What is possible with the Google Drive SDK

Nicolas Garnier
Developer Advocate

Google 12

Google Drive & the Google Drive SDK

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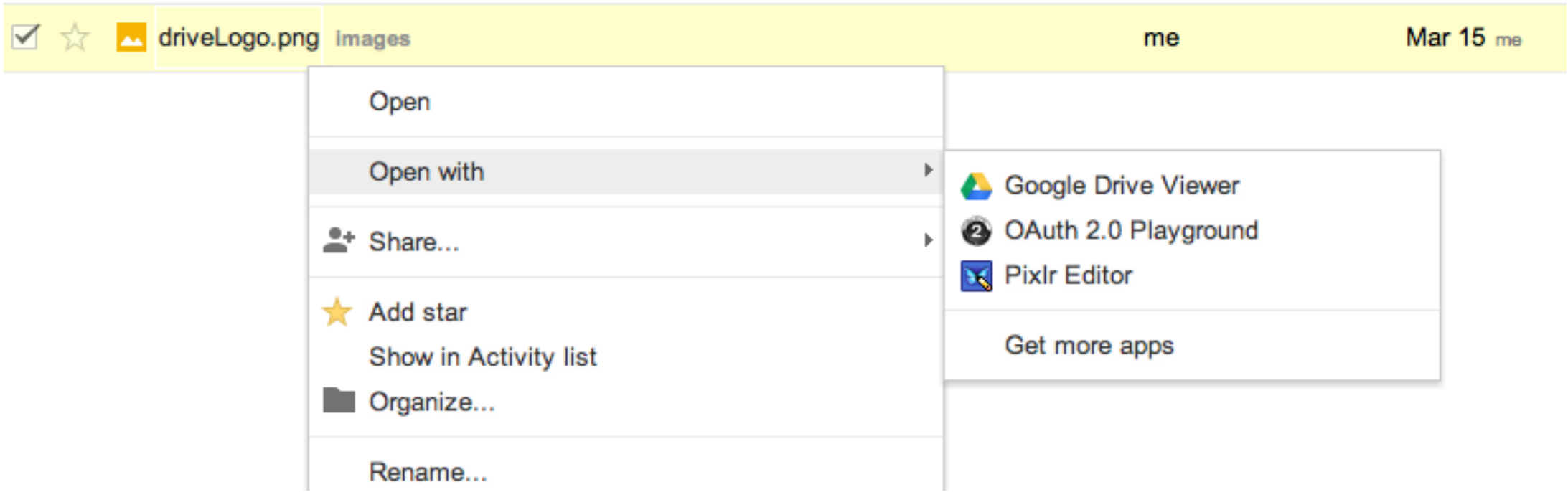
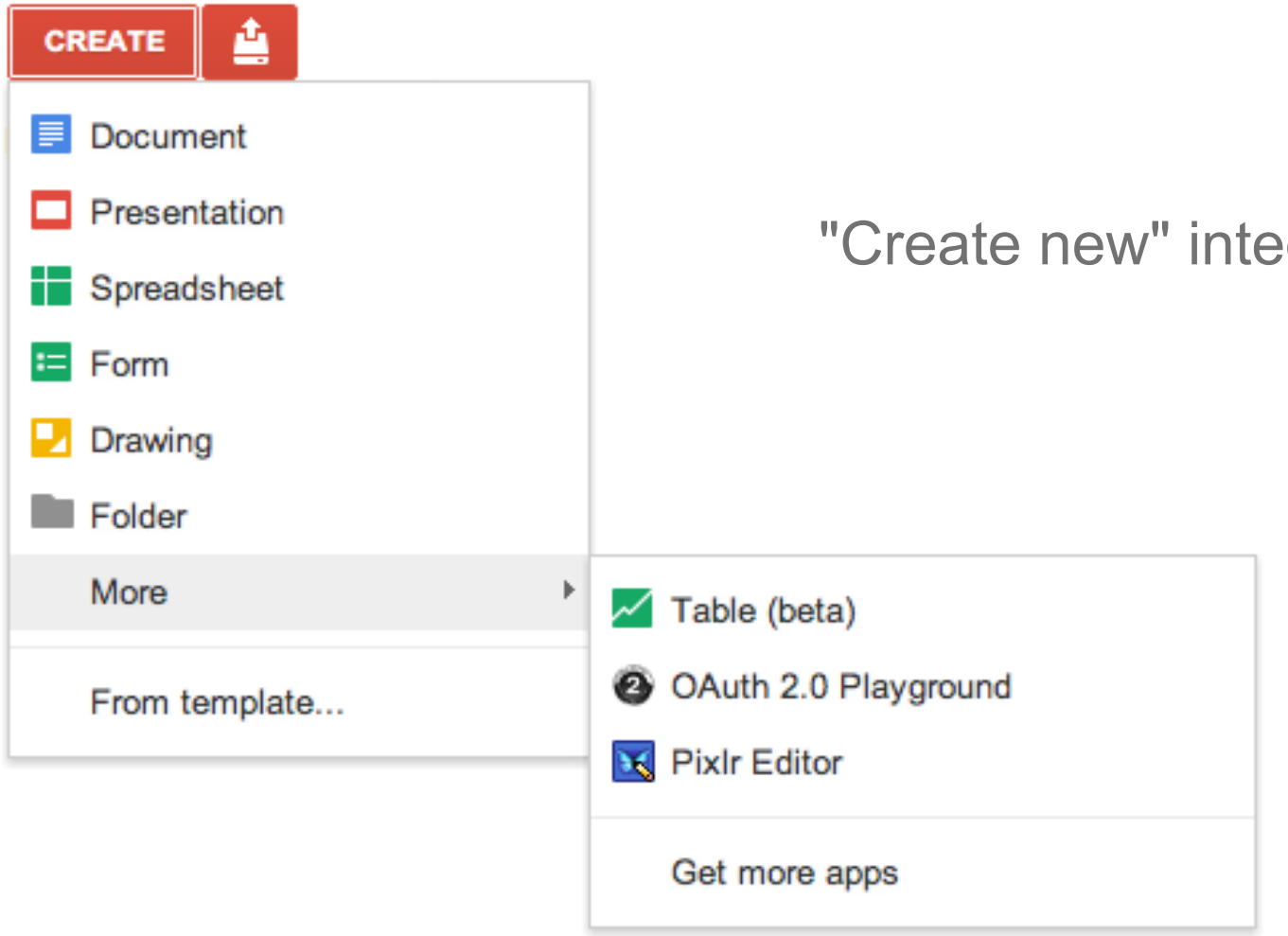
Google Drive Web UI integration

"Open with" integration

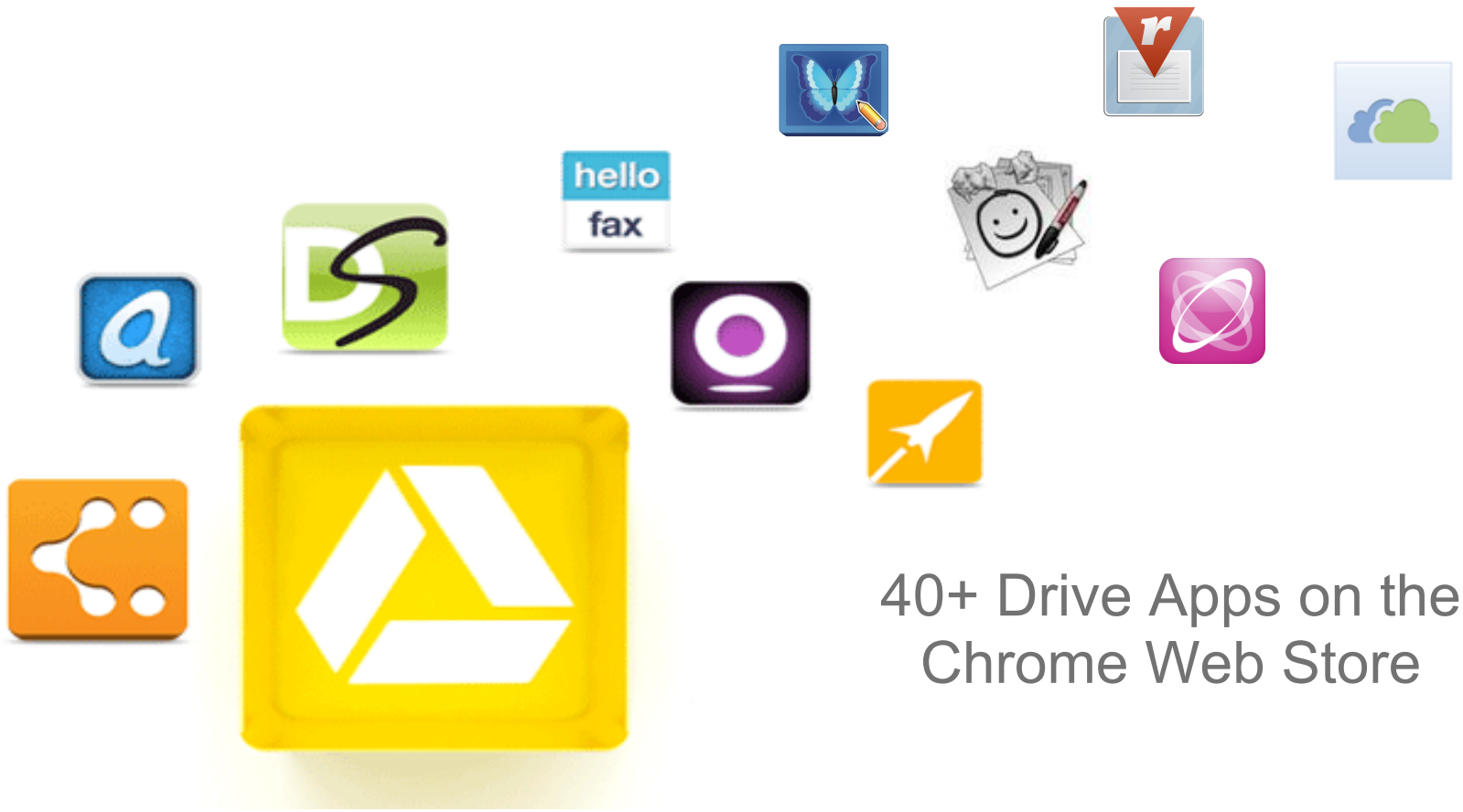


Google Drive Web UI integration



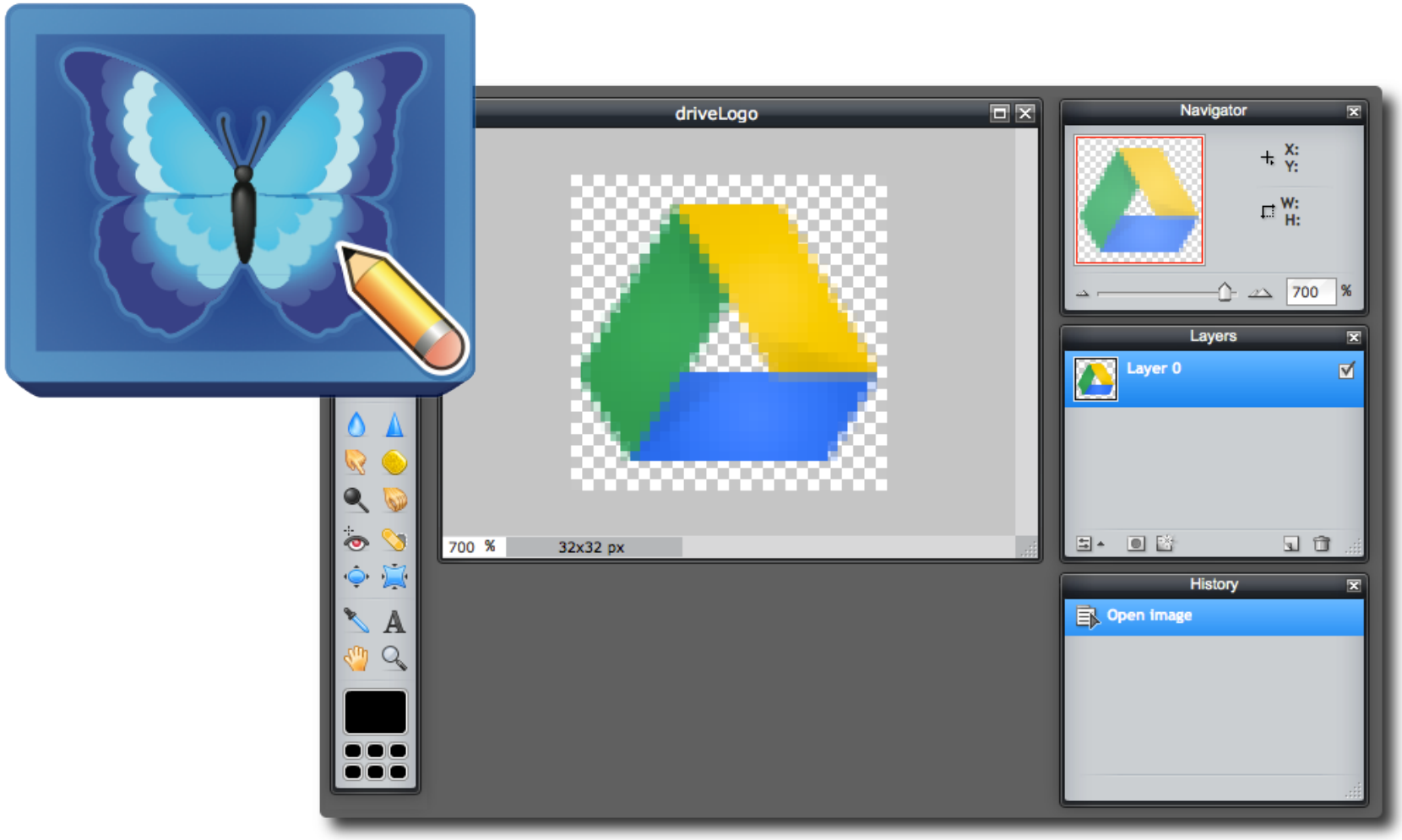
"Create new" integration

Lots of Drive apps



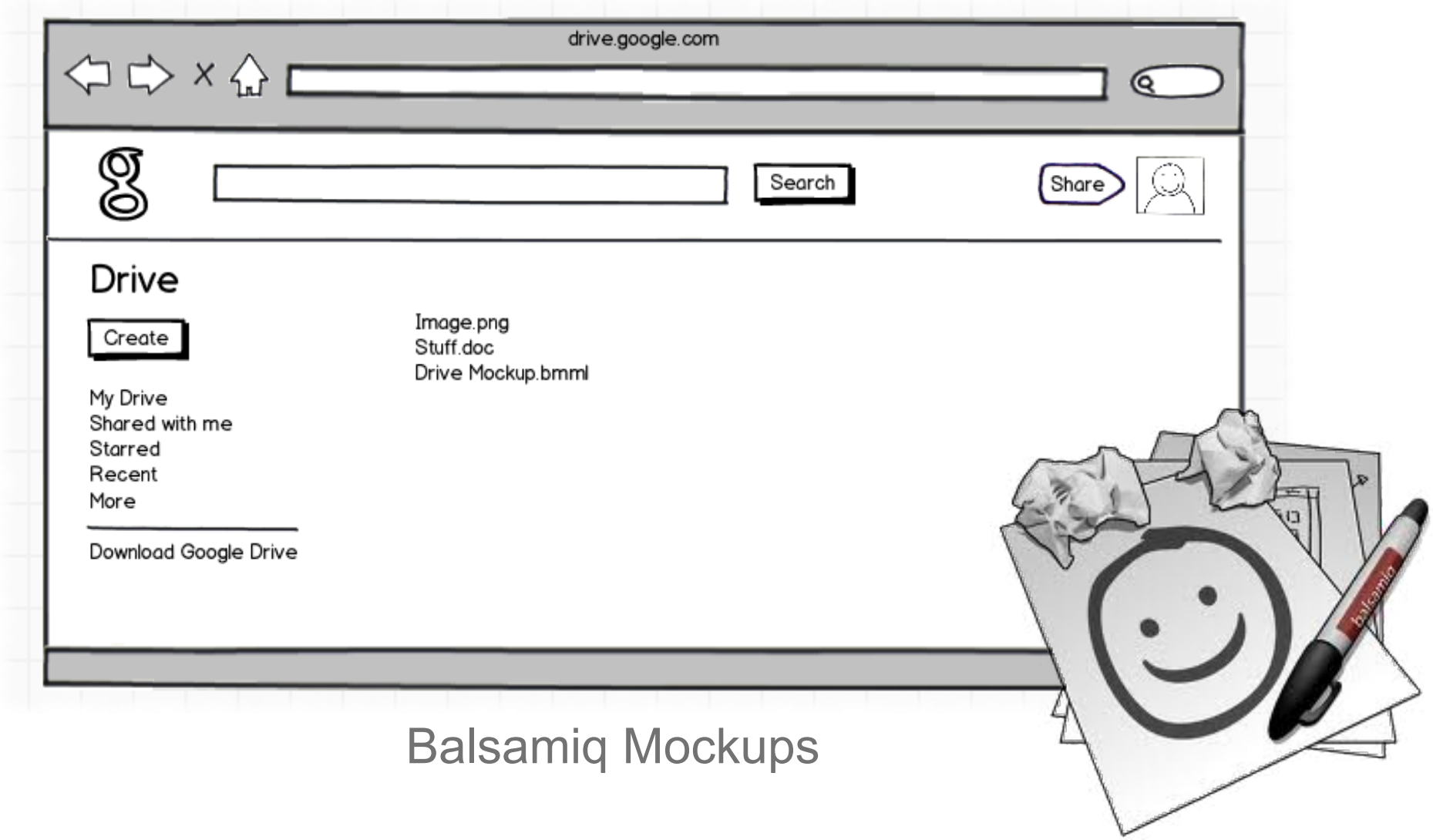
40+ Drive Apps on the Chrome Web Store

What you can do with Drive apps



Pixlr Editor

What you can do with Drive apps



Balsamiq Mockups

What you can do with Drive apps

Who is here?

MindMeister

Till Vollmer, CEO and Founder

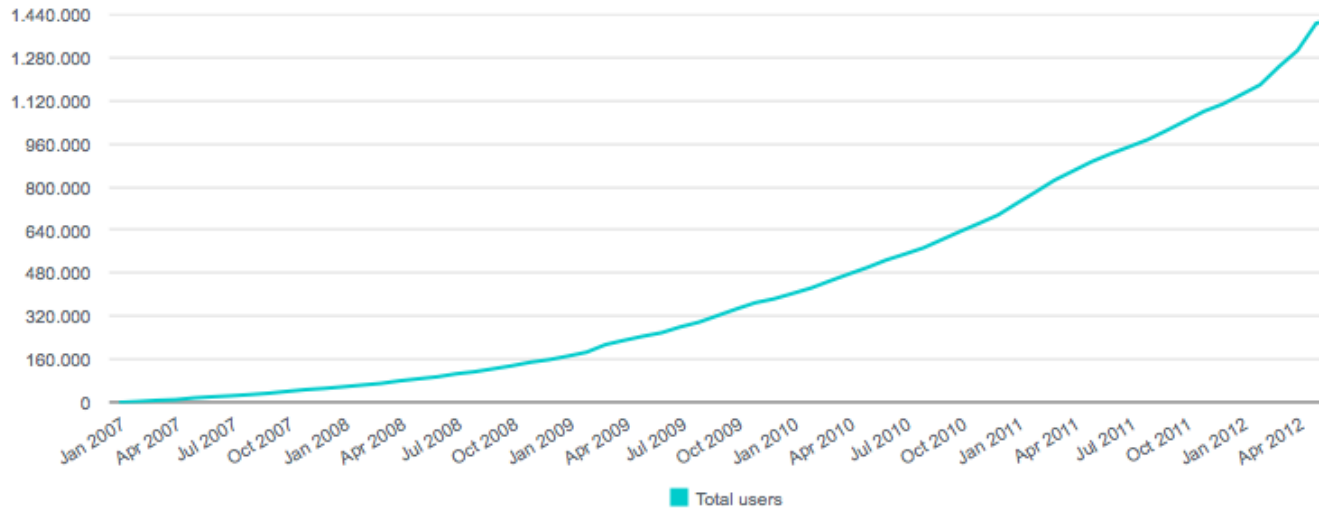
Product MindMeister

Collaborative web-based mind mapping

- Using modern web technologies
- Use Cases
  - Innovation Management
  - Project Planning
  - Meeting Efficiency
  - Brainstorming
  - Visual Thinking
- Technical: Ruby on Rails, Apache, MySQL

Company MeisterLabs/MindMeister

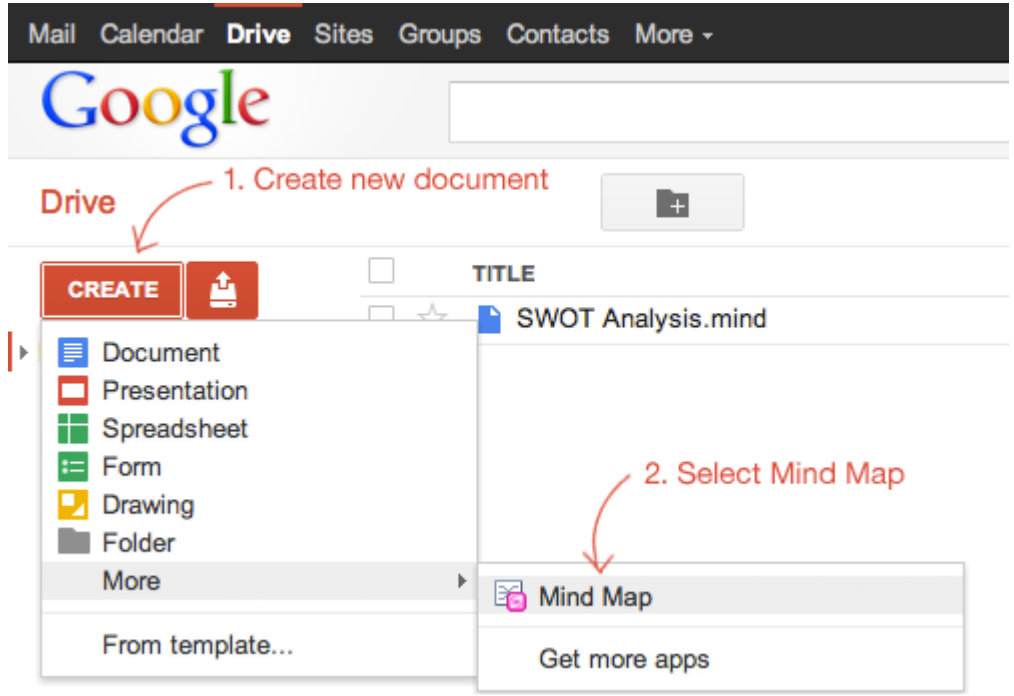
- Established 2006
- Product launched in 2007
- 1.4 Mio registered users
- Profitable
- Freemium Model



Google Chrome Web Store, Google Drive and Google Apps Integrations

Integration Goals

- Create new mind map
- Edit mind maps
- Import mind maps to Drive
- Indexing of mind mapping content
- Export mind maps to Drive
- Adding attachments from Drive
- Realtime Collaboration
- Sync mind maps with Drive
- Backup mind maps to Drive
- Invite Google contacts



Google Drive API used

Google provides a Ruby binding

- OAuth 2.0
- OpenID Connect
- https://www.googleapis.com/auth/drive.file (Drive)
- https://www.google.com/m8/feeds/ (Contacts)
- https://www.googleapis.com/auth/userinfo.profile (User information)
- https://www.googleapis.com/auth/userinfo.email (User email)
- Picker API

Demo

DEMO

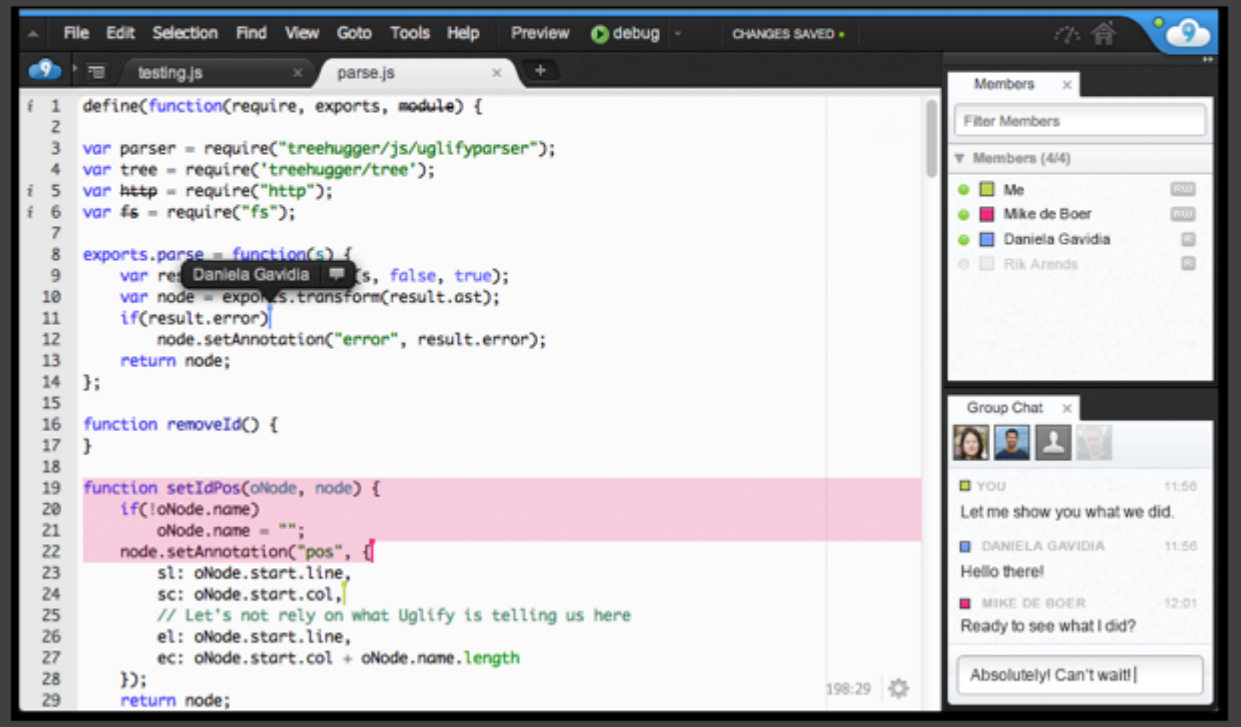
Thank you

Cloud9 IDE

Rik Arends, CTO and Founder

What is Cloud9 IDE?

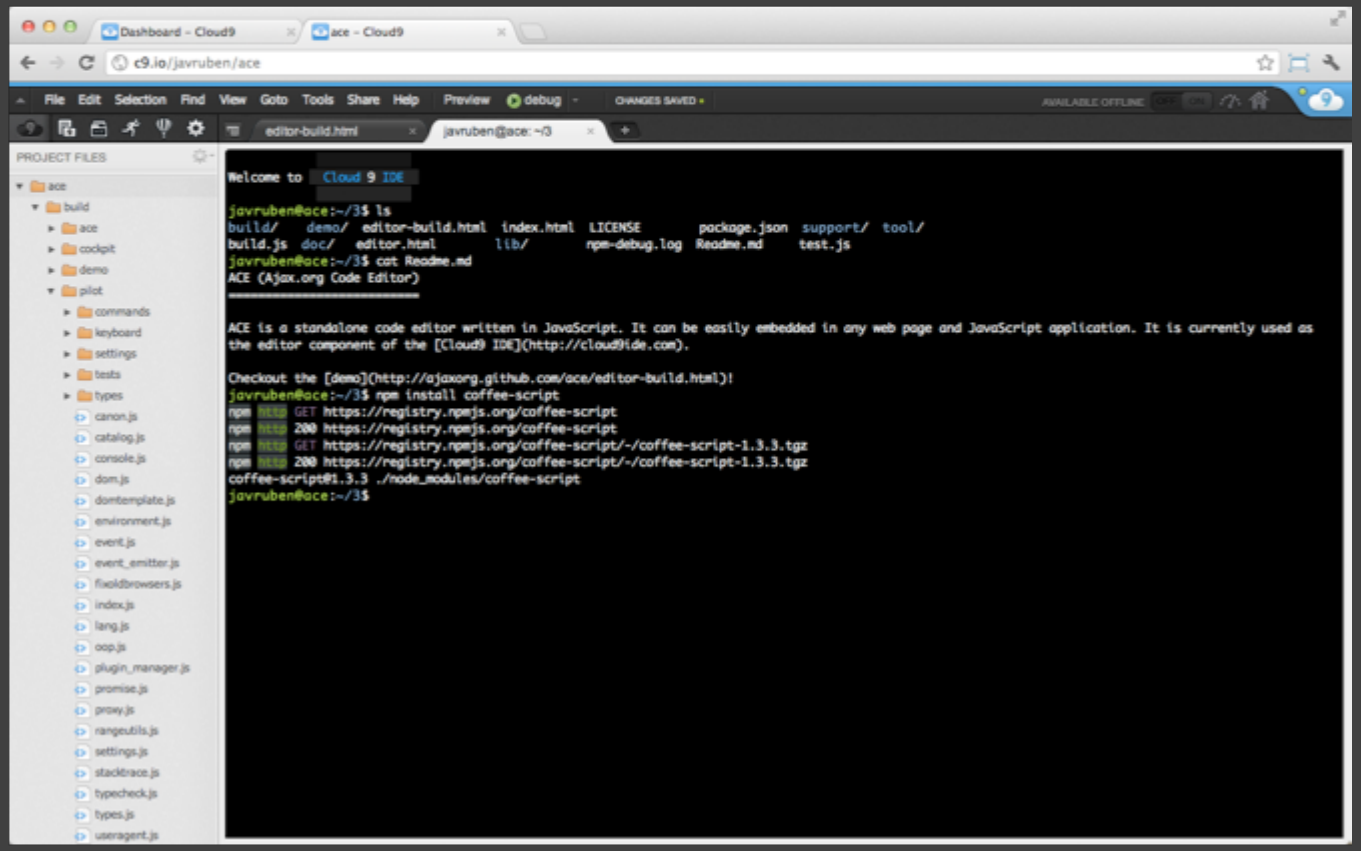
- Complete IDE in the cloud
- Collaborative editing
- Run Python, Ruby, PHP, and debug Node.js. Even compile C/C++!
- Code completion for JavaScript
- Every workspace is your own dev box in the cloud



Collaborative editing in your workspace

Your workspace online

- Own hard drive and memory capacity
- Teams avoid configuration differences and software management by being on the same OS and software stack (linux)
- Terminal tied directly to the box
- workspace URL = Shareable collaboration URL



Terminal connected directly to the workspace

Cloud9 is powered by Node.js

Node.js is a platform for building fast, scalable network applications.

switch inputs

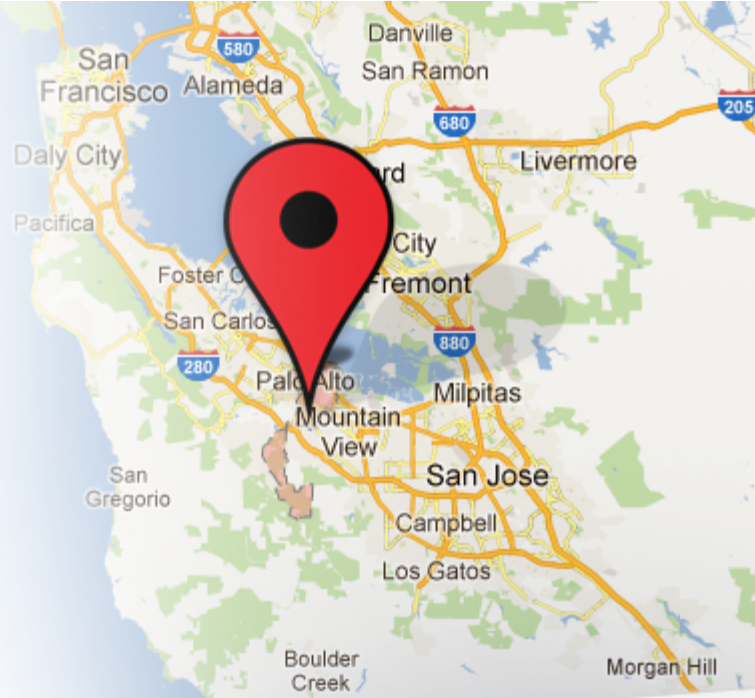
Thank you

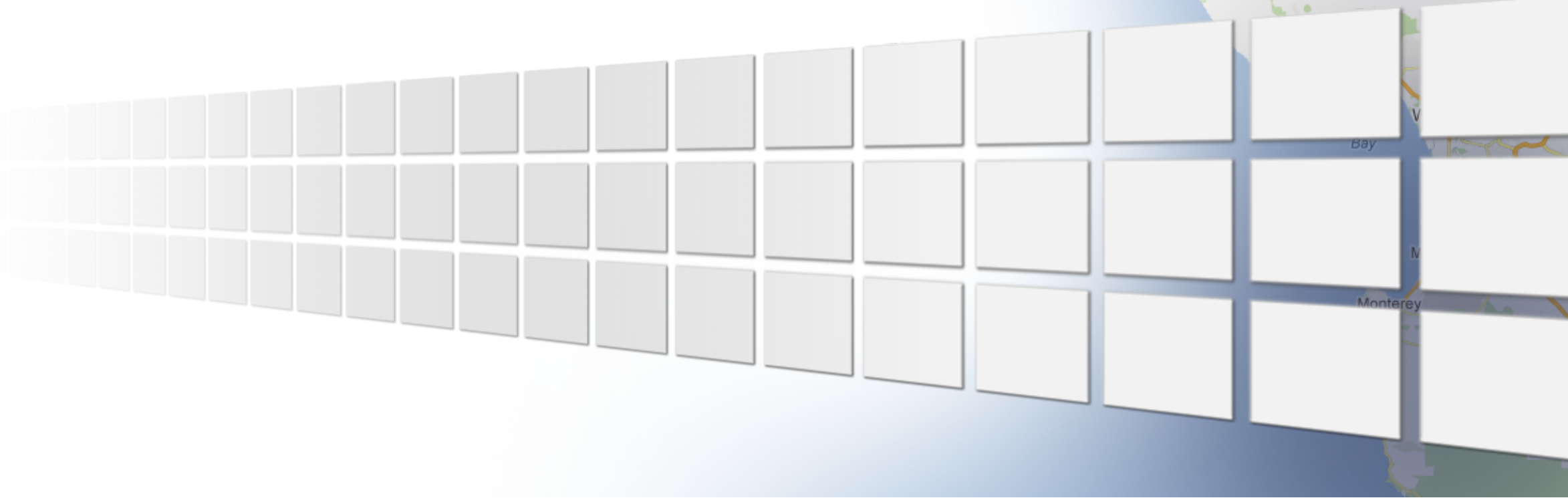
Cooliris

Austin Shoemaker, CTO and Founder

Company Introduction

- Palo Alto based team of 14
- Product highlights
  - Makers of the 3D wall (45M+ installs on desktop browsers)
  - Makers of the Android Gallery app





Social Discovery for Media

Google Drive Integration

- Visual timeline for all your media
- Search by name or text in the images (OCR)
- Instant upload from our camera app
- Real-time media updates

Demo

Using the API

- Objective-C client library
- OAuth 2.0
  - Access to all of a user's files

    https://www.googleapis.com/auth/drive
  - User email and profile information, used for single sign-on

    https://www.googleapis.com/auth/userinfo.email

    https://www.googleapis.com/auth/userinfo.profile
- Google Drive API v2

Browse and Search Images

Request /files with an optional query parameter.

The q parameter is a conjunction of search terms:

```
fullText contains 'sunset' and mimeType = 'image/jpeg' and trashed = false
```

Use nextLink or nextPageToken to load more pages.

Performance notes

- Partial responses: fields = items(id,modifiedDate,thumbnailLink),nextLink.
- Reduce page size: maxResults = 20.
- Gzip responses.
- https://developers.google.com/drive/performance

Synchronize Changes

1. Get the largestChangeId from /about.
2. Get /files. Include items(id, modifiedDate) in the projection.
3. Get /changes with startChangeId={ largestChangeId + 1 } and includeDeleted=true. Include items(deleted, file/id, file/modifiedDate), largestChangeId in the projection.
4. Merge inserts, updates, and deletes using id for correspondence and deleted to detect deletions.
5. Save the new largestChangeId for the next request.

https://developers.google.com/drive/manage-changes

Frequent polling is resource-intensive. Fortunately, a push channel is in the works.

Upload to Drive

https://www.googleapis.com/upload/drive/v2/files?uploadType=multipart

media is limited to 2MB and cannot include metadata.

multipart is a single request and can include metadata. The camera app uses this.

resumable is better for large uploads, especially on unreliable networks.

https://developers.google.com/drive/manage-uploads

Final Thoughts

Using the API has been a great experience so far.

Search powered by OCR and image recognition is tremendously useful.

Looking forward to:

- Push notifications for changes
- More metadata
  - Image dimensions, EXIF, …
  - Recognized text and object tags

Thank you

What's next?

image/gif (animated)

audio/wav

message/rfc822 (emails)

text/x-vcard

application/x-font-ttf

<Thank You!>

+Nicolas Garnier

Developer Advocate, Google

+Till Vollmer

CEO & Founder, MindMeister

+Rik Arends

CTO & Founder, Cloud9 IDE

+Austin Shoemaker

CTO & Founder, Cooliris

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