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API Tips and Tricks

Kevin Fansler (and guests)
Developer Relations Advocate

Guest Speakers

Brett Gardner,
Commercial Sales Engineer

Anthony Sanfilippo,
SDE in Test

Tony Lucas,
Director of Product

Garvice Eakins,
Sr Manager of Software Development

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Agenda

Agenda

Event Reporting: automate Smartsheet policy (Brett)

Using cell links to find your way (Anthony)

Lessons from the API (Tony)

Building applications for multiple users (Garvice)

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Event Reporting: Automate Smartsheet Policy

Brett Gardner
Commercial Sales Engineer

What is Event Reporting?

Event Reporting is accessed through the API.

It is a stream of events that illustrates all of the actions my users are doing in the Smartsheet environment

Seeing these events will give me a better understanding of what users are doing in Smartsheet

What is the API?

The API stands for “Application Program Interface” and it is a set of **rules and protocols**

Event reporting: the business problem

- I don’t know how my users are leveraging Smartsheet
- How can I better protect my data?
- I can’t enforce user policy
- Hard to discern user behavior and where/who my data is being shared to


```
{
    "eventId": "2.1.TtFtkgjl4NBPyO6T0eWTb7c2ny6Vb9c1gMCpUwrt6KA",
    "objectType": "SHEET",
    "action": "UPDATE",
    "objectId": 6566322499807108,
    "eventTimestamp": "2019-08-19T18:00:04Z",
    "userId": 6341307250567044,
    "requestUserId": 6341307250567044,
    "source": "API_INTEGRATED_APP"
},
{
    "eventId": "2.1.aIZnRX5OjFqQi3a7GeoXgcGbI3flgaTGDTKjOrgx5q0",
    "objectType": "DASHBOARD",
    "action": "LOAD",
    "objectId": 99105096656772,
    "eventTimestamp": "2019-08-19T18:00:06Z",
    "userId": 1828012137179012,
    "requestUserId": 1828012137179012,
    "source": "WEB_APP"
},
{
    "eventId": "2.1.LtIuUK958h1nva2Sozbs7yZvdrqI6b0gq4L1enZZvOQ",
    "objectType": "SHEET",
    "action": "LOAD",
    "objectId": 6975695948670852,
    "eventTimestamp": "2019-08-19T18:00:07Z",
    "userId": 2064768048621444,
    "requestUserId": 2064768048621444,
    "source": "API_INTEGRATED_APP"
```

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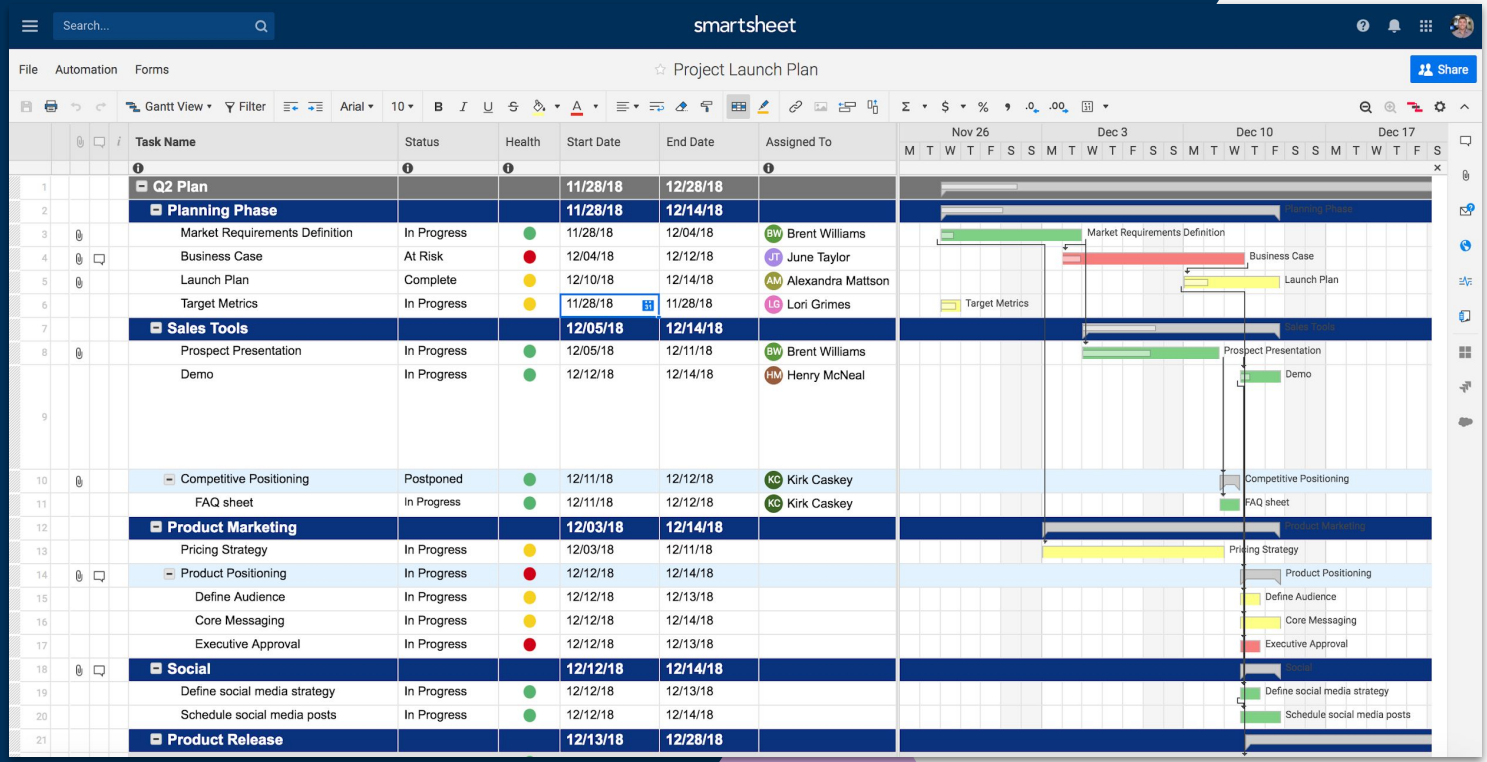
User perspective Login to core app



API perspective

JSON payloads!

Row

```
{
  "id": 2361756178769796,
  "sheetId": 4583173393803140,
  "rowNumber": 2,
  "parentId":
4392908622194564,
  "version": 23,
  "expanded": true,
  "accessLevel": "OWNER",
  "createdAt":
"2017-10-06T21:21:25Z",
  "modifiedAt":
"2018-03-22T21:24:50Z",
  "cells": []
}
```

Column

```
{
    "id": 7960873114331012,
    "index": 2,
    "symbol": "STAR",
    "title": "Favorite",
    "type": "CHECKBOX",
    "validation": false
}
```

Attachment

```
{
  "name":
"expense_report_sample.png",
  "url":
"https://api.smartsheet.com/do
wnload/aa402974cdb74cb58d9",
  "attachmentType": "FILE",
  "mimeType": "image/png",
  "id": 4583173393803140,
  "urlExpiresInMillis": 120000
}
```

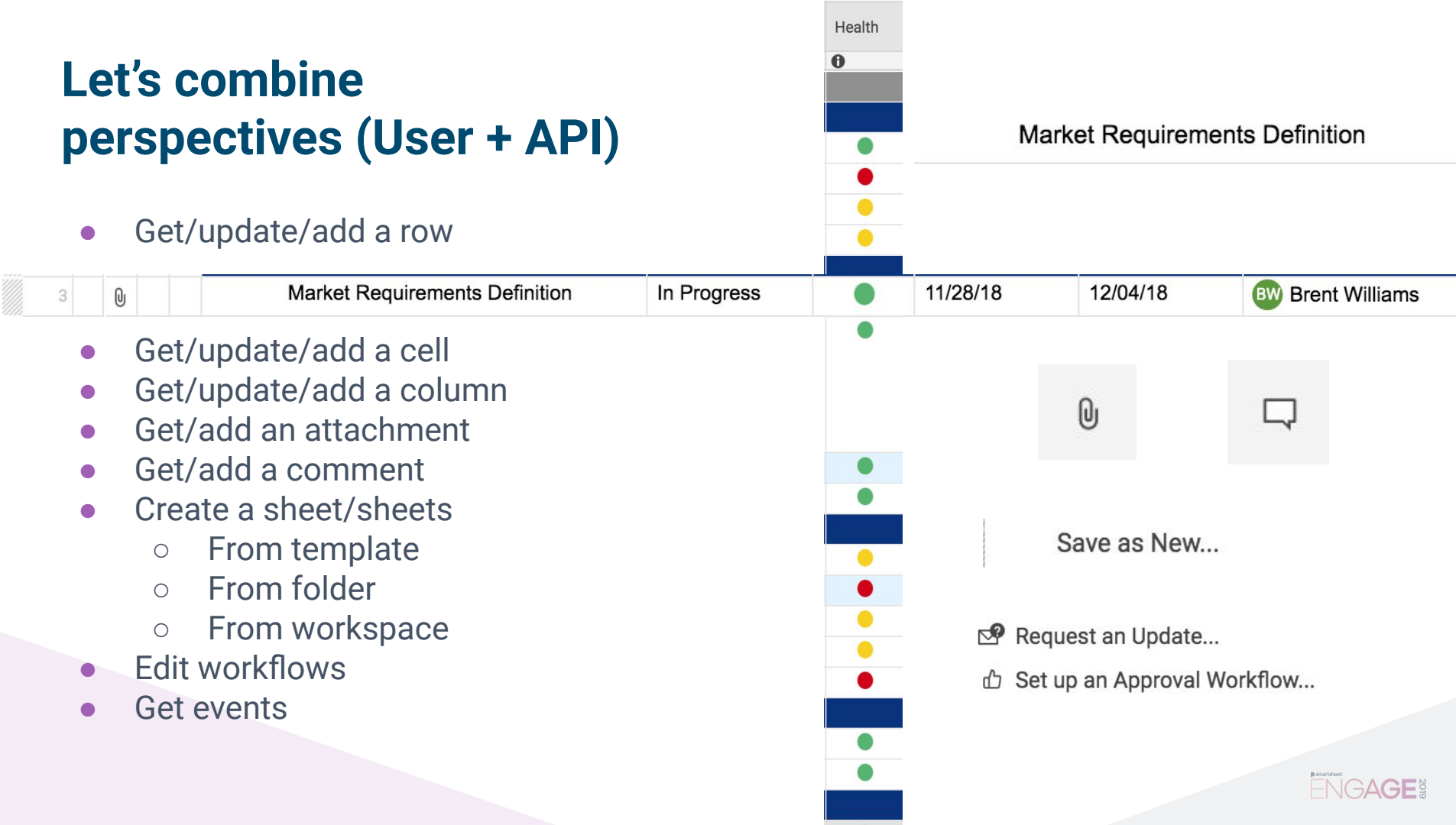
Sheet

```
{
  "id": 4583173393803140,
  "name": "sheet 1",
  "version": 6,
  "totalRowCount": 240,
  "accessLevel": "OWNER",
  "effectiveAttachmentOptions": [
    "EVERNOTE",
    "GOOGLE_DRIVE",
    "EGNYTE",
    "FILE",
    "ONEDRIVE",
    "DROPBOX",
    "BOX_COM"
  ],
  "readOnly": true,
  "ganttEnabled": true,
  "dependenciesEnabled": true,
  "resourceManagementEnabled": true,
  "cellImageUploadEnabled": true,
  "userSettings": {
    "criticalPathEnabled": false,
    "displaySummaryTasks": true
  },
```

There is more :)

Let's combine perspectives (User + API)

- Get/update/add a row
- Get/update/add a cell
- Get/update/add a column
- Get/add an attachment
- Get/add a comment
- Create a sheet/sheets
  - From template
  - From folder
  - From workspace
- Edit workflows
- Get events



Event Reporting
The problem | The solution | The benefits

Problem

- No control or oversight over the Smartsheet Environment
- Lack of information surrounding user behavior
- Inability to take quick and appropriate action when action is necessary
- Can't implement or consistently enforce policy

Solution

- Event Reporting
- Implement policy
- Incorporate standards and behavioral metrics
- Keep historical record of all Smartsheet events

Benefits

- Control over Smartsheet environment
- Data integrity will always be intact due to enforced policy standards
- Gain insights on usage and collaboration (know exactly where and who your data is being shared to)

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Demo
Event Reporting Solution

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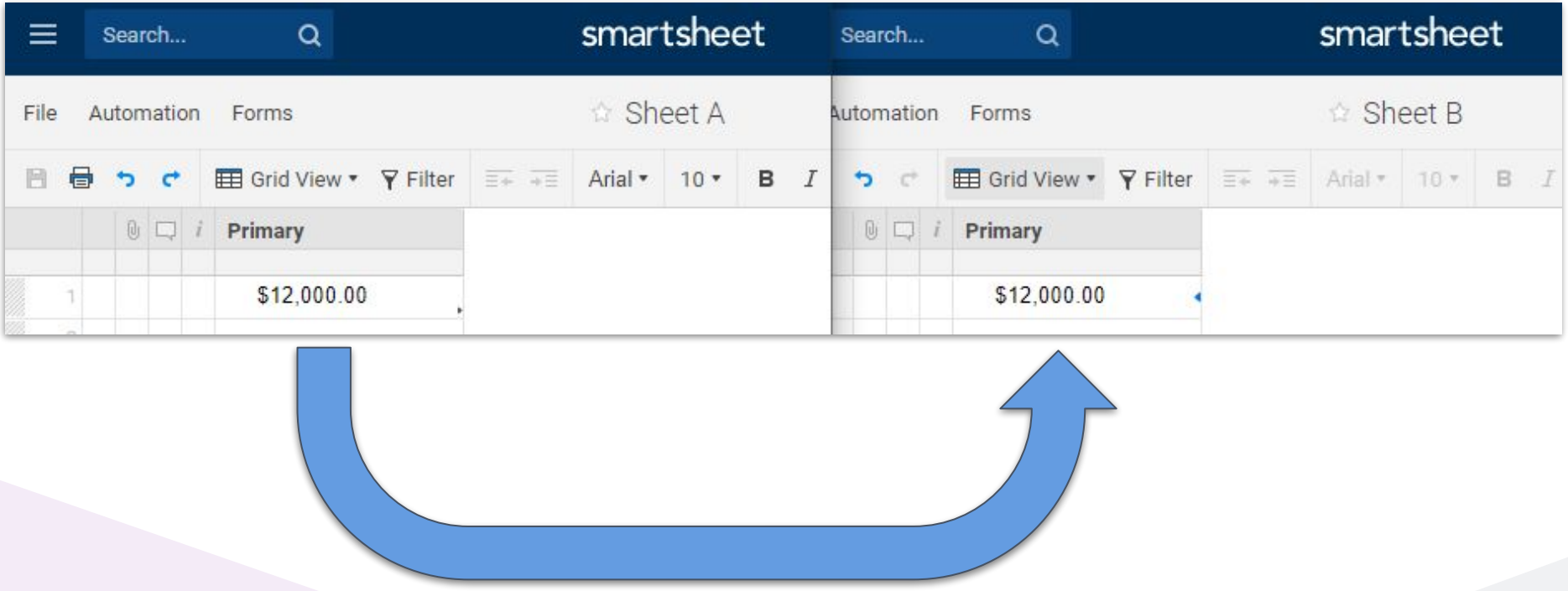
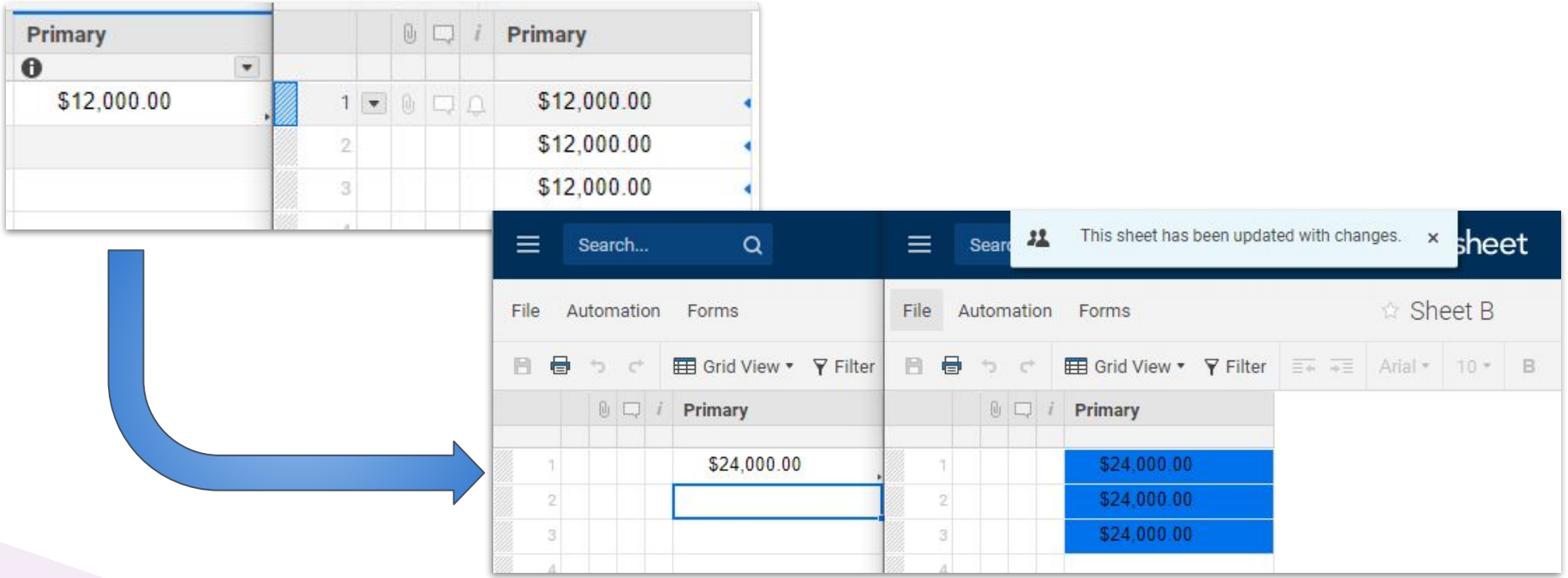
Using Cell Links to Find Your Way

Anthony Sanfilippo
SDE in Test

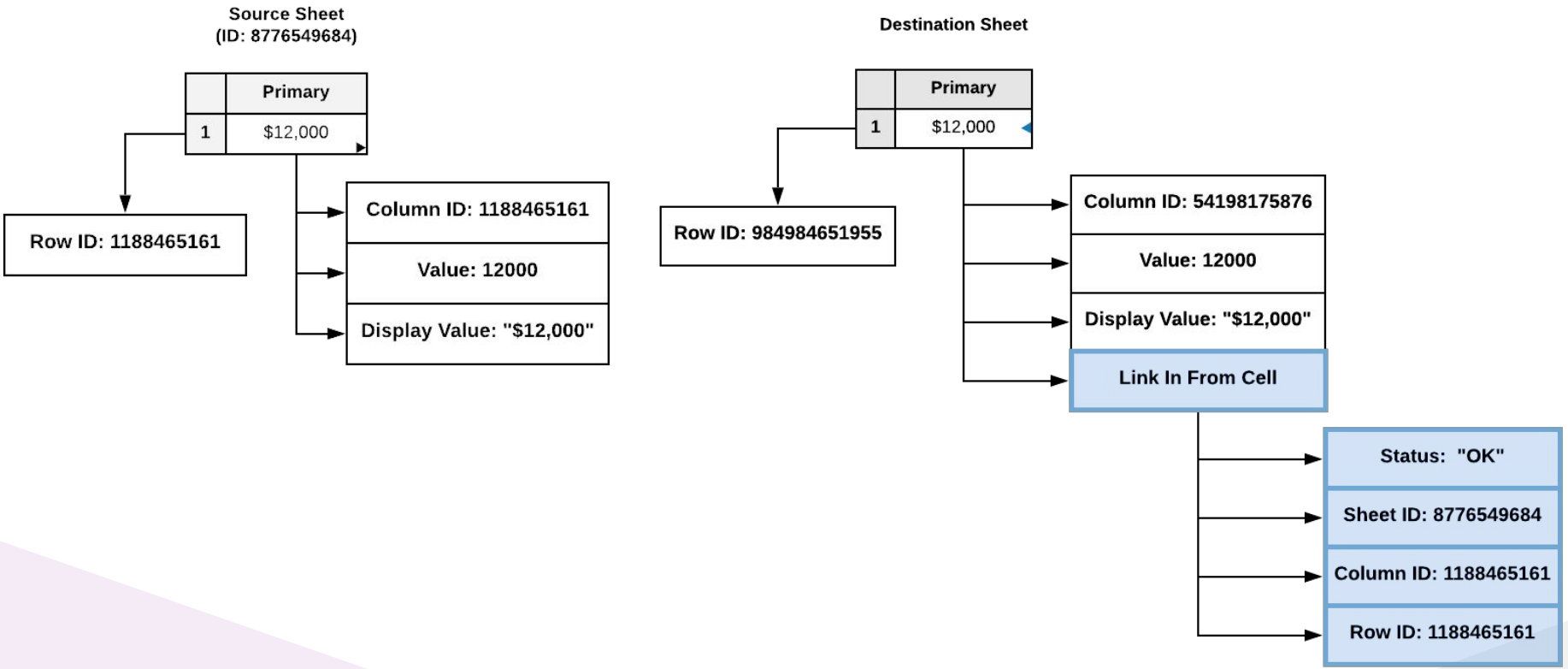
What is a Cell Link?



What is a Cell Link?

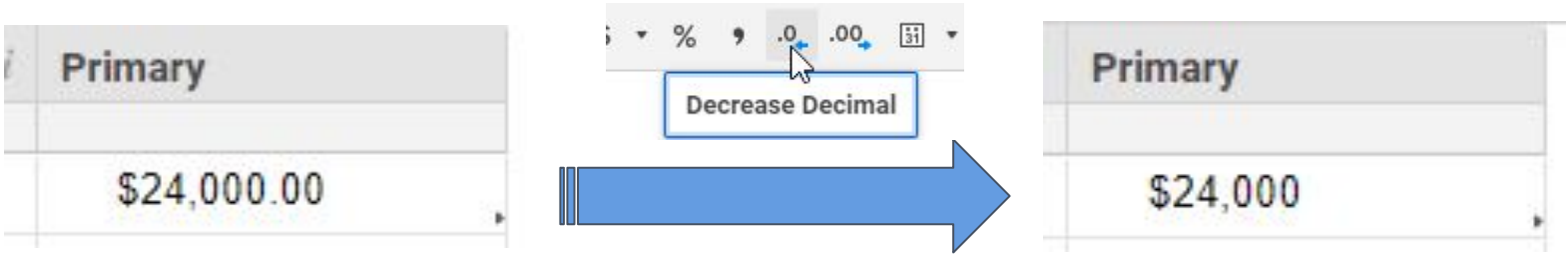


Anatomy of a Cell Link

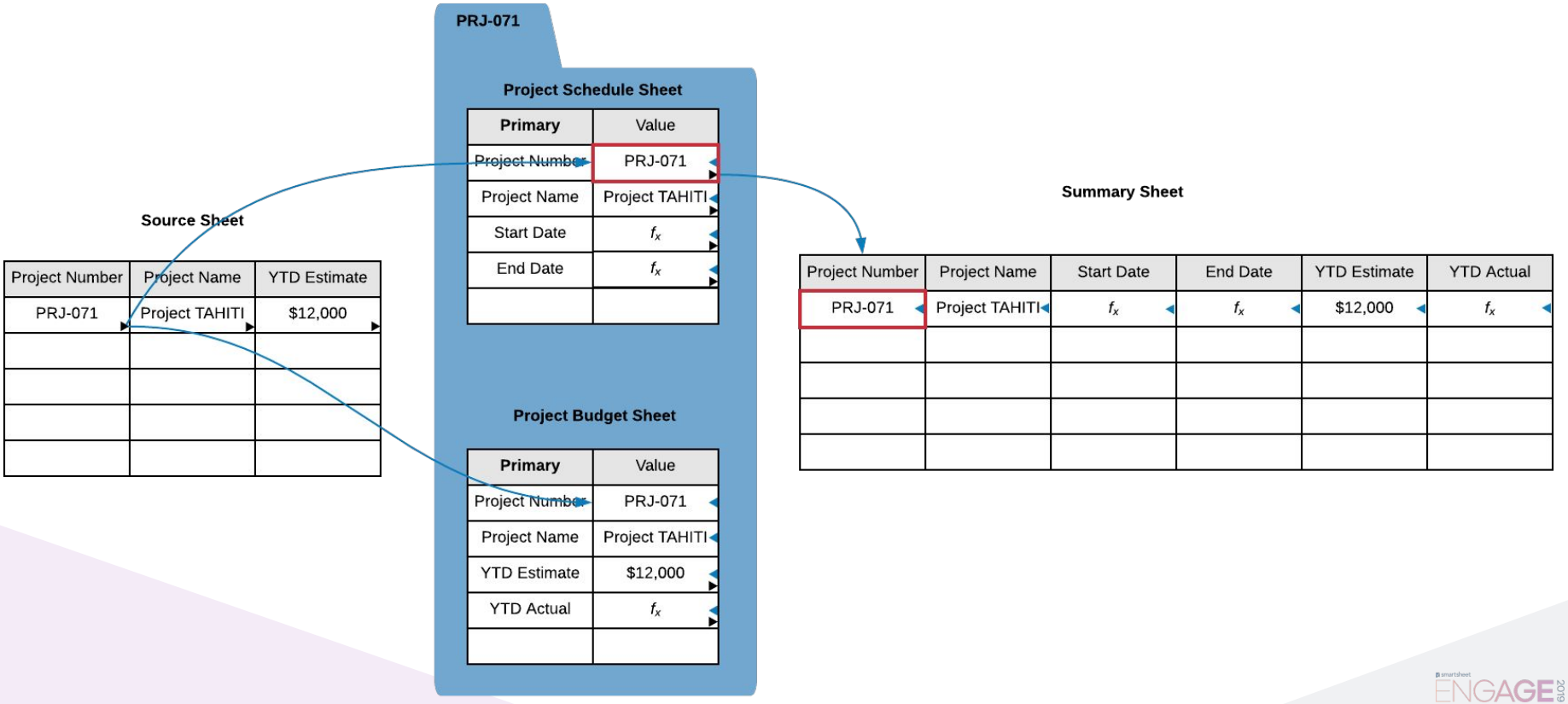


Use Case: Following Cell Links

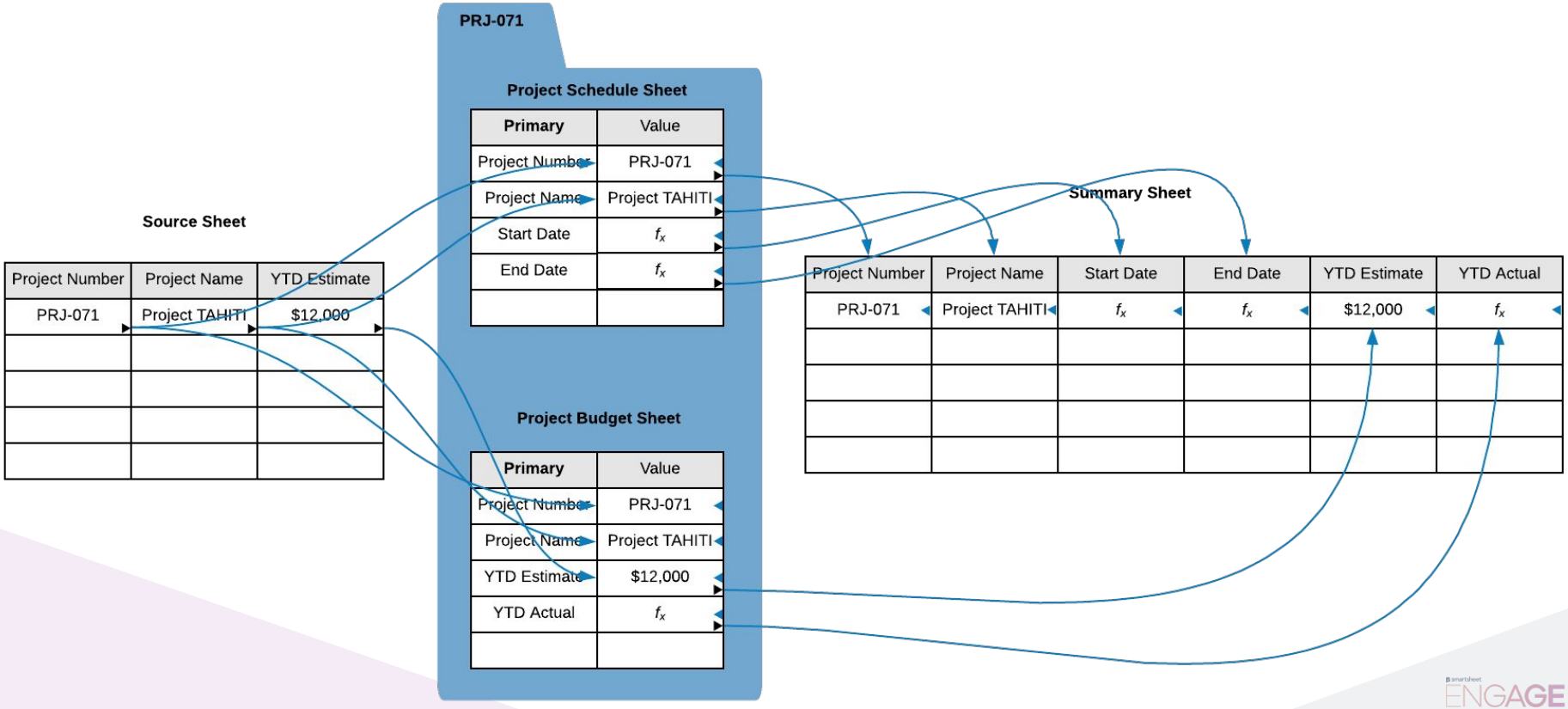
- “I need to make a simple change to all of my project plan sheets.”



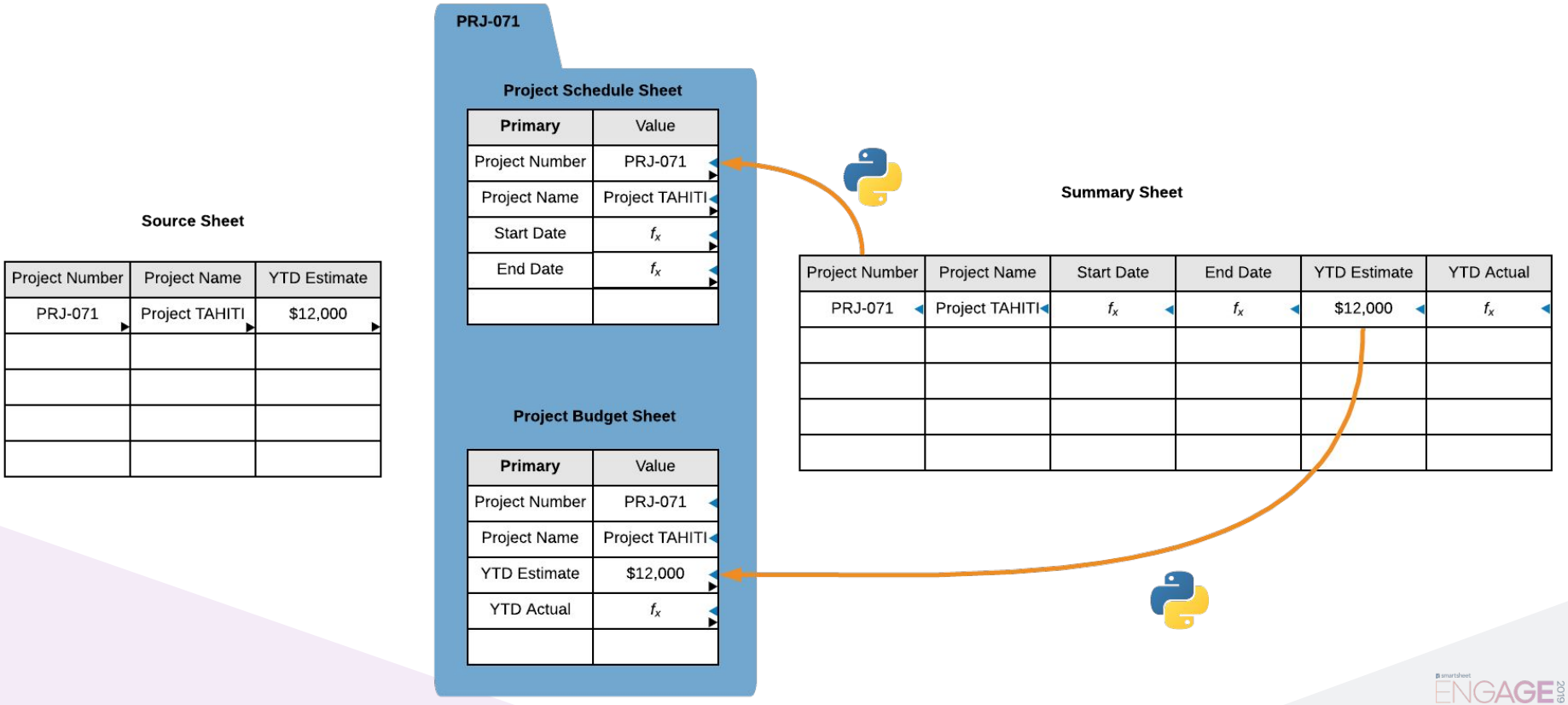
Use Case: Following Cell Links



Use Case: Following Cell Links



Use Case: Following Cell Links



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Demo
Using Cell Links to Find Your Way

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Lessons from the API

Tony Lucas
Director of Product

Services — Connectors

- Jira
- Salesforce
- Microsoft Dynamics
- Data Uploader

Services — Integrations

- Google Docs Merge
- Google Forms
- Quip
- Zapier

Services — BI

- Live Data Connector
- Tableau
- Power BI

Services — Workflow

Bridge by Smartsheet

Webhooks

- Scopes
- Payload Sizes
- Retries
- Disabling/Enabling

Retrieving data from sheets

- Sheet sizes, filtering, caching
- Activity Log
- Version handling

Updating sheets

- Smart ways to change data
- API Token clashes
- Column types & formatting
- Error handling

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Building Apps - What to Consider

Garvice Eakins
Sr Manager of Software Development

Keep it simple

If possible create an app users can run locally.

Pros

- Easier to build
- Easier to secure
- Costs less

Cons

- Updates are hard
- No shared functionality
- Great for scripts, not for web

Keep it secure

DON'Ts

- **Don't** - Store secrets, tokens, or passwords in source control
- **Don't** - Store user login Info
- **Don't** - Send Smartsheet tokens to the browser

DOs

- **Do** - Use encrypted transmission (HTTPS/SSL)
- **Do** - Create your own session tokens

Keep it efficient

- Only Request the Data You Need
- Only Send the Data You Are Changing
- Compress the Data In Transit

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