraiser_id": null,
    "team_fundraiser_name": null,
    "rsu_transaction_id": 123456,
    "transaction_id": "abcdef",
    "associated_registration_id": 654321,
    "charity_details": [
            "charity_id": "123",
            "charity_name": "Charity Name",
            "donation_amount": "$50.00"
```

APIs in RunSignup

- The columns that you see in RSU reports = fields that the API can return
- API Key & Secret = How you have permission to access the data in your Race Dashboard (or timer dashboard, partner account, etc.
- APIs = Transactional Data

Pulling vs. Pushing Data with APIs

Pull Data

- A nonprofit uses APIs to automatically pull
 GiveSignup participant, fundraiser, and donor data into Salesforce
- A timer pulls participants and all of their data from RunSignup to RaceDay Scoring to time and score the race
- Attendees buy tickets on TicketSignup, and the Ticket App pulls in their data to scan and validate at check-in.

Push Data

- A timer pushes Results from RaceDay Scoring to RunSignup Results
- A waiver gets signed in the RaceDay CheckIn App, and the signature and timestamp get pushed to RunSignup reports.
- Ticket holder information is edited in the Ticket App, and that new data gets pushed into TicketSignup reports

• • • Understanding APIs

Race Participants &

METHOD	DESCRIPTION	ACCESS
Get Race Participant Counts	Get race participant counts.	Partners, Race Directors, Timers
Get Bulk Race Modified Participant Counts	Get modified participant counts for multiple races.	Super Partner
Get Race Participants	Get participants for a race.	Partners, Race Directors, Timers
Get Removed Race Participants	Get removed race participants.	Partners, Race Directors, Timers
Get Current Active Registration ID for Event Fransfers	Get current active registration ID for event transfers.	Partners, Race Directors, Timers
Add or Edit Race Participants	Add or edit race participants.	Partners, Race Directors, Timers
Switch Participant Events	Switch participant events.	Partners, Race Directors, Timers
Delete Participants	Delete participants from an event.	Partners, Race Directors, Timers
Get Bib and Chip Numbers	Get bib and chip numbers for all event participants.	Partners, Race Directors, Timers
Get Bib Validation Settings	Get bib validation settings.	Partners, Race Directors, Timers
Assign Bib and Chip Numbers	Assign bib and chip numbers to participants.	Partners, Race Directors, Timers
Sign Waivers	Mark waivers as signed for a race.	Partners, Race Directors, Timers

Pull Data

Push Data

Public vs. Private APIs

Public API

- Get Races: Allows a site like Running in the USA to pull all races on RunSignup to list on their calendar.
 - API makes sure they don't get draft, private races
 - Only able to access publicly available data in Public APIs (i.e. Race Dates, Race Description, Race Location)

Private API

- Get Race Participants: Only accessible by Race Directors, Timers, and Partners with access to a specific race.
 - You give Timer Access to your Timer so that they can pull participant data to time and score your race.

Why APIs Matter for AI

- Without APIs, AI can only "guess" or rely on memory. This is what leads to hallucinations.
- With APIs, AI can fetch exact data from RunSignup
 - Results
 - Fundraising Totals
 - Volunteer Tasks
 - o Etc.
- APIs keep AI answers grounded in transactional data and allow agents (like RunSignup AI Chatbot) to provide accurate answers about things like Results.
 - Also accurately and securely defines what AI can and cannot access.
- Vibe Coding



Enter MCPs (Model Context Protocols)

- MCPs are adapters that let AI (like ChatGPT, RunSignup AI Chatbot) use APIs consistently and accurately
- MCPs help the Al know how to call APIs, instead of just guessing which ones to call

MCP + API Example

Suppose a user asks ChatGPT:

- "What half marathons are happening in Philadelphia this March?"
- "What's going on near me this weekend?"

Normally, AI would guess or hallucinate. With MCPs, it knows to call the /get_races API with filters:

- City = Philadelphia
- Date = March
- Distance = Half Marathon

MCPs give AI the context of *when and how* to call APIs. This help answer generic questions with **reliable**, accurate affiliate listings or event searches.

OAuth2 - The Trust Layer

- A secure way of proving who you are and what you're allowed to access and do
- Lets you log in to a system (like RunSignup) as yourself, and the system issues a time-limited access token
 - Understands who you are
 - Understands what you are allowed to do
- **API Keys/Secrets** for integrations that need always-on, system-level access.
- **OAuth2** for user-driven actions, where identity and role-based permissions matter.

OAuth2 and AI Examples

- OAuth2 for vibe coding applications built on RunSignup's API that are available for general use
- Al Agent evolution
 - Example: You ask the RunSignup AI Chatbot or another agent like ChatGPT, "Transfer my bib." The chatbot uses OAuth2 to prove you are Allison, a participant, and that this action is allowed based on the race's settings..

Bringing it all Together

