

Application Interface Design

Design & Development of an Issue Tracker

Hello.
My name is...

Garrett D'imon

What's the application do?

1. Track issues.
2. Track software development bugs.
3. Enables and encourages resolutions to the issues and bugs.

Ground rules...

1. Stop me at any time for questions or discussion.
2. No formal usability testing. It's based on my experience.
3. It's not finished. There are mistakes. Things will change.
4. Let's focus on "why" and "how", not "what".
5. Your mileage may vary.





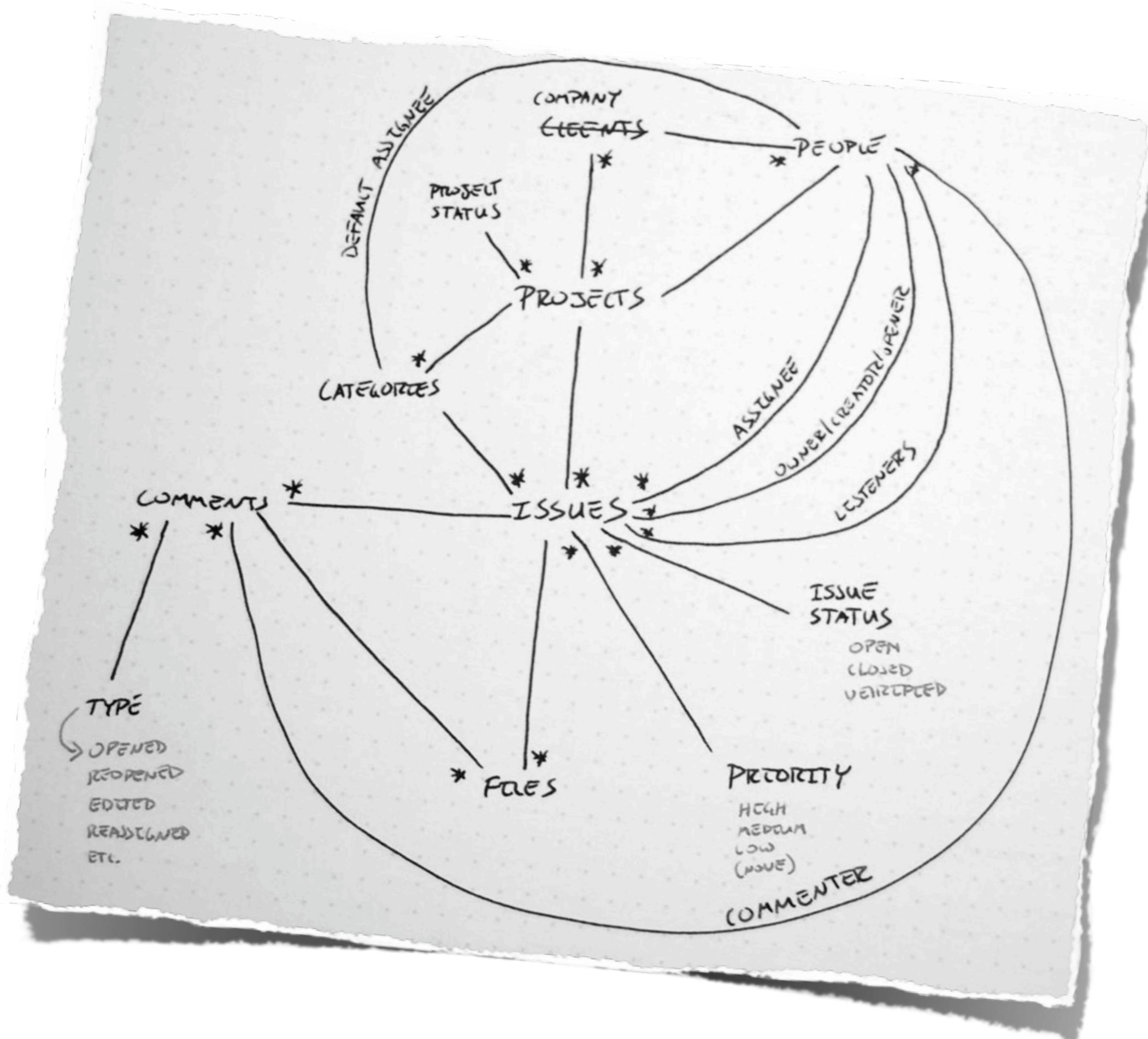
“ *The design of good houses requires an understanding of both the construction materials and the behavior of real humans.* **”**

Peter Morville

1

Concepts & Relationships

Interface design is really about the things you don't see.



“If everything is important, nothing is.”

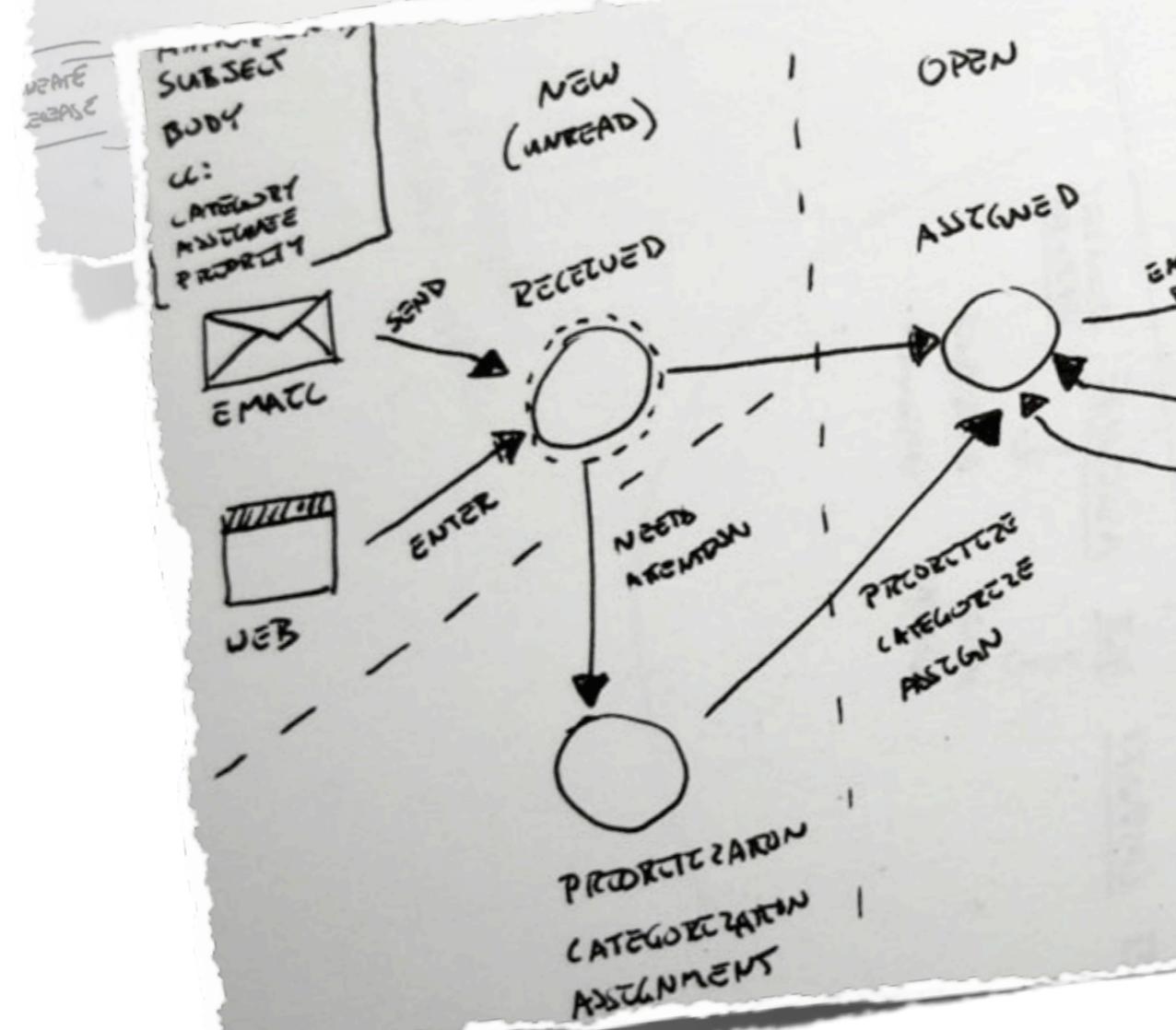
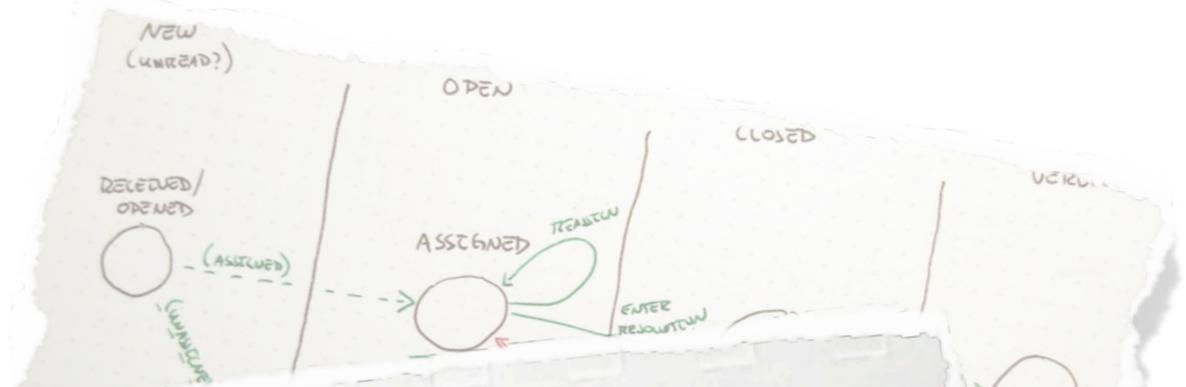
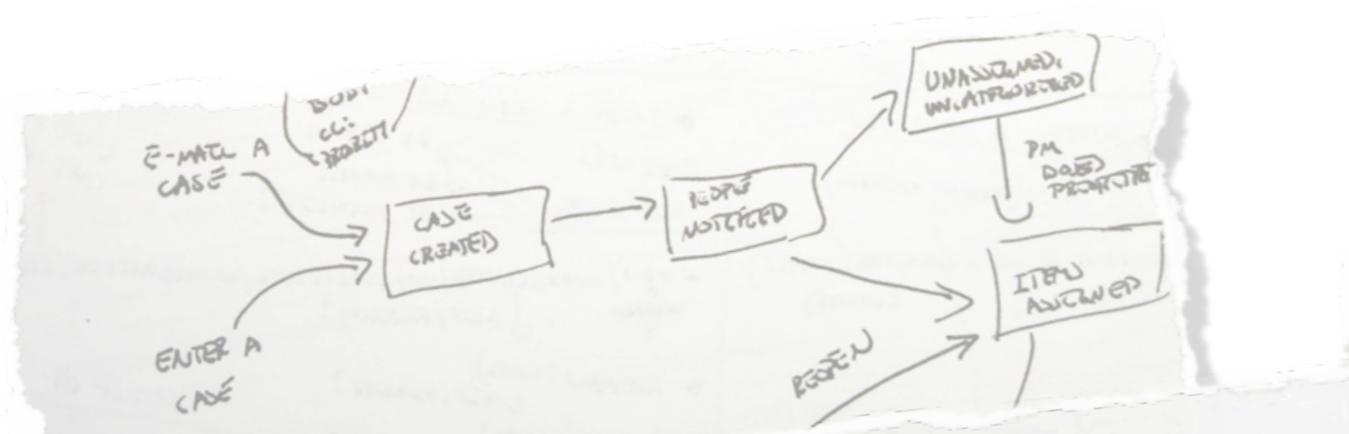
Unknown

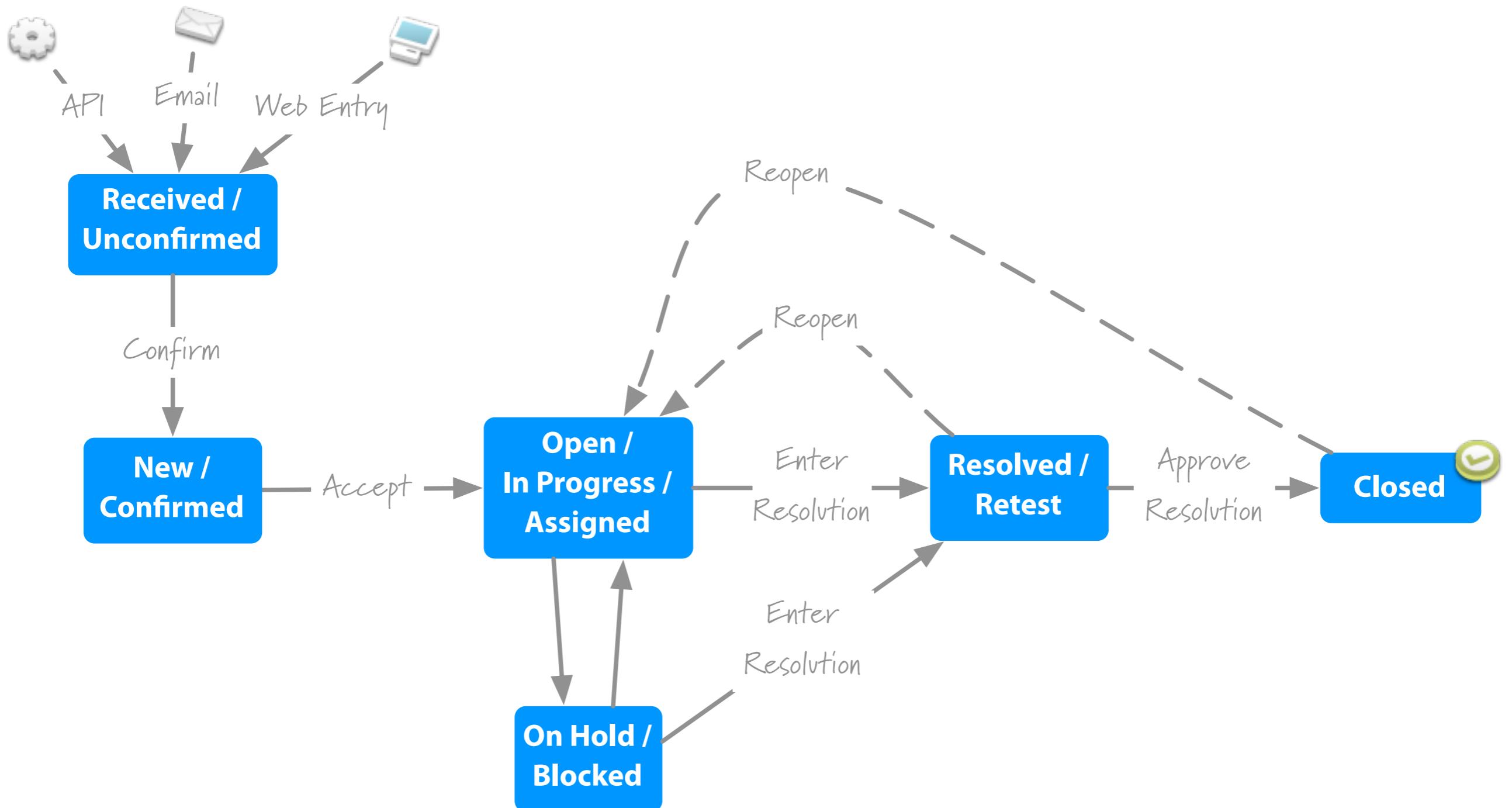
Status	Keep it.
Resolution	Redundant with the resolving comment.
Assignee	Keep it.
Opener	Captured implicitly.
Creation Date	Captured implicitly.
Due Date	Always “yesterday”. Priority should dictate this.
Category	Keep it.
Type	Overkill. Handle with categories.
Release	Soon, but not yet.
Priority	Keep it.
Severity	Factor it into Priority.
Impact	Factor it into Priority.
LOE (Estimated)	Creates overhead and doesn’t belong.
LOE (Actual)	Creates overhead and doesn’t belong.
Browser/OS	Doesn’t apply to issues. Capture in comments.
Relationships	Capture in comments.

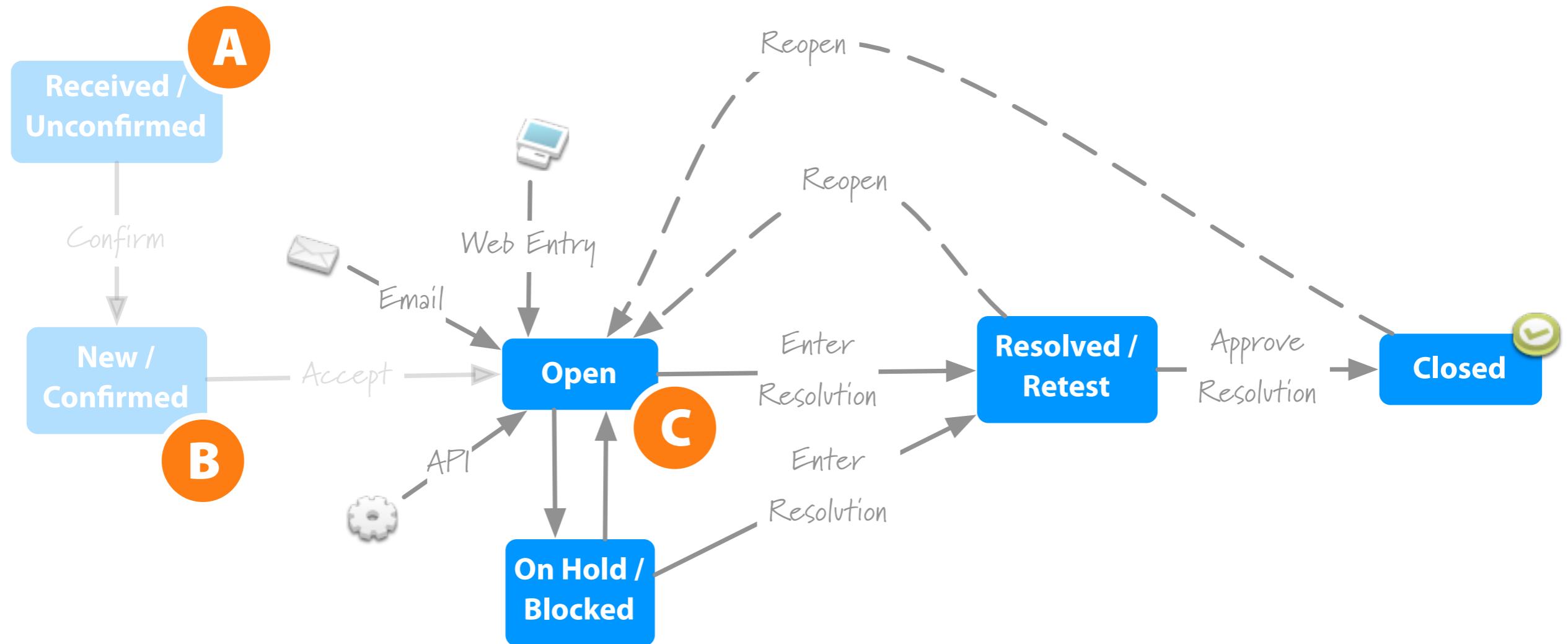
“ A few years ago I read an article in which a car magazine modified the “sports” model of some production car to get the fastest possible standing quarter mile. You know how they did it? They cut off all the crap the manufacturer had bolted onto the car to make it look fast. ”

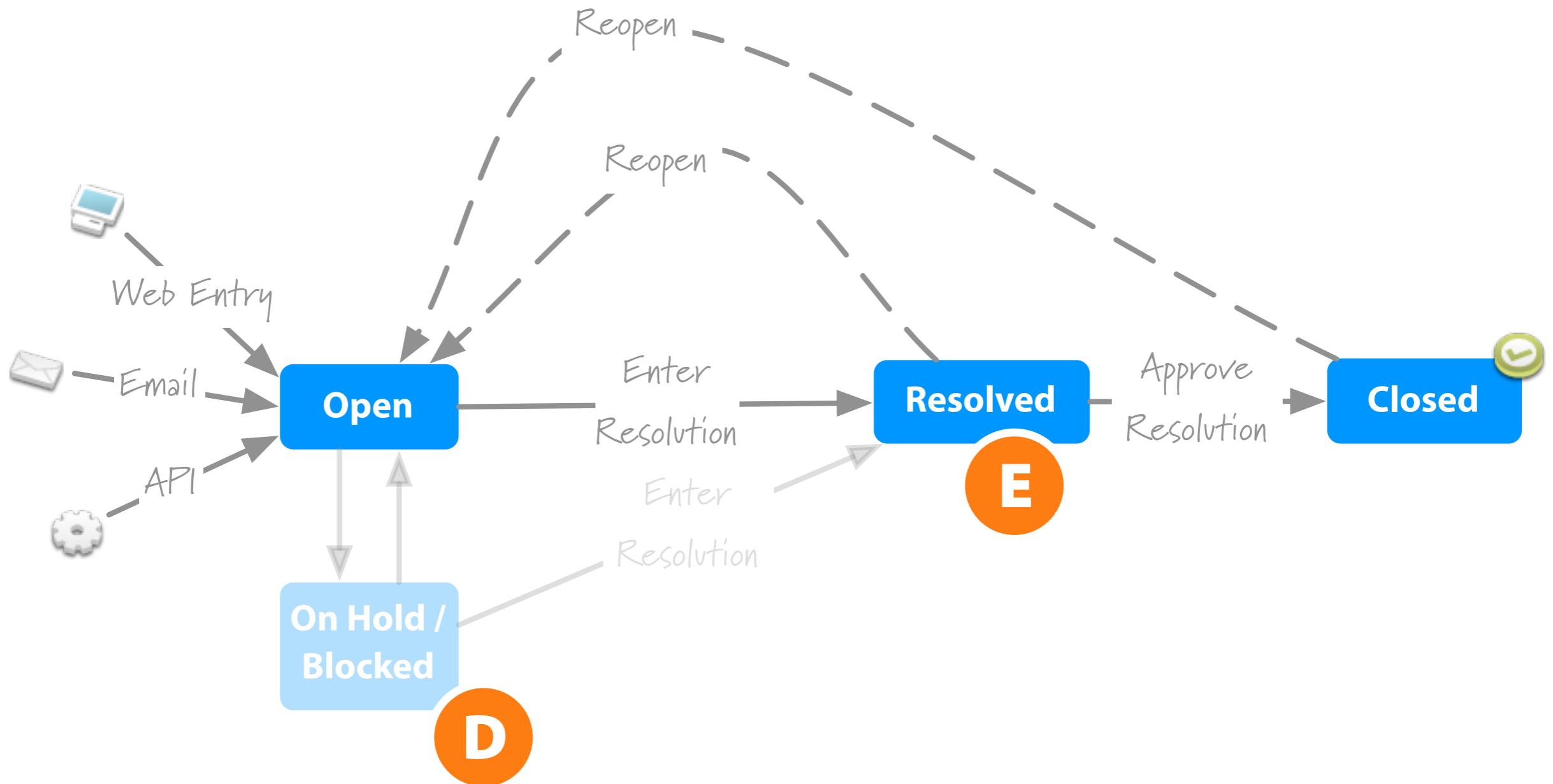
Paul Graham

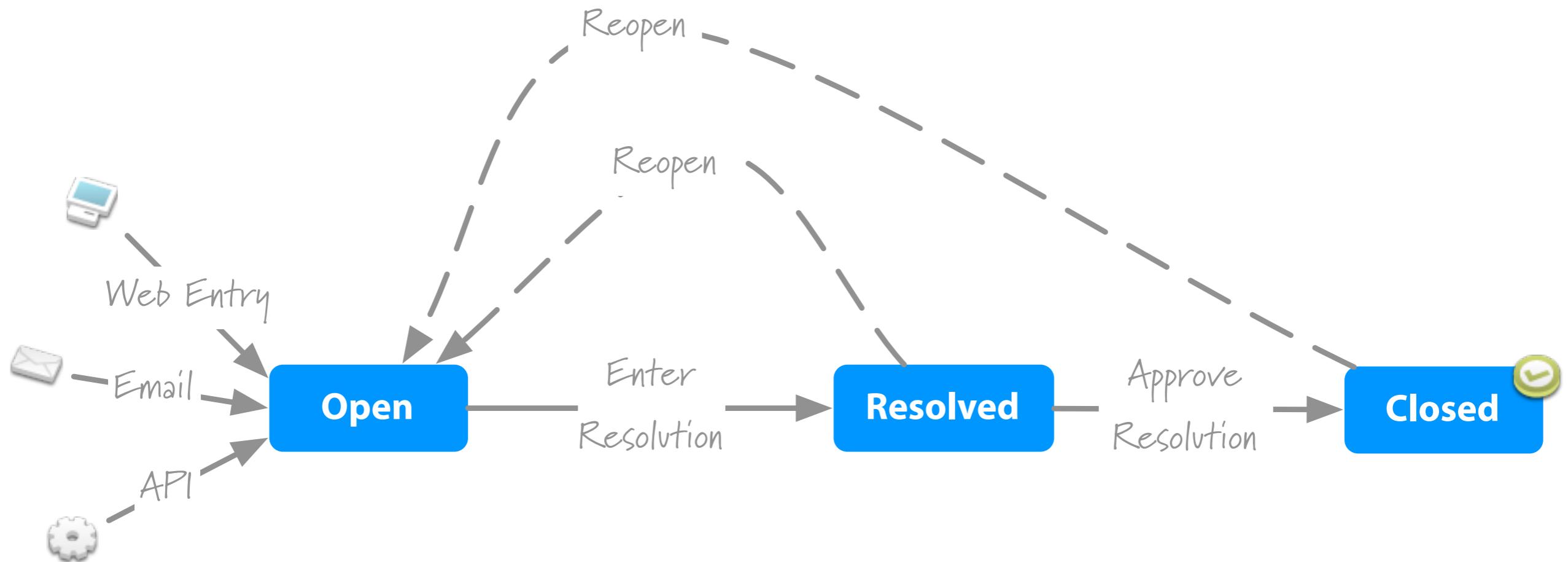
Foreword from Founders at Work





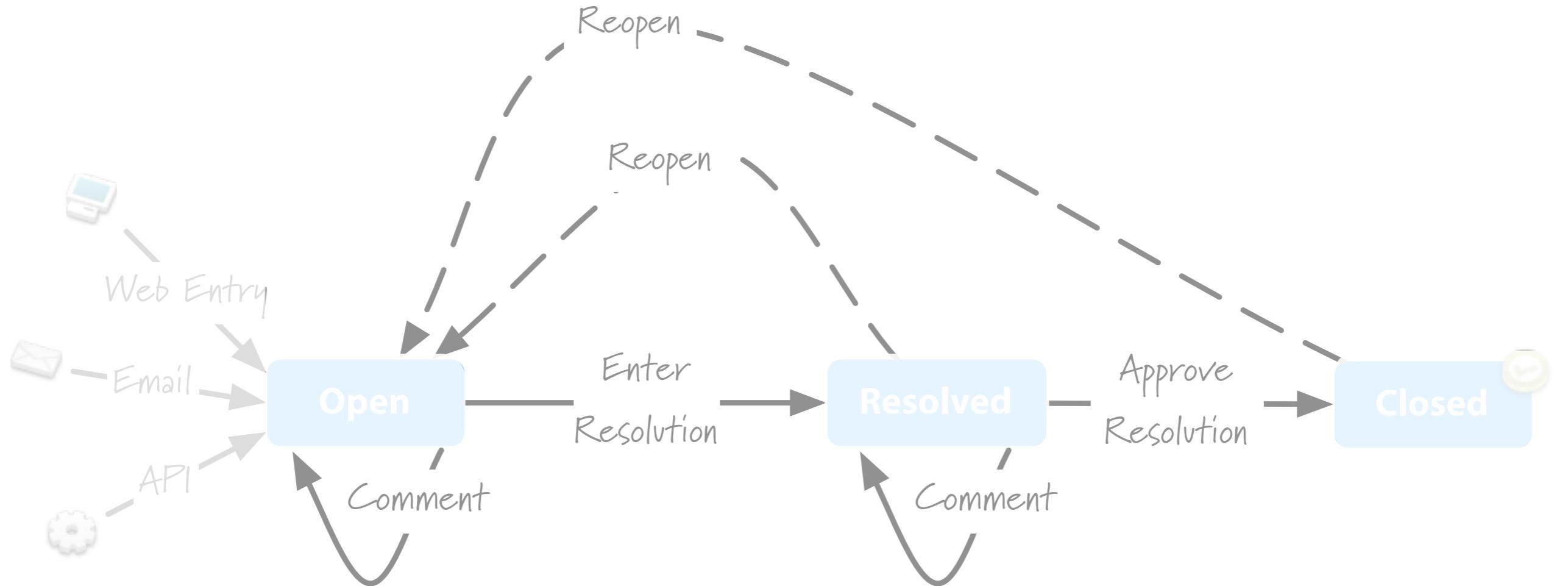






“ Very often, people confuse simple with simplistic. The nuance is lost on most. ”

Clement Mok



With each arrow, we're doing one or more of the following

1. Comment
2. Update Status
3. Attach a File
4. Reassign
5. Update Priority/Category

Garrett's Theory Opinion of Workflow

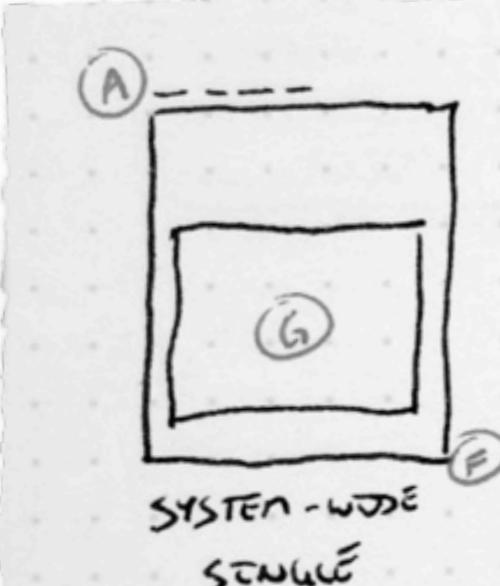
*Status and responsibility
trump everything.*



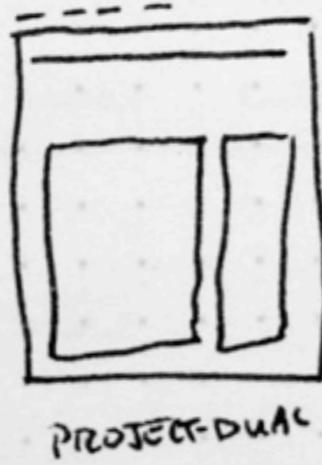
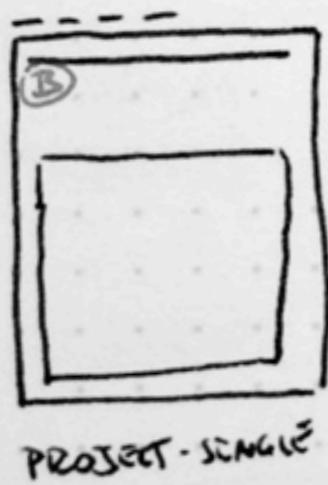


IA & Layout

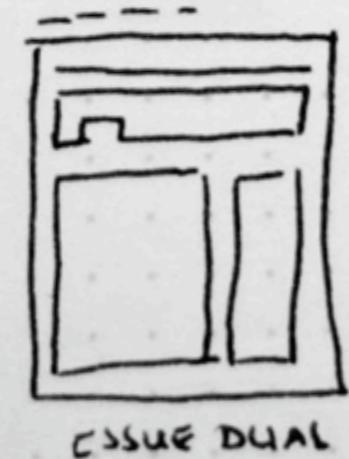
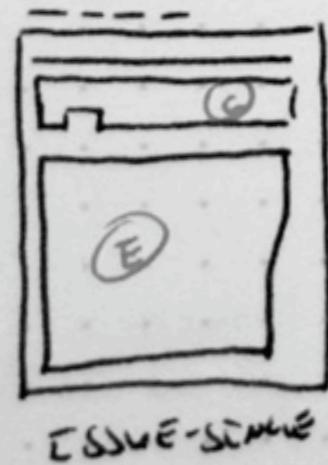
Creating a logical framework.



SYSTEM



PROJECT



ISSUE

(A) SYSTEM HEADER/NAV

(B) PROJECT NAV

(C) ISSUE NAV

(D) SIDEBAR

(→ MULTIPLE OF THESE)

(E) FORMS



Header

Sub-Header

One Problem [Edit](#)

Issue # 213 Status OPEN Priority LOW Assigned To Garrett D.

Pellentesque magna quis risus. Nullam lacinia. Sed euismod, lacinia non pretium neque massa placerat tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget vehicula. Donec eu quam nec tellus vehicula cursus.

Duis molestie metus sit amet lectus. Aliquam quis nunc sit amet arcu commodo pulvinar. Suspendisse auctor metus id risus.

Aenean pellentesque magna quis risus. Nullam lacinia. Sed euismod, #15 non pretium vestibulum, neque massa placerat tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget vehicula. Donec eu quam nec tellus vehicula cursus.

[Screenshot.jpg \(232k\)](#)

Discussion

Garrett D. January 1st, 2007 at 4:32 pm **RESOLVED**
Duis molestie metus sit amet lectus. Aliquam quis nunc sit amet arcu commodo pulvinar. Suspendisse auctor metus id risus.

Aenean pellentesque magna quis risus. Nullam lacinia. Sed euismod, #15 non pretium vestibulum, neque massa #15 tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget vehicula. Donec eu quam nec tellus vehicula cursus.

Luis G. January 1st, 2007 at 4:32 pm **REOPENED**

High Priority
Reopened for 2 weeks

Opened by Luis G.
Assigned to Garrett D.

[Security](#)

[Find Related Issues](#)

Who's listening?
The following people receive email notifications of new comments.

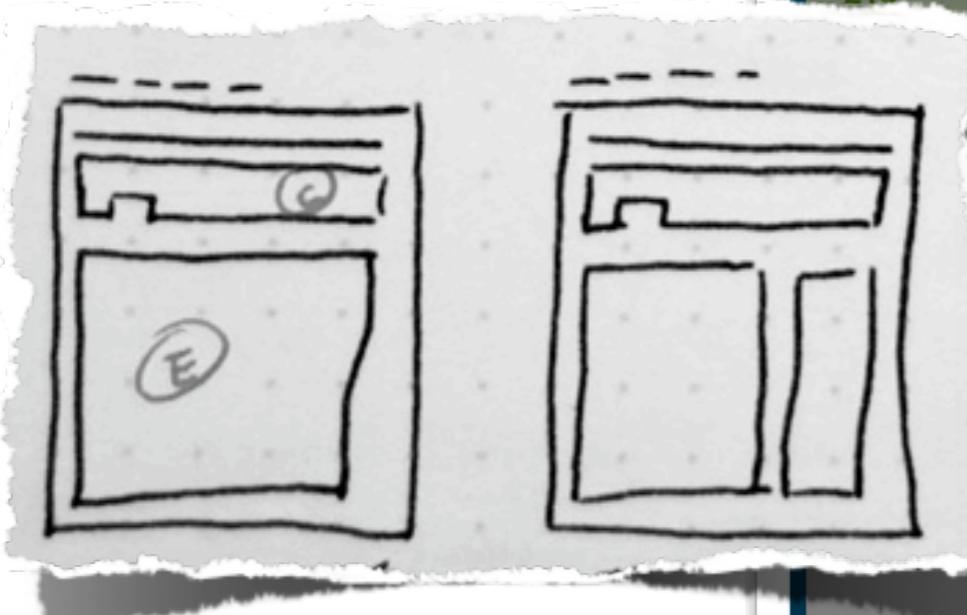
- Luis Garcia (Opener)
- Garrett Dimon (Assignee)
- John Doe

Please stop sending me notifications for this issue.

Who's commenting?

Luis Garcia (Opener)
123-456-7890
lgarcia@domain.com

Garrett Dimon (Assignee)
123-456-7890
gdimon@domain.com



Single or Dual Column

**Primary
focus is on
the issue's
“story”.**



Just get it on paper.

ORGANIZE (UNLT OPEN)

PRODUTY	ASSIGNMENTS	CATEGORY	AGE
---------	-------------	----------	-----

~~NON~~ OPEN (ALL OPEN)

-
-
- HIGH # OPEN / + RESOLVED / + CLOSED
-
-
-

MEDIUM # OPEN / + RESOLVED / + CLOSED

-
-
-
-
-

LOW # OPEN / + RESOLVED / + CLOSED

-
-
-

PRODUTY	ASSIGNMENTS	CATEGORY	AGE
---------	-------------	----------	-----

UNSTANED

-
-
-

SEE ALL ASSIGNMENTS ►

total # OPEN / + RESOLVED / + ?

total # OPEN / + RESOLVED / + ?

AGE

NEW/UNREAD

-
-
-

STAGG

-
-
-

DASHBOARD PEOPLE + COMPANIES MY ACCOUNTS LOGOUT

< PROJECT NAME > CHANGE PROJECT PROJECT SETTINGS

CREATE A NEW

SEARCH

DASHBOARD

PEOPLE + COMPANIES

PROJECTS

MY ACCOUNT LOGOUT

SEARCH

< PROJECT NAME > CHANGE PROJECT PROJECT SETTINGS & PERMISSIONS

MY ISSUES (12) CREATE NEW ISSUE ALL ISSUES (30) UNASSIGNED ISSUES (20)

ARRANGE BY: STATUS | PRIORITY | CATEGORY | AGE

OPEN + ASSIGNED TO ME

Dashboard My Account Manage People & Companies Manage Projects | Logout

Search

Project Name

Select a Project

Edit Project Settings & Permissions

Create New Case

My Cases (8)

All Cases (128)

Unassigned Cases (15)

Dashboard Manage People & Companies Settings My Account Logout

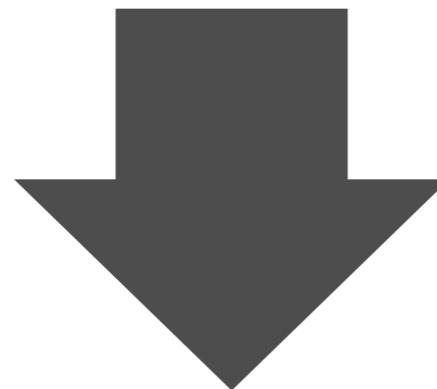
Search

Project Name

[Create a New Issue](#)

My Issues (128) All Issues (128) New/Unassigned Issues (15) Project Settings & Permissions

Arrange By: [Status](#) [Priority](#) [Category](#) [Age](#) [Recent Activity](#)



Dashboard System Settings My Account Logout

Issue # or Keyword Search

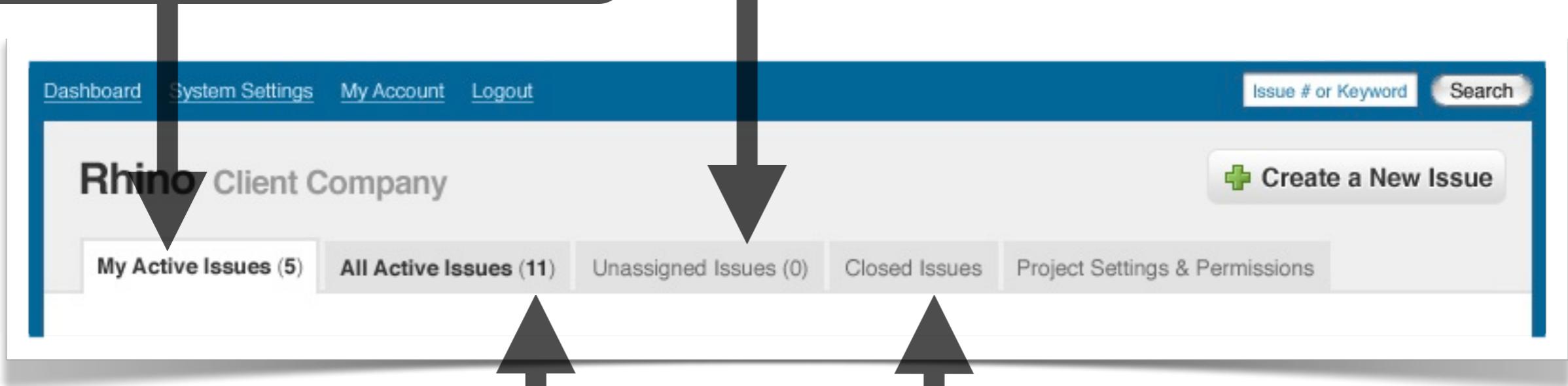
Rhino Client Company

[Create a New Issue](#)

My Active Issues (5) All Active Issues (11) Unassigned Issues (0) Closed Issues Project Settings & Permissions

The word “Active” is subtle but important.

“Empty” tabs receive a lower visual priority.



The count is an informational and motivational reminder.

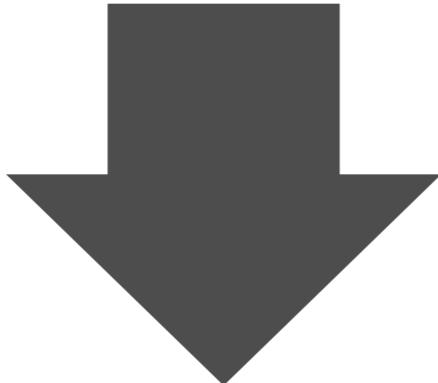
Closed issues are out of the way in their own tab.

Dashboard System Settings My Account Logout Issue # or Keyword Search

Rhino Client Company

Create a New Issue

My Issues All Issues Unassigned Issues Project Settings & Permissions



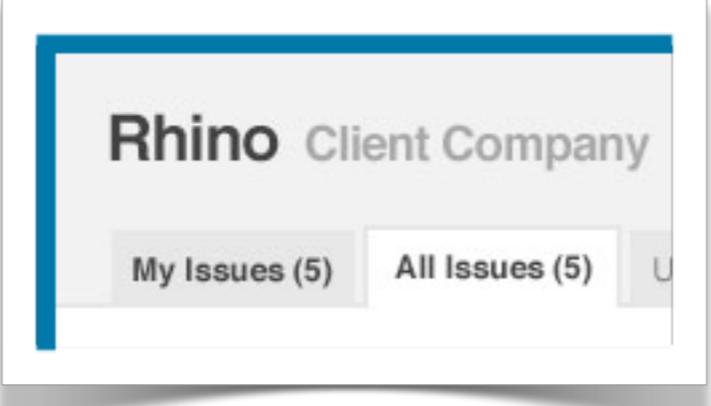
Dashboard System Settings My Account Logout Issue # or Keyword Search

Rhino Client Company

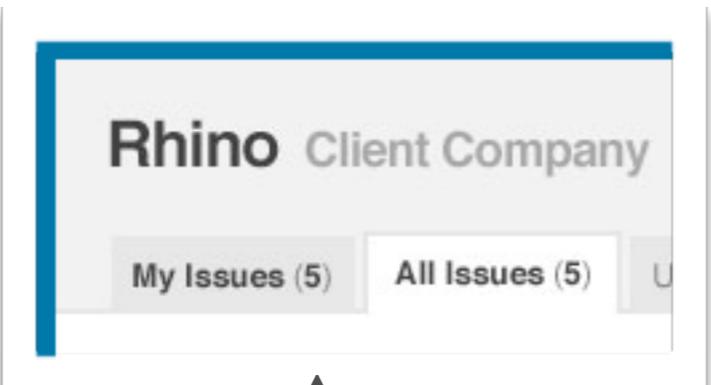
Create a New Issue

My Active Issues (5) All Active Issues (11) Unassigned Issues (0) Closed Issues Project Settings & Permissions

Before



After



A slight adjustment to the visual weight of the parentheses dramatically increases readability.

Smallest Effective Difference Edward Tufte

*Make all visual distinctions as
subtle as possible, but still clear
and effective.*



System

(No context for tabs.)

Dashboard System Settings My Account Logout

Issue # or Keyword Search

Create a New Project

Project

(Tabs organizing issues.)

Dashboard System Settings My Account Logout

Issue # or Keyword Search

Rhino Client Company

My Active Issues (5) All Active Issues (11) Unassigned Issues (0) Closed Issues Project Settings & Permissions

Create a New Issue

New Issue

(Green = Open Issue)

Dashboard System Settings My Account Logout

Issue # or Keyword Search

Rhino Client Company

Create a New Issue

View Issue

(Emphasis on issue status.)

Dashboard System Settings My Account Logout

Issue # or Keyword Search

Rhino Client Company

Create a New Issue

Issue # 213	Status OPEN	Priority LOW	Assigned to GARRETT D.	Category SECURITY
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3

Creating Issues

Getting data in.

SUBJECT

BODY (SEE SOME FORMATTING TIPS)

CATEGORY

DEFAULT

ASSIGNED TO

AUTO-ASSIGNMENT

PROPERTY

HIGH MEDIUM LOW

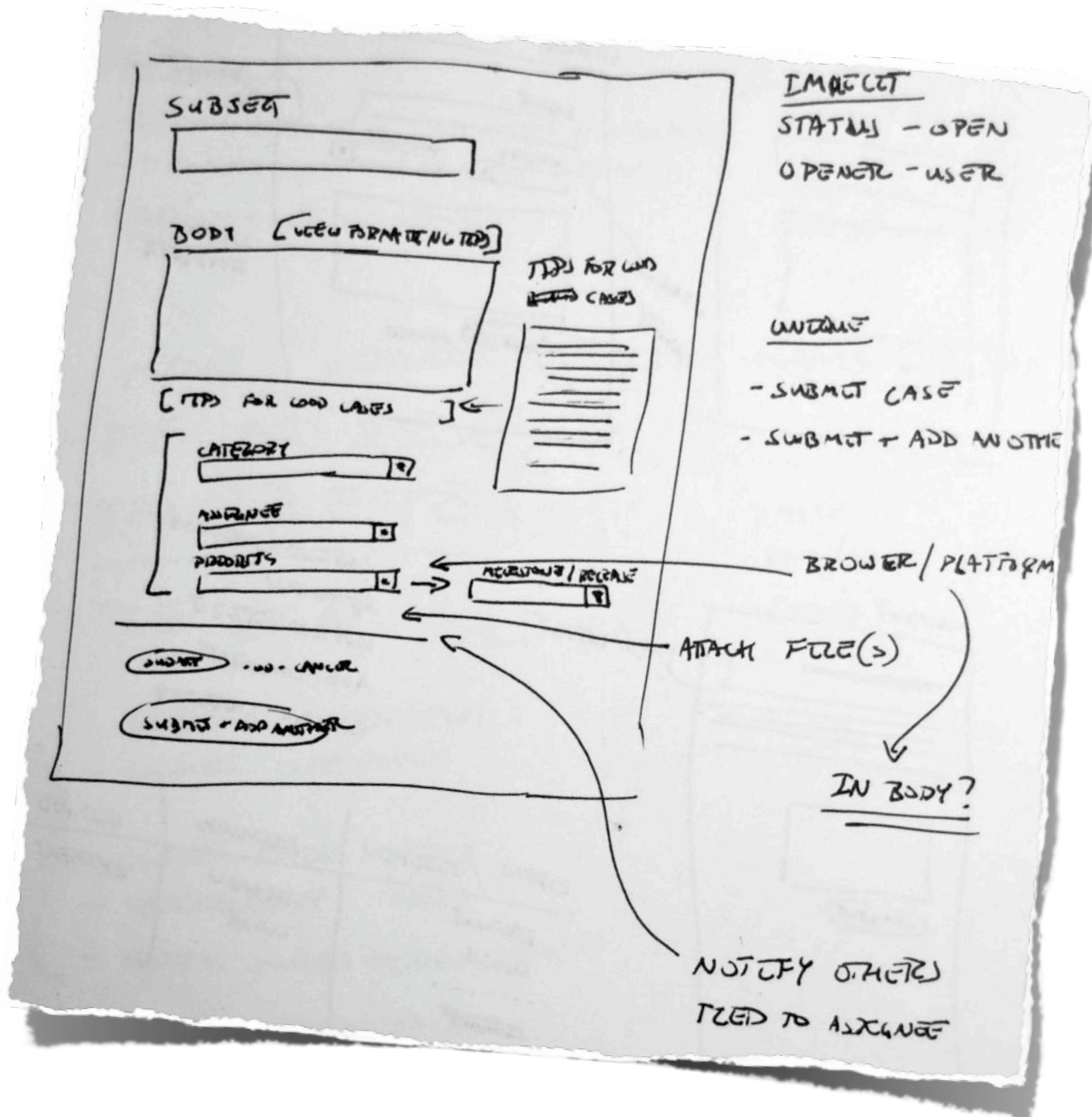
NO FILE SELECTED CHOOSE FILE

ATTACH ANOTHER FILE

AUTO-CLICK ATTACHES

NOTIFY

SUBMIT CASE SUBMIT AND ADD ANOTHER - OR - CANCEL



Rhino Client Company

Create a New Issue

Subject**Description**

Automatically link to other issues with "#123". [?](#)

Priority**Category****Assignee** [Attach files to this issue...](#) [Notify other team members about this issue...](#)[Submit Issue](#)

- or -

[Submit and Create Another](#)**Tips for Creating New Issues**

Make sure to include the following information when creating issues.

- ✓ Web Browser & Operating System
- ✓ What you expected to happen.
- ✓ What actually happened.
- ✓ The steps that need to be followed in order to reproduce the issue.

[Change the tips for this project](#)

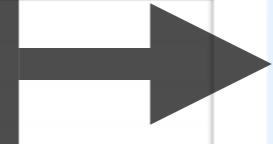
Rhino Client Company

Create a New Issue

Subject**Description**

Automatically link to other issues with "#123". [?](#)

**Customizable reminder
for creating good issues.**

**Tips for Creating New Issues**

Make sure to include the following information when creating issues.

- ✓ Web Browser & Operating System
- ✓ What you expected to happen.
- ✓ What actually happened.
- ✓ The steps that need to be followed in order to reproduce the issue.

[Change the tips for this project](#)

Priority**Category****Assignee**

[Attach files to this issue...](#)

[Notify other team members about this issue...](#)

[Submit Issue](#)

- or -

[Submit and Create Another](#)

Rhino Client Company

Create a New Issue

Subject**Description**

Automatically link to other issues with "#123". [?](#)

Priority**Category****Assignee** [Attach files to this issue...](#) [Notify other team members about this issue...](#)[Submit Issue](#)

- or -

[Submit and Create Another](#)

**Seamless and
efficient entry of
multiple issues.**

Tips for Creating New Issues

Make sure to include the following information when creating issues.

- ✓ Web Browser & Operating System
- ✓ What you expected to happen.
- ✓ What actually happened.
- ✓ The steps that need to be followed in order to reproduce the issue.

[Change the tips for this project](#)

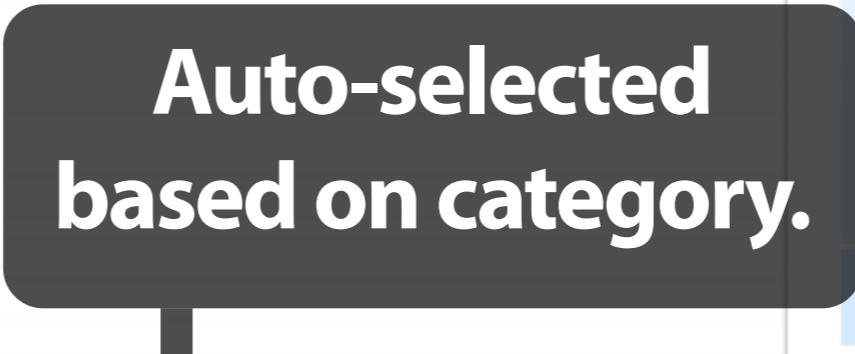
Rhino Client Company

Create a New Issue

Subject**Description**

Automatically link to other issues with "#123". [?](#)

**Auto-selected
based on category.**

**Priority****Category** Security**Assignee** Garrett Dimon[!\[\]\(23854d53283fabe32ccedb3c36cfc4c2_img.jpg\) Attach files to this issue...](#)[!\[\]\(94908a1074a4f68f67917591e4c00ed3_img.jpg\) Notify other team members about this issue...](#)[Submit Issue](#)

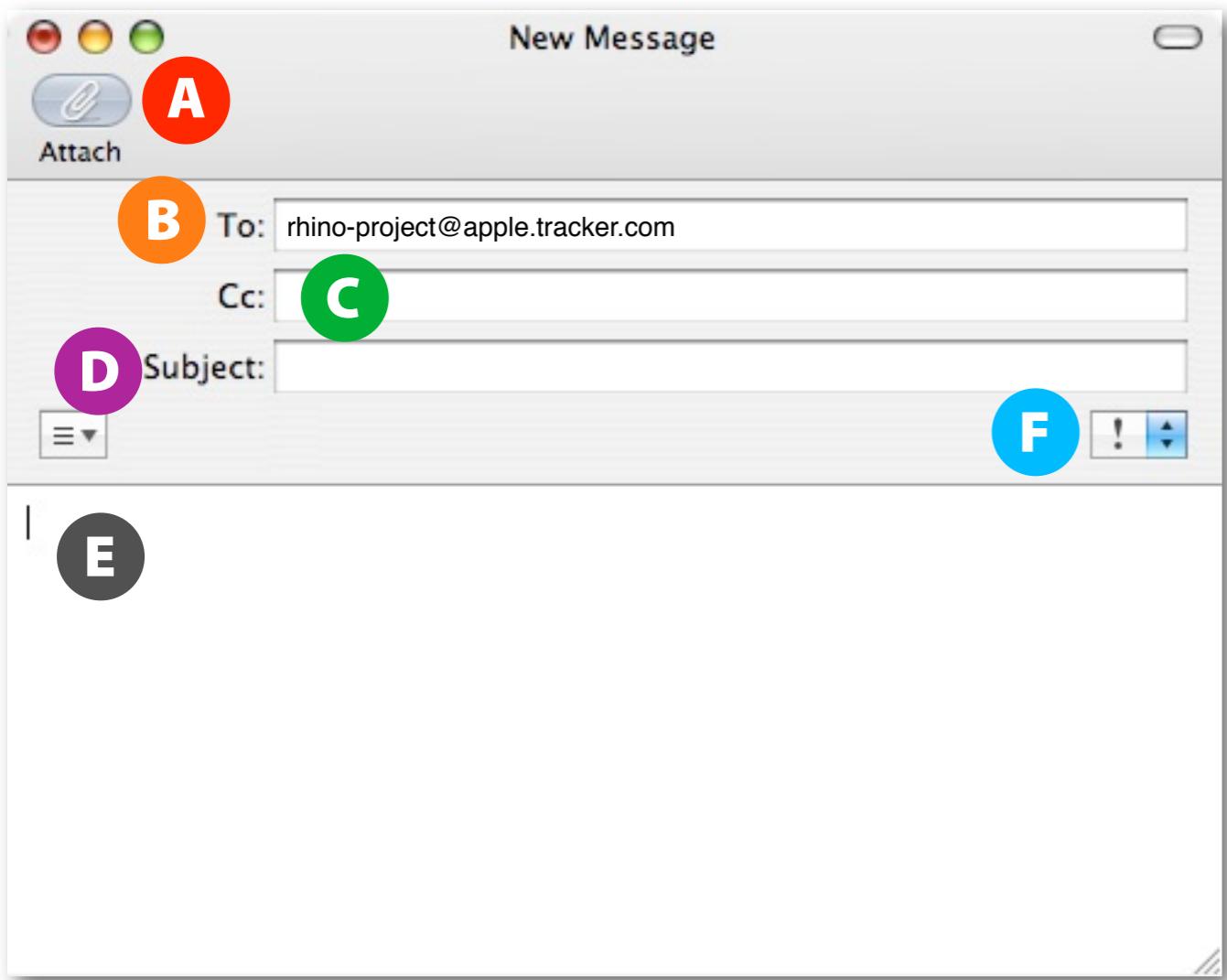
- or -

[Submit and Create Another](#)**Tips for Creating New Issues**

Make sure to include the following information when creating issues.

- ✓ Web Browser & Operating System
- ✓ What you expected to happen.
- ✓ What actually happened.
- ✓ The steps that need to be followed in order to reproduce the issue.

 [Change the tips for this project](#)



A screenshot of a web-based issue tracking application. At the top, there is a navigation bar with links: 'Dashboard', 'System Settings', 'My Account', and 'Logout'. The main header says 'Rhino Client Company'. Below it, a green bar says 'Create a New Issue'. The form fields include 'Subject' (labeled D), 'Description' (labeled E), 'Priority' (labeled F), 'Category' (labeled G), and 'Assignee' (labeled H) set to 'Garrett Dimon'. At the bottom, there are buttons for 'Submit Issue' and 'Submit and Create Another'.

The browser isn't the only
interface to design for.

4

Assessing the Situation

What now?

DASHBOARD

PEOPLE + COMPANIES

PROJECTS

MY ACCOUNT

LOGOUT

SEARCH

PROJECTS

PROJECT NAME

- VIEW MY ISSUES (1+)

- VIEW ALL ISSUES (35)

- VIEW UNASSIGNED ISSUES (5)

PROJECT NAME

+ CREATE NEW ISSUE

+ CREATE A NEW PROJECT

+ ADD A NEW COMPANY

DASHBOARD

[ICON] PROJECT NAME

8 MY ISSUES (50)

8 EVERYONE'S ISSUES (100)

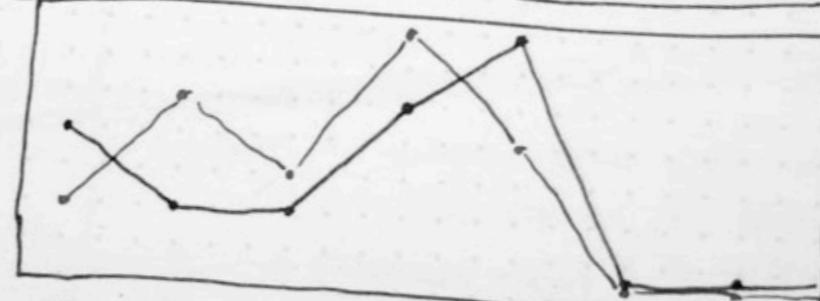
? UNASSIGNED ISSUES (12)

* EDIT PROJECT SETTINGS

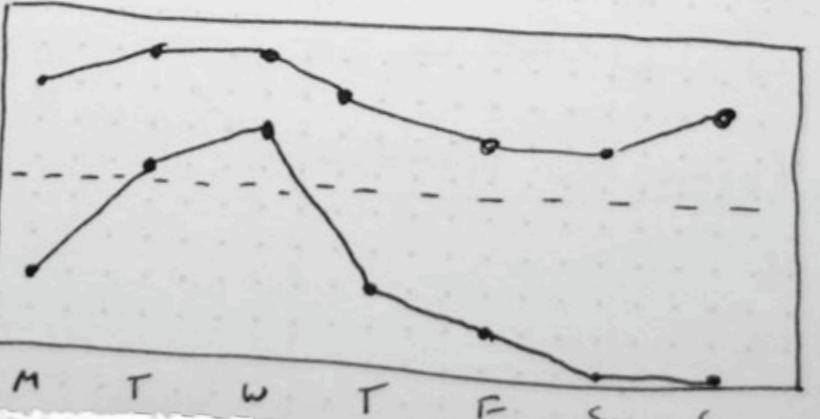
+ CREATE A NEW PROJECT

THIS WEEK

+ ADD AN ISSUE



OPEN REOPEN CLOSED VERIFIED



Dashboard

[!\[\]\(1c66d28bceb5f8993d19d1bc5eed071f_img.jpg\) Create a New Project](#)

Hippo Company A

[!\[\]\(469fe3264811c530cbfecc2f0e3bf98a_img.jpg\) Create a New Issue](#)

Project Totals

15 [Open & Assigned to You](#)
0 [Unassigned](#)

132 [Total Open Issues](#)
8 [Total Resolved Issues](#)

Activity in the Last 7 Days

115 [Opened](#)
12 [Reopened](#)

32 [Resolved](#)
24 [Closed](#)

Rhino Company B

[!\[\]\(240b86a13bda89e09103fb7dead5bf82_img.jpg\) Create a New Issue](#)

Project Totals

1 [Open & Assigned to You](#)
1 [Unassigned](#)

2 [Total Open Issues](#)
0 [Total Resolved Issues](#)

Activity in the Last 7 Days

1 [Opened](#)
0 [Reopened](#)

0 [Resolved](#)
15 [Closed](#)

Inactive Projects

(Projects with no activity in the last 7 days and no outstanding issues.)

Monkey Company A

[!\[\]\(d5abef5f449b44a4691cbf8ecc40c040_img.jpg\) Create a New Issue](#)

Turtle Company B

[!\[\]\(eb81cc8e0c13a45e1c138be3f6086709_img.jpg\) Create a New Issue](#)

Your Active Projects

[Hippo](#)[Rhino](#)

Your Inactive Projects

[Monkey](#)[Turtle](#)

Manage Projects & Permissions

Overall status
tells a story.

New Issues are
one click away.

Responsibility
comes first.

Subtle variances
in typography
create emphasis.

Inactive projects
still readily
accessible.

Recent activity
is the pulse.



First Draft

Hippo

Create a New Issue

[My Issues](#)

[Everyone's Issues](#)

[Unassigned Issues](#)

[Project Settings](#)

Last 7 Days

Opened	115	Closed	32
Reopened	12	Verified	24

+54 Open Issues



Final Draft

Hippo Company A

Create a New Issue

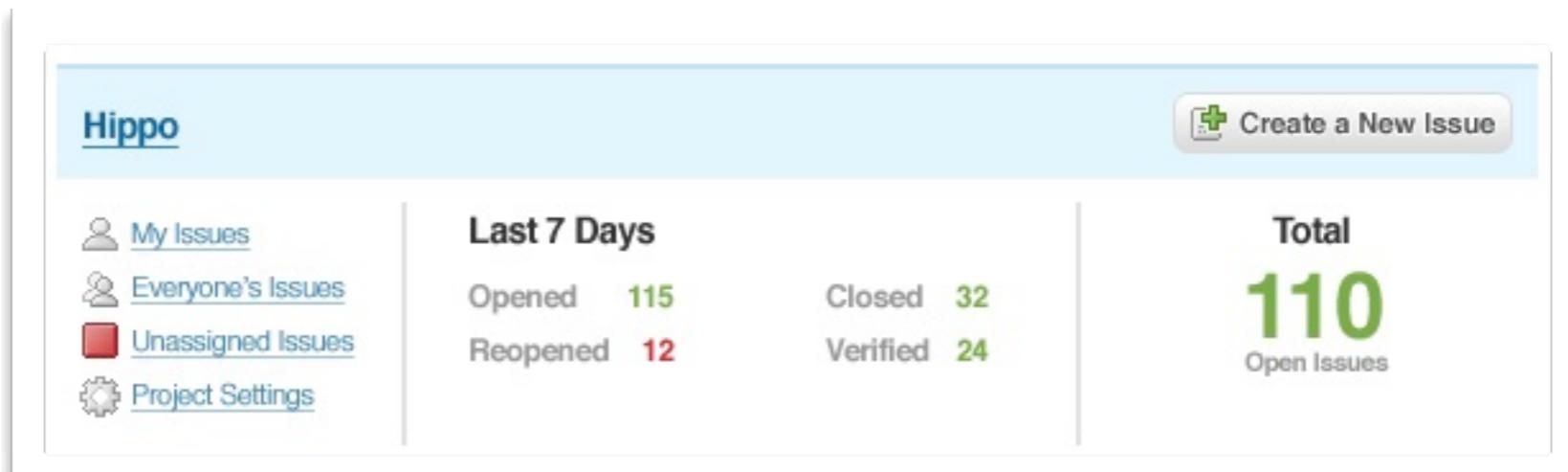
[Project Totals](#)

15 Open & Assigned to You	132 Total Open Issues	115 Opened	32 Resolved
0 Unassigned	8 Total Resolved Issues	12 Reopened	24 Closed

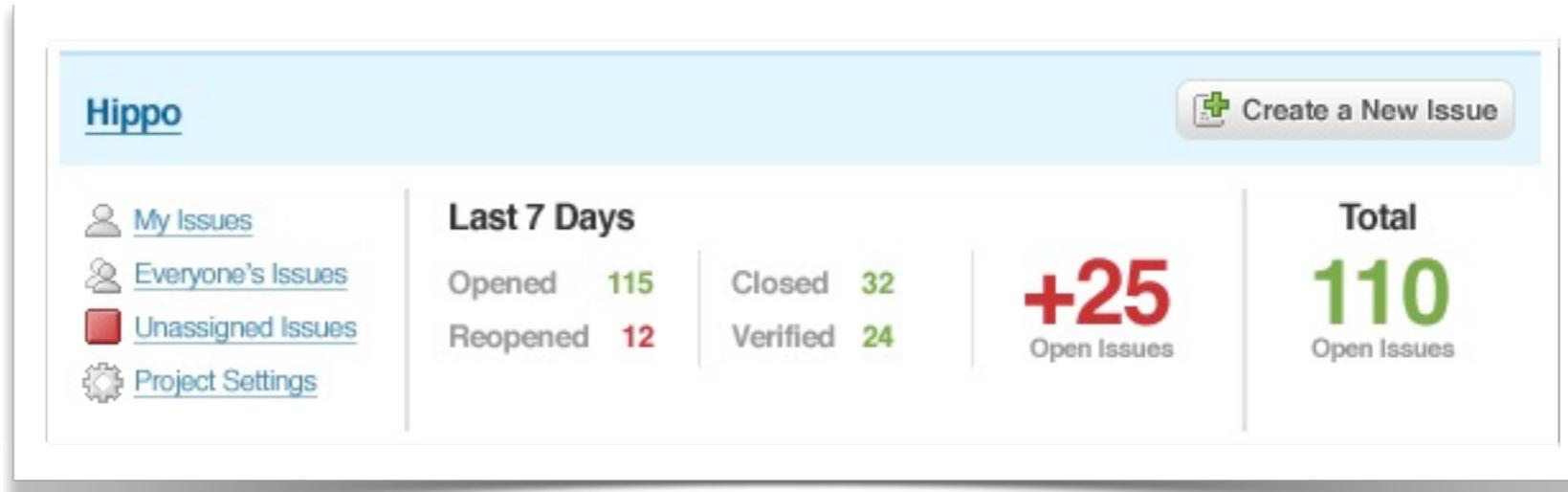
1



2



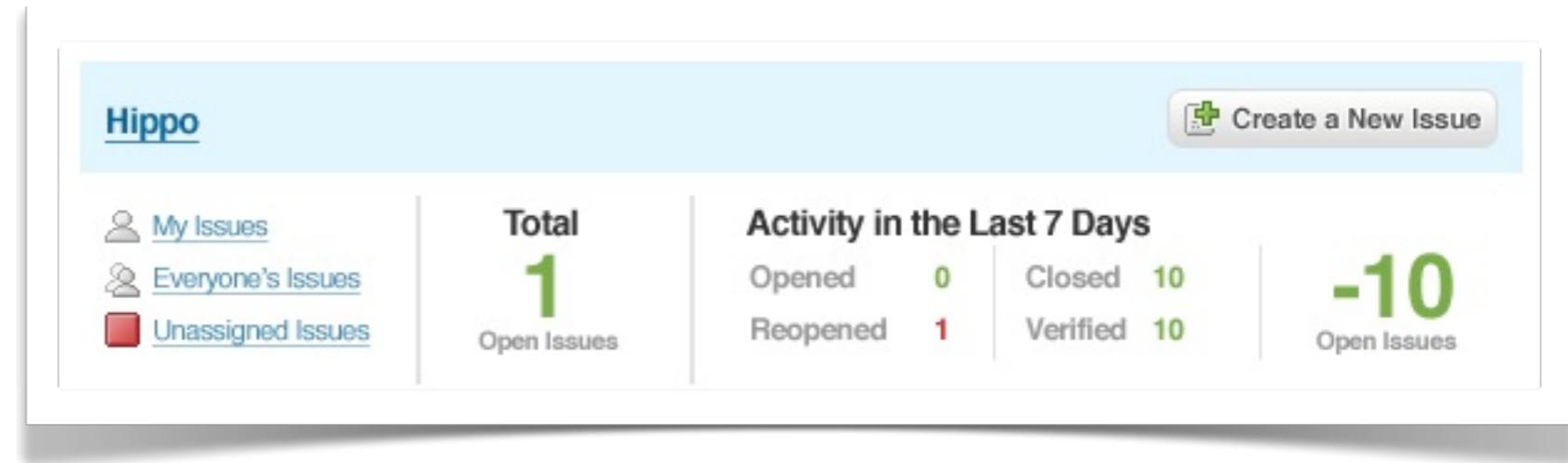
3



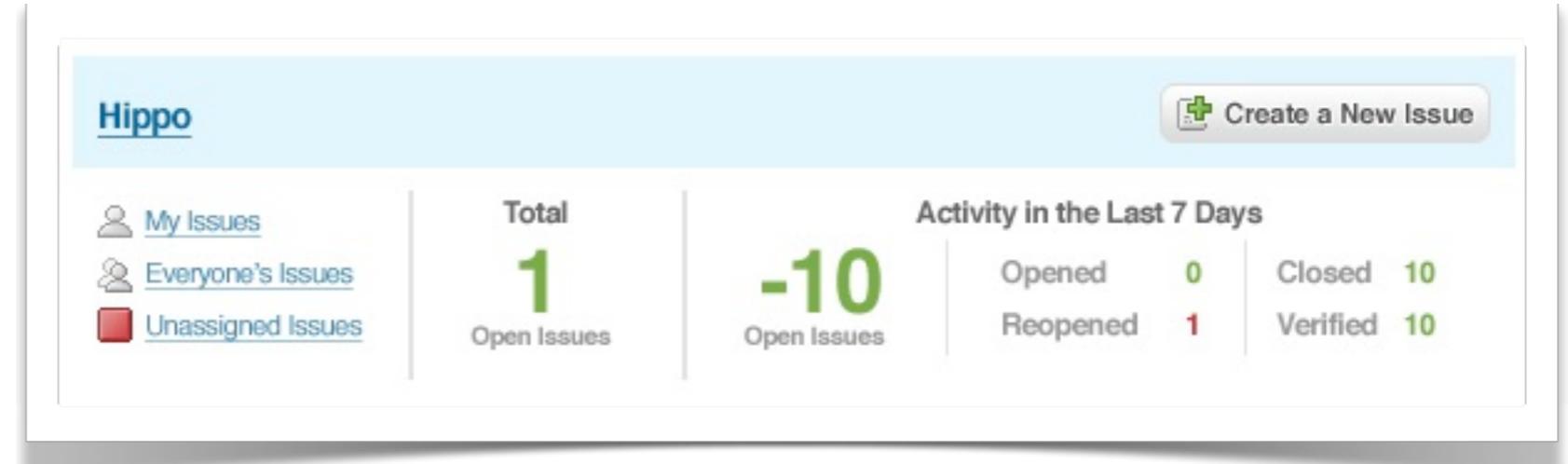
3



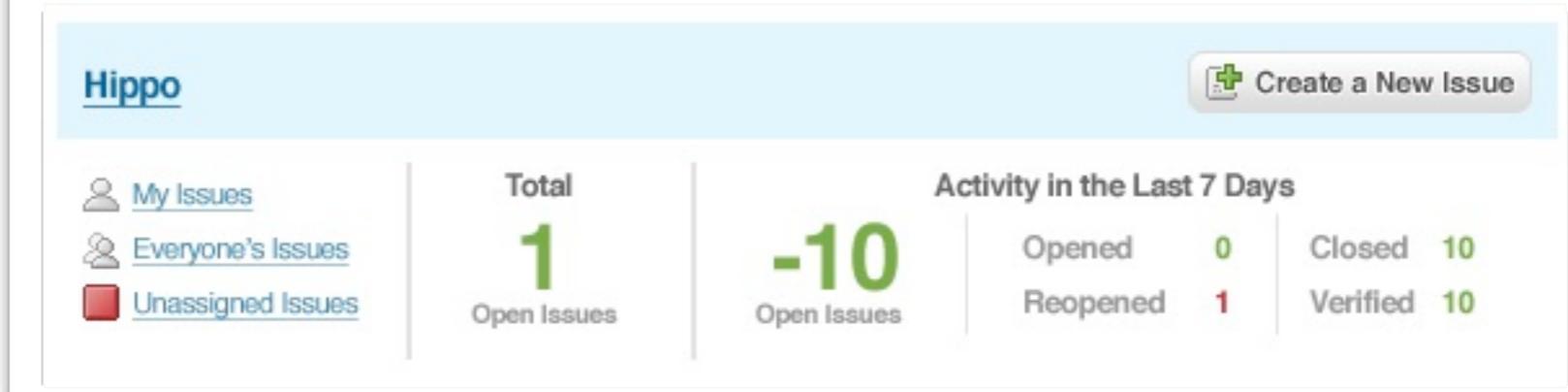
4



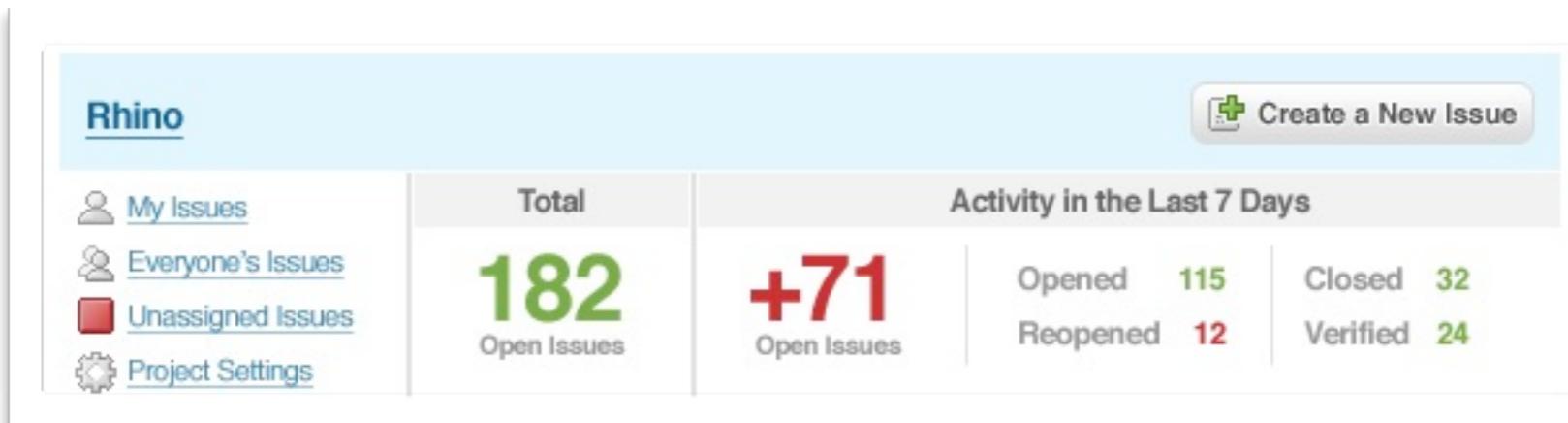
5



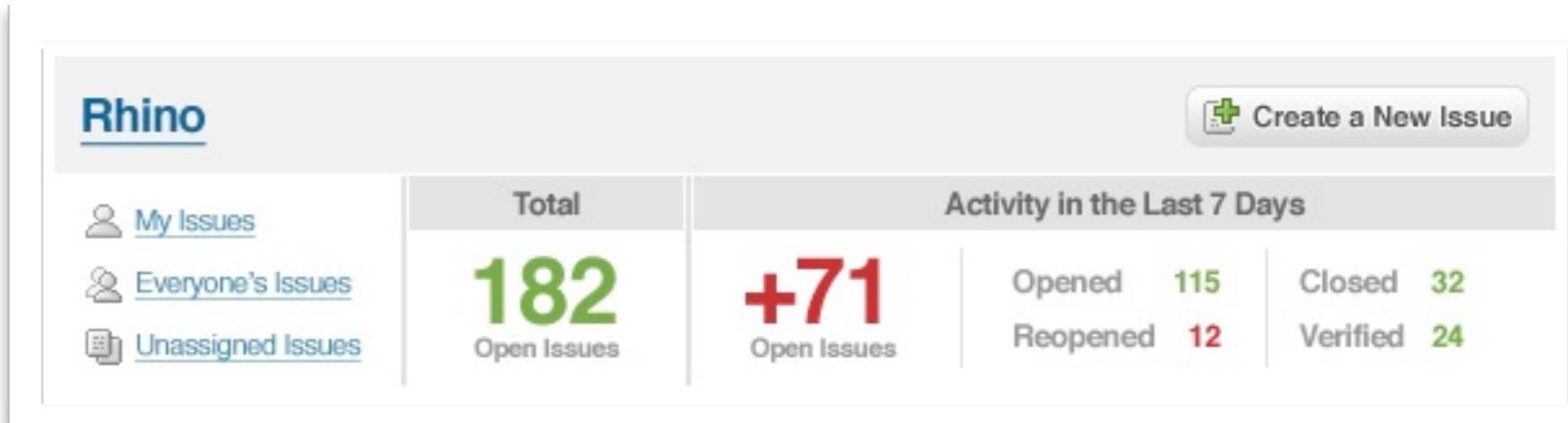
5



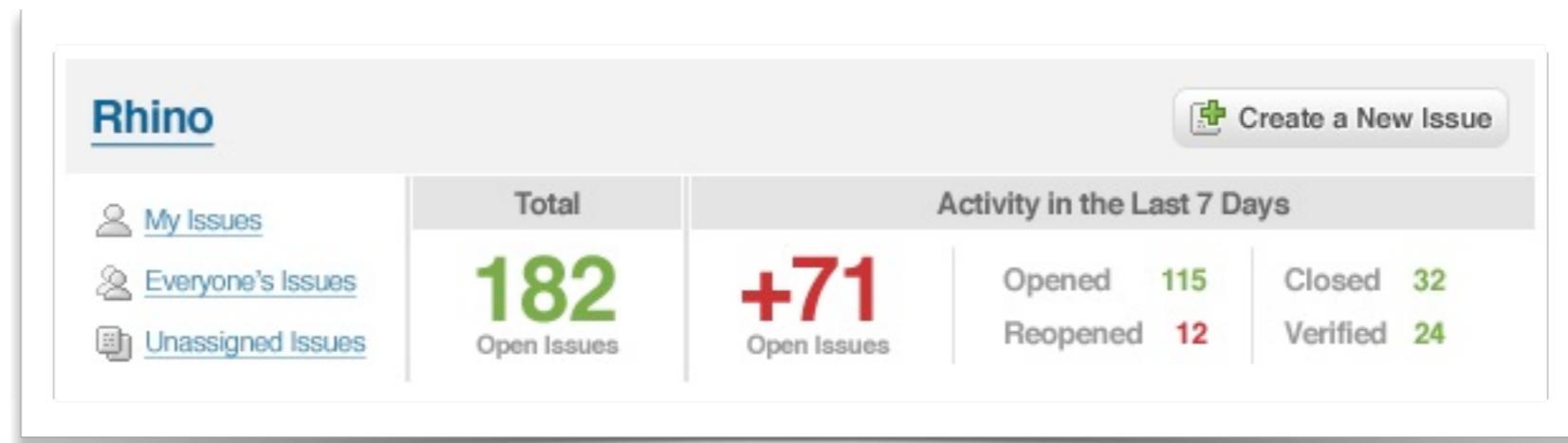
6



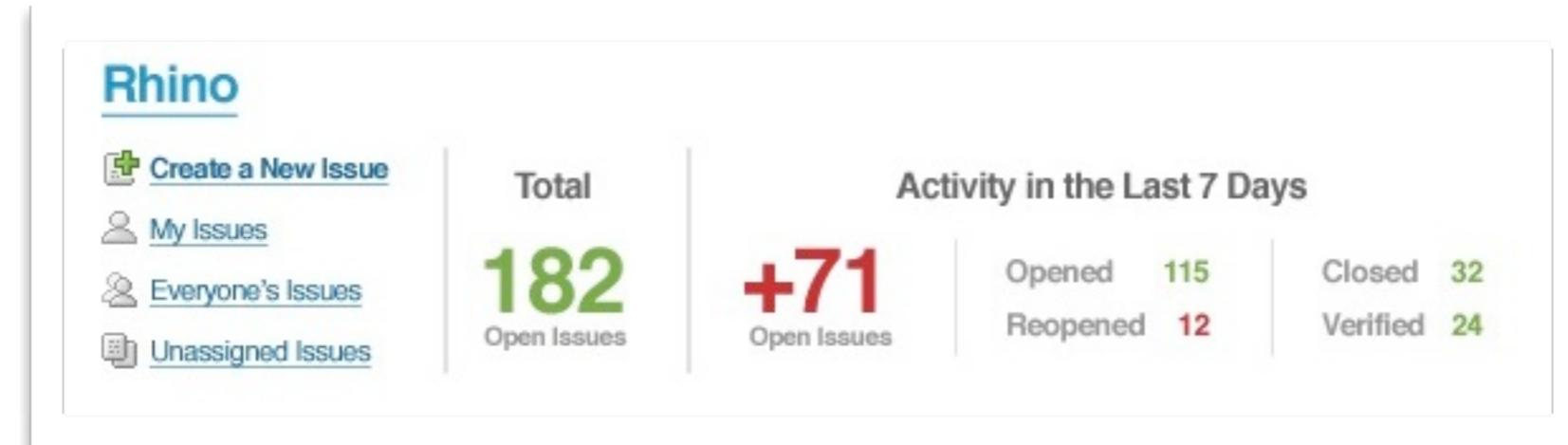
7



7



8



9



9



10



11



5

Taking Care of Business

Resolving & Closing Issues

#3

REOPEN

SUBJECT

HIGH

*10

OPEN

SUBJECT

HIGH

#5

OPEN

SUBJECT

MEDIUM

*11

REVIEWED

SUBJECT

Rhino Client Company

[!\[\]\(39fe6a447a07f214586d259b16ffba42_img.jpg\) Create a New Issue](#)[My Active Issues \(5\)](#) [All Active Issues \(11\)](#) [Unassigned Issues \(0\)](#) [Closed Issues](#) [Project Settings & Permissions](#)

Active issues involving me for this project...

[!\[\]\(44631ae396efdf2fa41913daa26819c0_img.jpg\) Subscribe to My Active Issues](#)

Critical

[REOPENED](#)[Critical](#)

1 day old

#2 Credit transactions aren't going through

[8 comments](#) Last by Luis G. 2 hours ago

Assigned to Garrett D.

Opened by Luis G.

Phasellus facilisis libero eget nisl. Ut tempor nibh in leo. Donec ipsum elit, interdum in, semper eu, elementum sed, mi. Ut sodales fermentum metus. Integer tempor, nulla et aliquet.

[OPEN](#)[Critical](#)

1 day old

#16 Registration isn't working

[2 comments](#) Last by Luis G. 5 minutes ago

Assigned to Garrett D.

Opened by Luis G.

Phasellus facilisis libero eget nisl. Ut tempor nibh in leo. Donec ipsum elit, interdum in, semper eu, elementum sed, mi. Ut sodales fermentum metus. Integer tempor, nulla et aliquet.

Major

[RESOLVED](#)[Major](#)

2 days old

#11 Comment text is getting corrupted

[1 comment](#) Last by Russ B. 2 days ago

Assigned to Russ B..

Opened by Garrett D.

Praesent vitae tellus id neque ornare placerat. Proin ullamcorper. Maecenas vel orci sit amet elit malesuada pharetra. Donec nonummy hendrerit nulla. Phasellus velit neque, pellentesque et, gravida ut, congue at, velit.

Minor

List Issues by

[!\[\]\(57c7a87c6b1ff1a78f922d0c3b6d26a6_img.jpg\) Priority](#)[Category](#)[Recent Activity](#)

Just because it fits in a table, doesn't mean it should be in one.

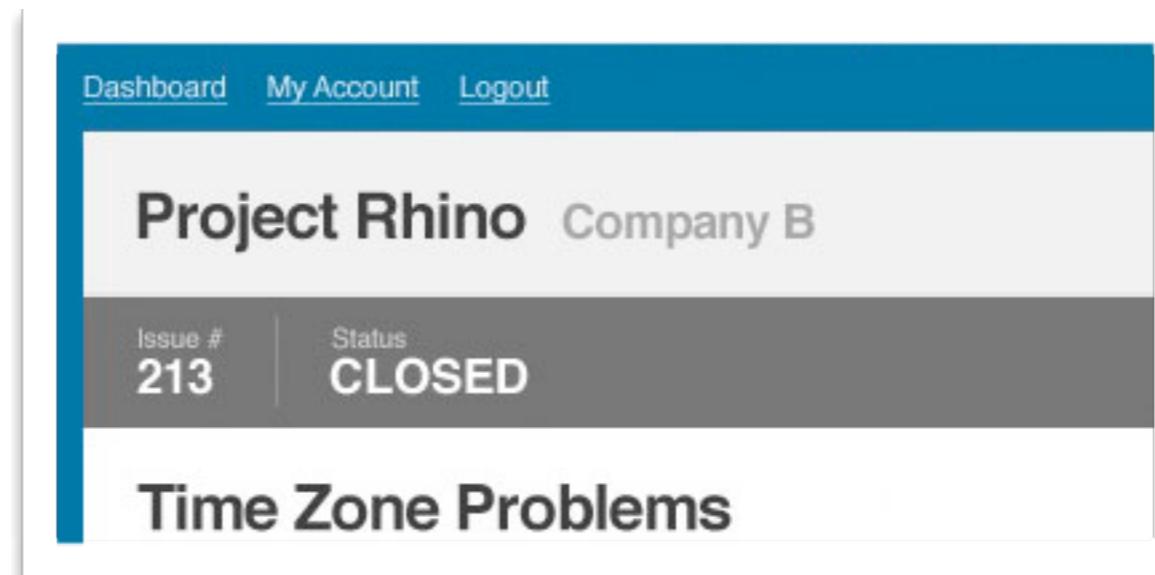
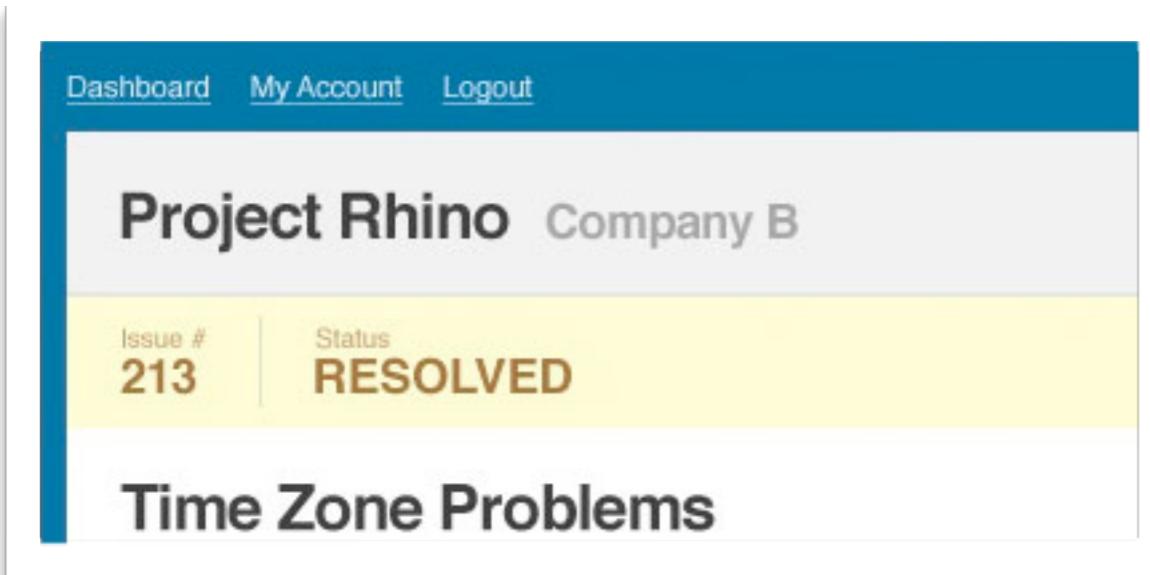
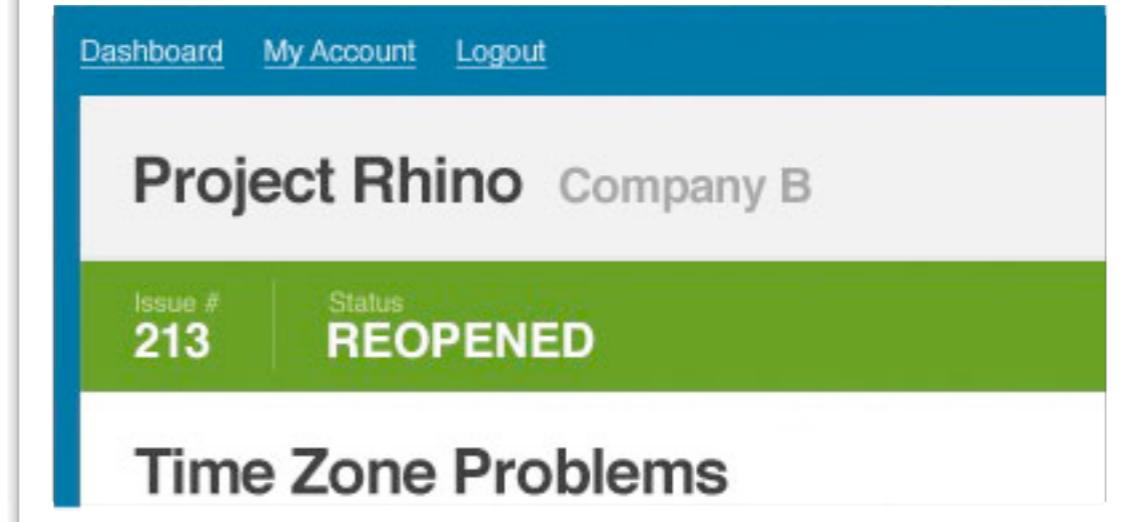
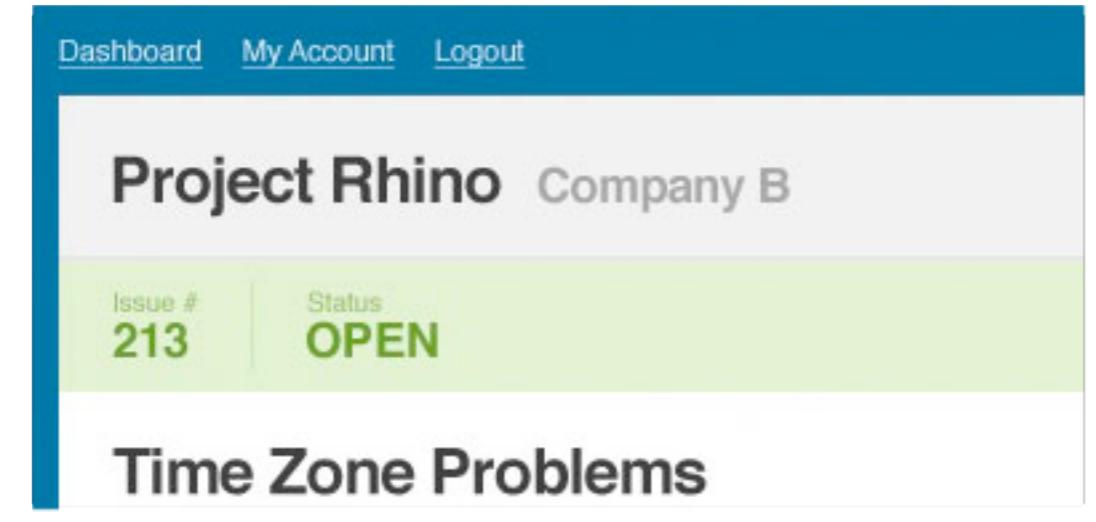


Just get it
on paper.

Color-reinforced Status & Information Bar

Additional Lower-Priority Meta-Data

All activity and updates happen with comments.



Discussion

Garrett D. January 1st, 2007 at 4:32 pm

Duis molestie metus sit amet lectus. Aliquam quis nunc sit amet arcu commodo pulvinar. Suspendisse auctor metus id risus.

Aenean pellentesque magna quis risus. Nullam lacus. Sed euismod, #15 non pretium vestibulum, neque massa placerat tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget dui dapibus vehicula. Donec eu quam nec tellus vehicula cursus.

 [Screenshot.jpg](#) (232k)

Garrett D. January 1st, 2007 at 4:32 pm

RESOLVED

Duis molestie metus sit amet lectus. Aliquam quis nunc sit amet arcu commodo pulvinar. Suspendisse auctor metus id risus.

Aenean pellentesque magna quis risus. Nullam lacus. Sed euismod, lacus non pretium vestibulum, neque massa #15 tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget dui dapibus vehicula. Donec eu quam nec tellus vehicula cursus.

Luis G. January 1st, 2007 at 4:32 pm

REOPENED

Duis molestie metus sit amet lectus. Aliquam quis nunc sit amet arcu commodo pulvinar. Suspendisse auctor metus id risus.

Aenean pellentesque magna quis risus. Nullam lacus. Sed euismod, lacus non pretium vestibulum, neque massa placerat tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget dui dapibus vehicula. Donec eu quam nec tellus vehicula cursus.

Who's listening?

The following people receive email notifications of new comments.

- Luis Garcia (Opener)
- Garrett Dimon (Assignee)
- John Doe

Status flags help reinforce the history behind an issue.

 Please stop sending me notifications about this issue.

Who's commenting?

Luis Garcia (Opener)
123-456-7890
lgarcia@domain.com

Garrett Dimon (Assignee)
123-456-7890
gdimon@domain.com

Garrett D. January 1st, 2007 at 4:32 pm **CLOSED**

Duis molestie metus sit amet lectus. Aliquam quis nunc sit amet arcu commodo pulvinar.
Suspendisse auctor metus id risus.

Aenean pellentesque magna quis risus. Nullam lacinia. Sed euismod, lacinia non pretium
vestibulum, neque massa [#15 tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget dui](#)
dapibus vehicula. Donec eu quam nec tellus vehicula cursus.

Luis G. January 1st, 2007 at 4:32 pm **REOPENED**

Duis molestie metus sit amet lectus. Aliquam quis nunc sit amet arcu commodo pulvinar.
Suspendisse auctor metus id risus.

Aenean pellentesque magna quis risus. Nullam lacinia. Sed euismod, lacinia non pretium
vestibulum, neque massa placerat tellus, id laoreet nulla dolor a nunc. Nam ut lectus eget
dui dapibus vehicula. Donec eu quam nec tellus vehicula cursus.

Add a comment...

Link to other issues with "#IssueNumber". ex. "#123" [?](#)

Linking issues is
natural and seamless
within comments.

ADD COMMENT

close ~~→~~ ~~CLOSE + VERIFY~~

THIS RESOLUTION DOESN'T NEED TO BE VERIFIED

 ATTACH FILES...

 NOTIFY OTHERS...

CHANGE PROPERTY, CATEGORIES, OR ASSOCIATE...

ADD COMMENT

CLOSED
 CLOSE
 REOPEN

OPEN
 CLOSE
 CLOSE + VERIFY
VERIFIED
 REOPEN

(COMMENT TYPE...)
STATUS
EDIT

ADD A COMMENT...

WOULD YOU LIKE TO UPDATE THE STATUS W/ THIS COMMENT?

NO THANKS. IT'S JUST A COMMENT.

YES. CLOSE IT. THIS IS ^{MY} ~~THE~~ RESOLUTION
(IT WILL NOT NEED TO BE VERIFIED BY SOMEONE ELSE)

NO. CLOSE IT & DO NOT VERIFICATION
DAND

UPDATE STATUS WITH THIS COMMENT?

NO THANKS, IT'S JUST A COMMENT

YES. ~~VERIFY~~ APPROVE THIS RESOLUTION.
(STATUS = VERIFIED)

YES. REOPEN IT.
(STATUS = REOPEN)

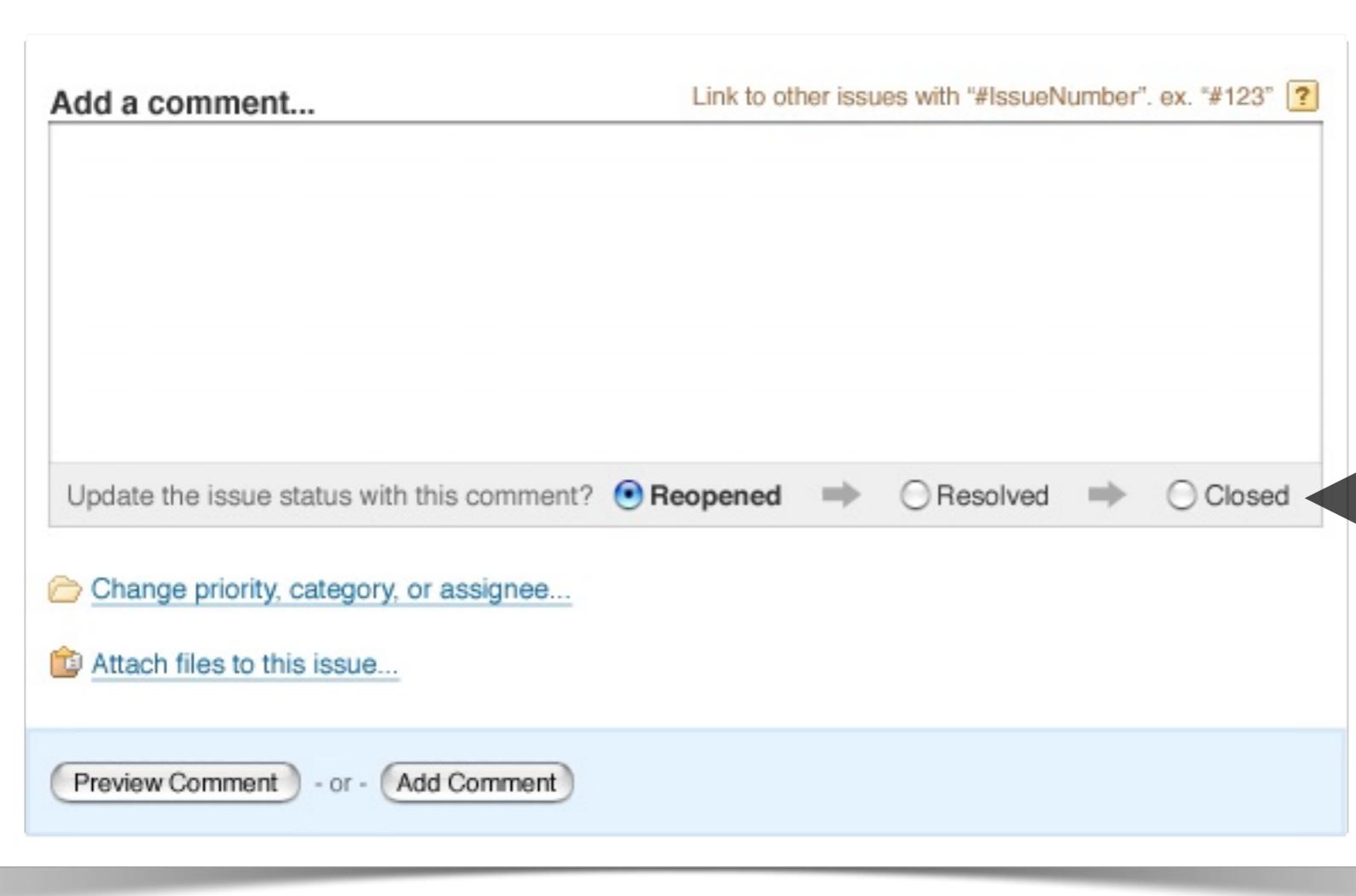
ADD A COMMENT...

STANIS(?) OPEN → CLOSED → OVERFLOW

OPEN - ~~~~~

CLOSED ~~~~~

VERSION ~~~~~

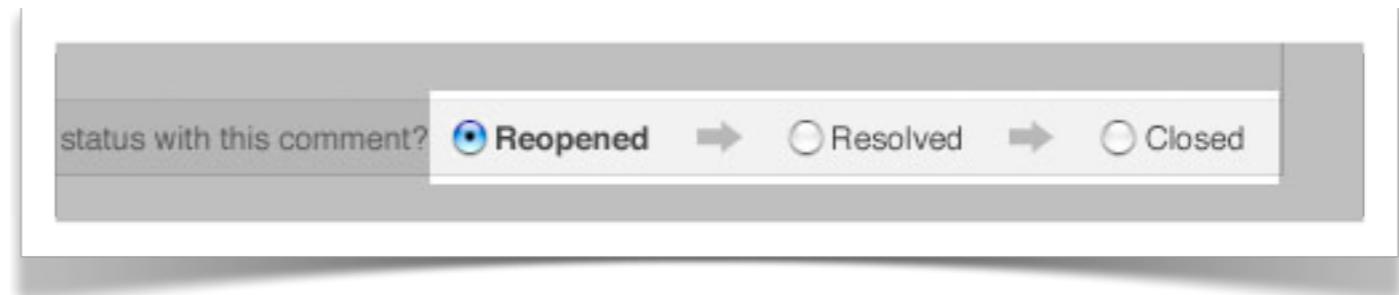


**Status changes
are visually and
conceptually tied
to comments.**

Open



Reopened



Resolved



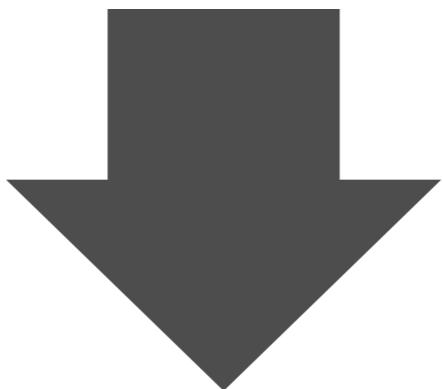
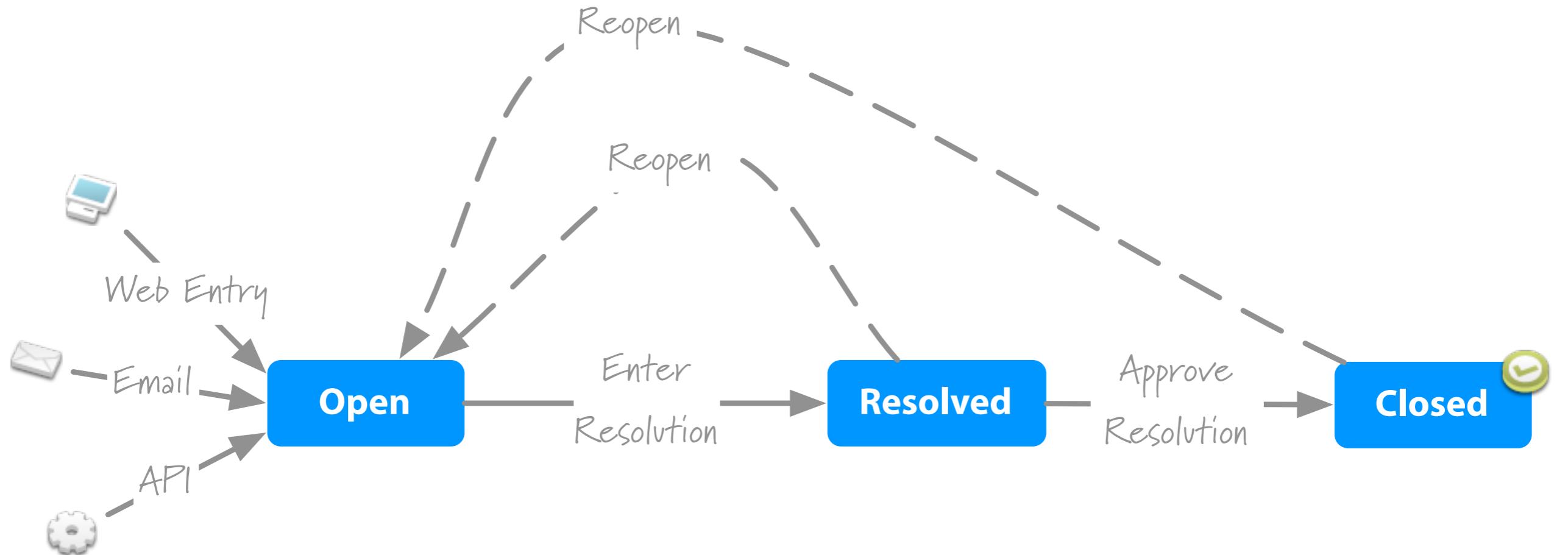
Closed



Conway's Law

It is a consequence of the fact that two software modules A and B cannot interface correctly with each other unless the design and implementer of A communicates with the designer and implementer of B. Thus the interface structure of a software system necessarily will show a congruence with the social structure of the organization that produced it.





A screenshot of a user interface showing a status selection dialog. The dialog box contains the text "status with this comment?". Below this, there are three radio buttons: the first is checked and labeled "Open", the second is unchecked and labeled "Resolved", and the third is unchecked and labeled "Closed".

*“ However beautiful the strategy,
you should occasionally look at
the results. ”*

Winston Churchill

Thanks!

tracker.garrettdimon.com