



RW ELEPHANT + CAPPUCCINO FOREVER



PRESENTED BY

TIM HOWELL, CO-FOUNDER

01

INTRO TO
RW ELEPHANT



A BRIEF HISTORY

- ▶ Created by Tim & Allison Howell in 2010
- ▶ On a road-trip across the United States
- ▶ In the middle of medical school

**RW ELEPHANT IS A
SOFTWARE-AS-A-SERVICE
INVENTORY MANAGEMENT
SYSTEM FOR NICHE RENTAL
BUSINESSES**

EST. 2012

PATINA

RENTALS

NEW YORK CITY



LOOT

VINTAGE RENTALS



Industrial Pendant Cage Light



Suspended Copper Candelabra



10ft Indigo Mudcloth Runner



Geo Terrarium (sm)



Vintage Table Number Stand (small)



Lettie Demijohn Cloche



Glass Display Box - Cube



Glass Display Box - Rectangle



UNEARTHED VINTAGE



remington metal chairs



copper remington metal chairs



mint remington metal chairs



eames molded chairs



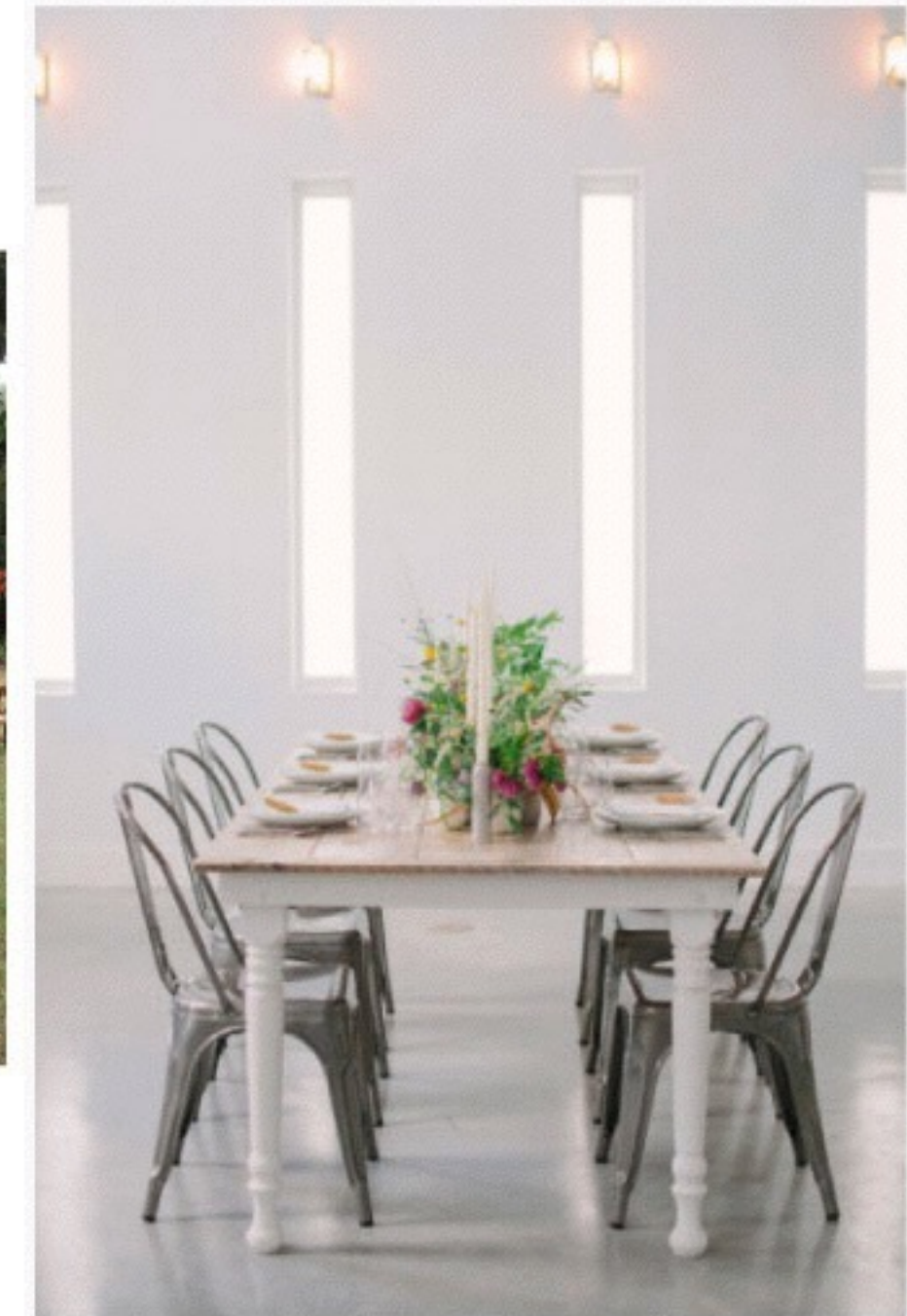
tuscan cushions - ivory

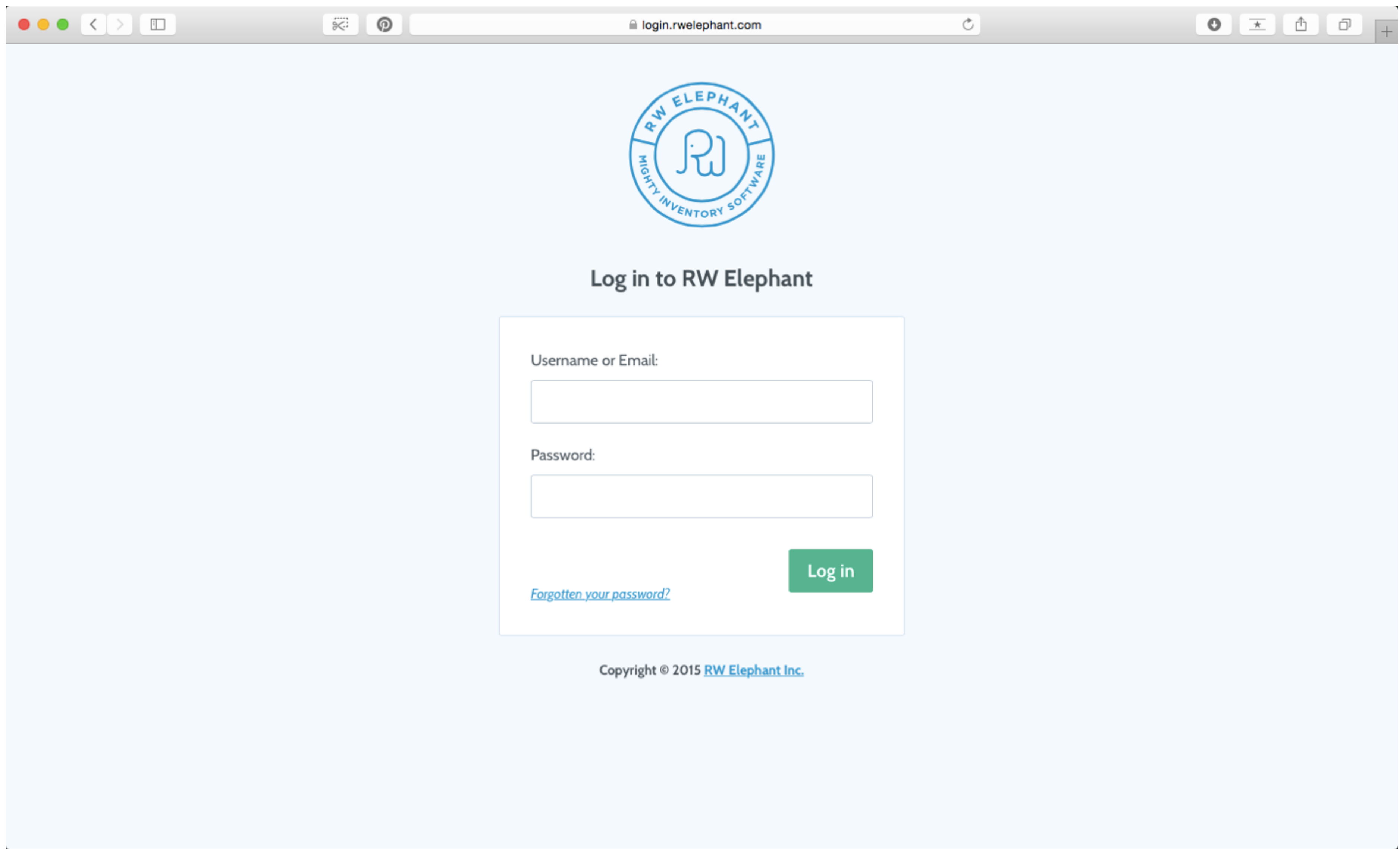


natural wood dining chairs

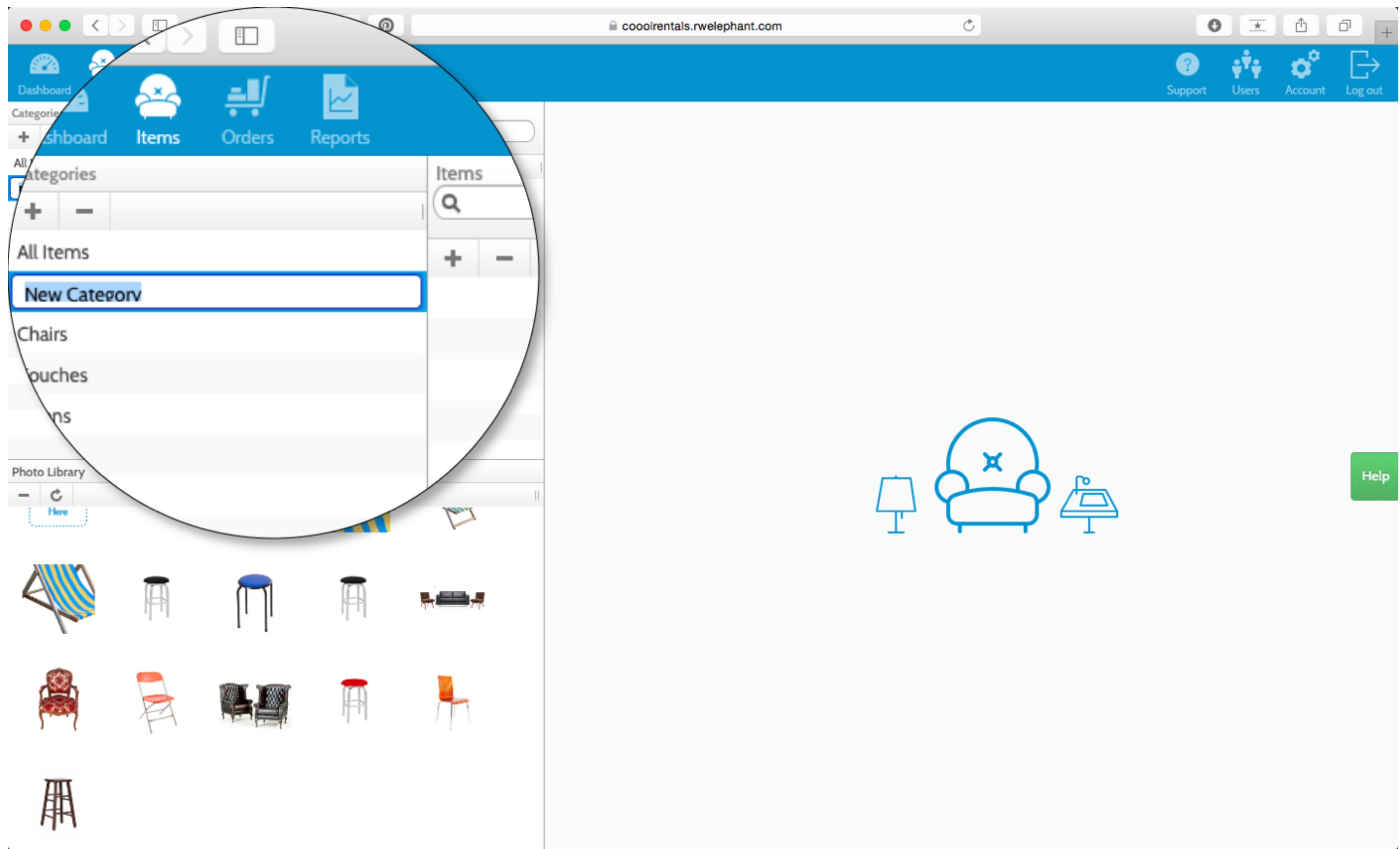


white dining chairs

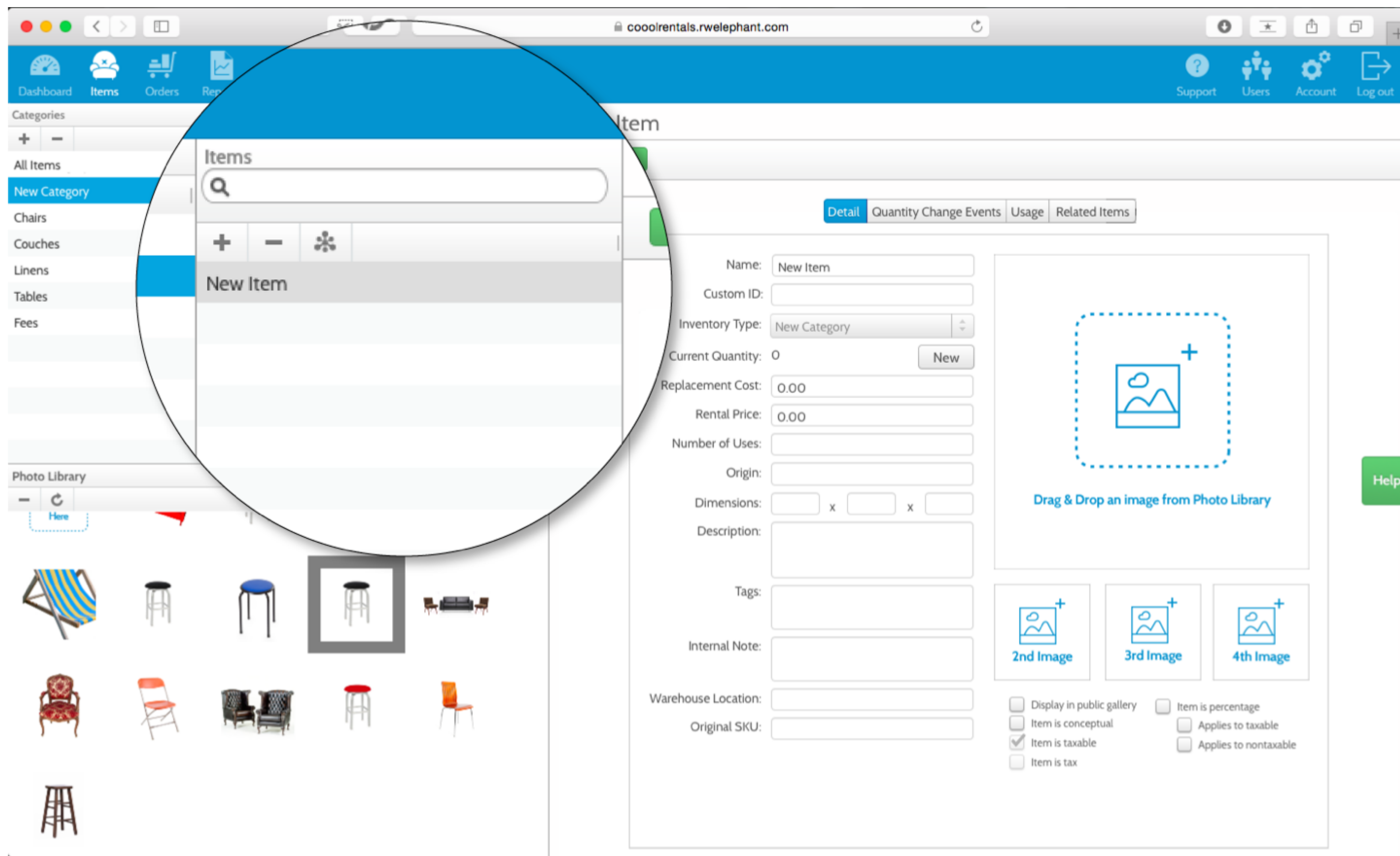




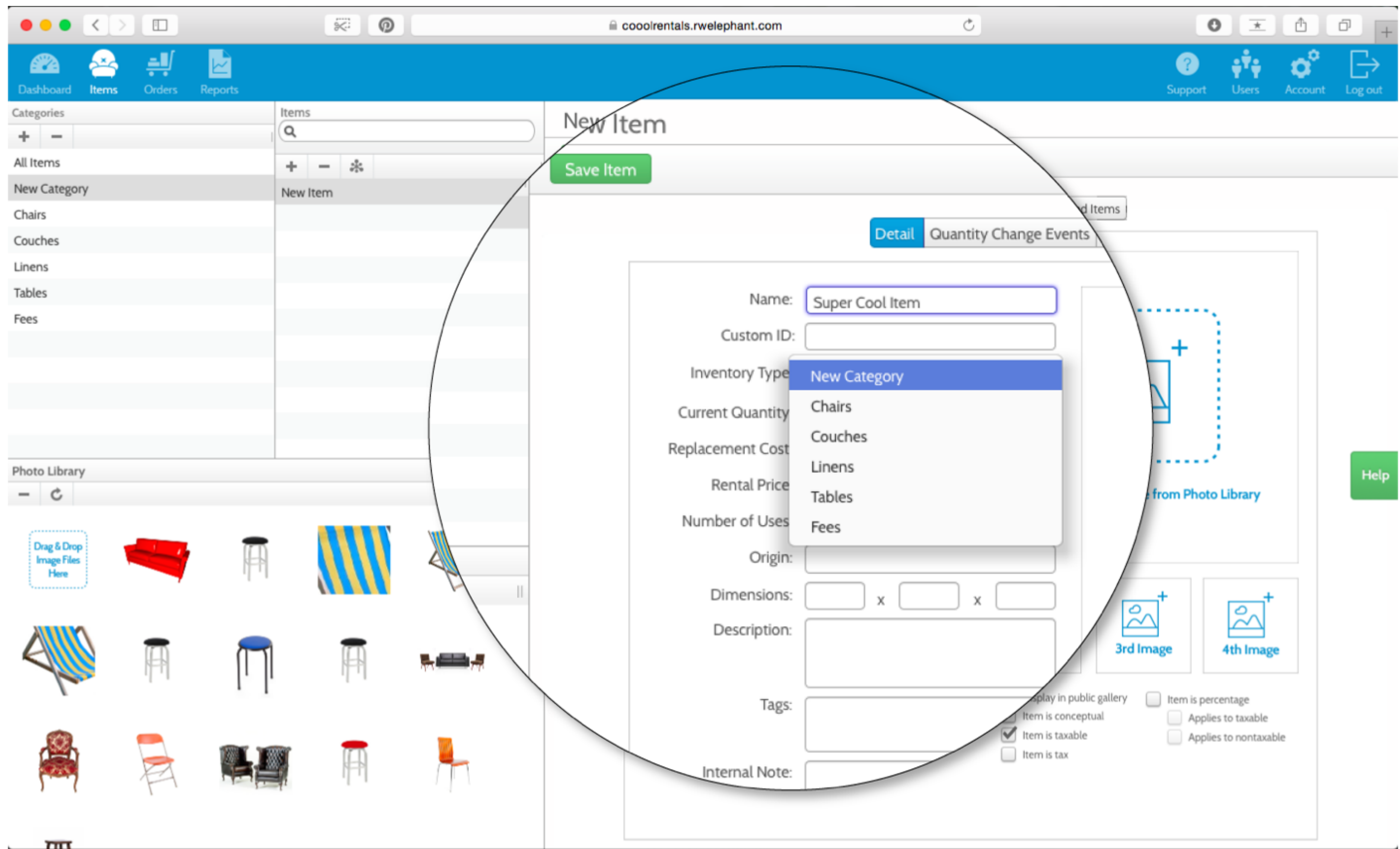
CREATE & MANAGE ITEMS



Create New Categories



Create New Items



Edit Items

DashboardItemsOrdersReports

SupportUsersAccountLog out

Categories

+ -

All Items

New Category

Chairs

Couches

Linens

Tables

Fees

Items

Q

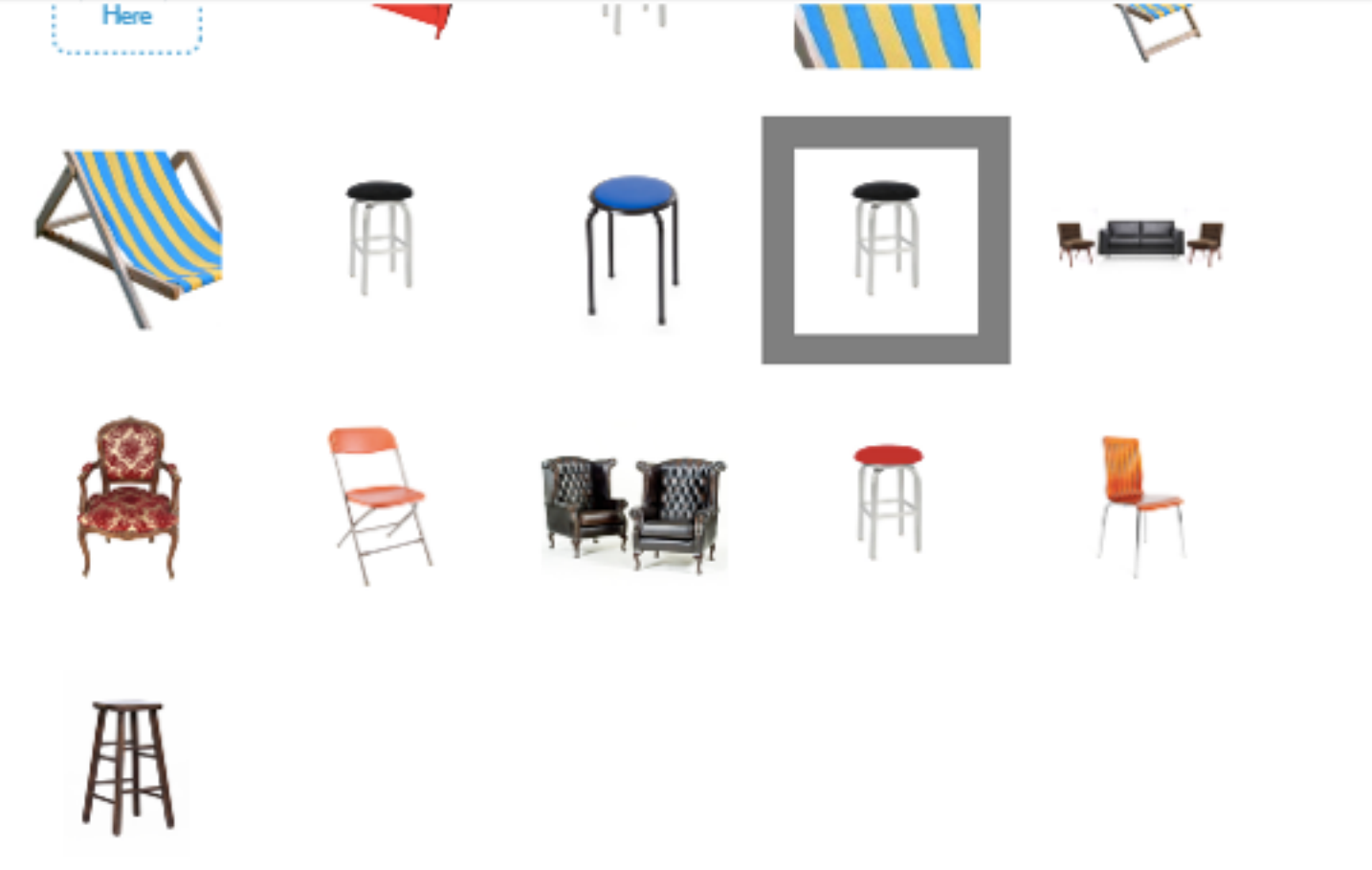
+ - *

New Item

Photo Library

- ↺

Here



Super Cool Item

Save Item

Detail

Quantity Change Events

Usage

Related Items

Name: Super Cool Item

Custom ID:

Inventory Type: New Category

Current Quantity: 0

Replacement Cost: 0.00

Rental Price: 0.00

Number of Uses:

Origin:

Dimensions: x x

Description:

Tags:

Internal Note:

Warehouse Location:

Original SKU:

Drag & Drop an image from Photo Library

2nd Image

3rd Image

4th Image

☐ Display in public gallery

☐ Item is conceptual

☒ Item is taxable

☐ Item is tax

☐ Item is percentage

☐ Applies to taxable

☐ Applies to nontaxable

Help

Drag & Drop Photos



CREATE & MANAGE RENTAL ORDERS

SafariFileEditViewHistoryBookmarksDevelopWindowHelp

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DashboardItemsOrdersReportsSupportUsersAccountLog out

08-01-2015Jane Doe0002PROPOSAL

Save OrderDelivery PDFPull Ticket PDFInvoice PDF

Event & Contact DetailLine ItemsPayments

Invoice Type: Delivery

Invoice Status: PROPOSAL

Event Start: 08-01-2015 05:00 PM

Event End: 08-01-2015 05:00 PM

Delivery Window: 08-01-2015 05:00 PM

Return Window: 08-01-2015 05:00 PM

Off-the-Shelf Time: 08-01-2016 05:00 PM

Restock Time: 08-01-2016 05:01 PM

Expiration Time: 08-20-2017 10:23 PM

Multiplier: 1.00

☐ Monthly Recurring Invoice

Client: Jane Doe

Phone: Home 999.999.9999

Email: Home Jane@doe.com

Coordinator: Jane Doe

Phone: Home 999.999.9999

Email: Home Jane@doe.com

Venue: Jane Doe

Room: Purple Ballroom

Onsite Contact: Jane Doe

Phone: Home 999.999.9999

Email: Home Jane@doe.com

Note: Be sure to leave the pieces by the stairs.

Internal Note:

Event DateClientInvoice #StatusCoord

08.01.2015Jane Doe2PROPOSALJane

08.06.2015Jane Doe1PROPOSAL

03.09.2016Allison Howell3WISHLIST

Hide

☐ Completed☐ Proposal☐ Cancelled

☐ Wishlist☐ Sale☐ Damaged

Set Basic Order Details



Accept Payments via Stripe

GENERATE REPORTS

Safari File Edit View History Bookmarks Develop Window Help

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Dashboard Items Orders Reports Support Users Account Log out

inventory.xls - Edited

A1 \sum = Inventory

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Inventory																				
2	Cool Rentals																				
3	From 00-00-0000 to 12-31-9999																				
4	Report Generated: 03-28-2016 2:08 PM																				
5																					
6	Inventory Item	Category	Custom ID	L	W	H	Acquisition Cost	Replacement Cost	Rental Price	Predicted No. of Uses	Acquisition Date	Qty Added	Description	Origin	Current Qty	Tags					
7	Dumbo Chair	Chairs					\$20.00	\$0.00	\$100.00		01/01/15	100			100						
8	Horatio Brown Chair	Chairs		30	30	42	\$700.00	\$700.00	\$75.00	20	01/01/15	100	Luxurious brown upholstered chair with sleek lines, wooden legs, and simple button detailing.	ABC Furniture Company	100	seating lounge brown upholstered					
9	Babar Black Couch	Couches	SD8909	72	36	36	\$1,500.00	\$1,650.00	\$300.00	20	08/05/15	2	Contemporary black leather couch with sleek lines and modern flair perfect for a cocktail reception vignette or dance floor lounge area.	ABC Furniture Company	2	seating leather lounge couch sofa reception cocktails modern <u>howard</u> collection featured new item black					
10	Babar Red Couch	Couches	SD8908	72	36	36	\$1,500.00	\$1,650.00	\$3,000.00	20	08/05/15	2	Contemporary red leather couch with sleek lines and modern flair perfect for a cocktail reception vignette or dance floor lounge area.	ABC Furniture Company	2	seating red leather lounge couch sofa reception cocktails modern <u>howard</u> collection featured new item					
11	Red-linen Napkins	Linens					\$2.00	\$0.00	\$0.50		01/01/15	1000			1000						
12	Babar Table	Tables		18	18	26	\$100.00	\$0.00	\$20.00	20	01/01/15	100	Ornate wooden side table with painted details. This table is the perfect complement to a traditional-style lounge vignette.	ABC Furniture Company	100	<u>babar</u> collection ornate wood painted brown square					
13																					
14																					
15																					
16																					
17																					

Sheet1

Generate many different reports to see inventory utilization, profitability, etc.

02

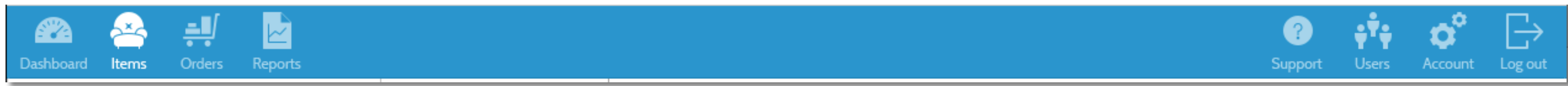
HOW WE USE
CAPPUCCINO
IN RW ELEPHANT

RW ELEPHANT ARCHITECTURE



- ▶ Client written in Objective-J/Cappuccino (approximately 12,000 lines of code in the client)
- ▶ Interface almost entirely created/maintained in Xcode and converted with XcodeCapp
- ▶ Server comprises about 24,000 lines of Perl
- ▶ Interaction between the client and server is done with CFHttpRequest/XMLHttpRequest to make GET and POST requests to the Perl API... which then returns JSON
- ▶ PDF Creation is done server side using a Perl script to generate SVGs of the invoice, and then a small utility written in Java to convert the SVG to PDF

CAPPUCCINO FEATURES WE USE

- ▶ Multiple different types of view and controls



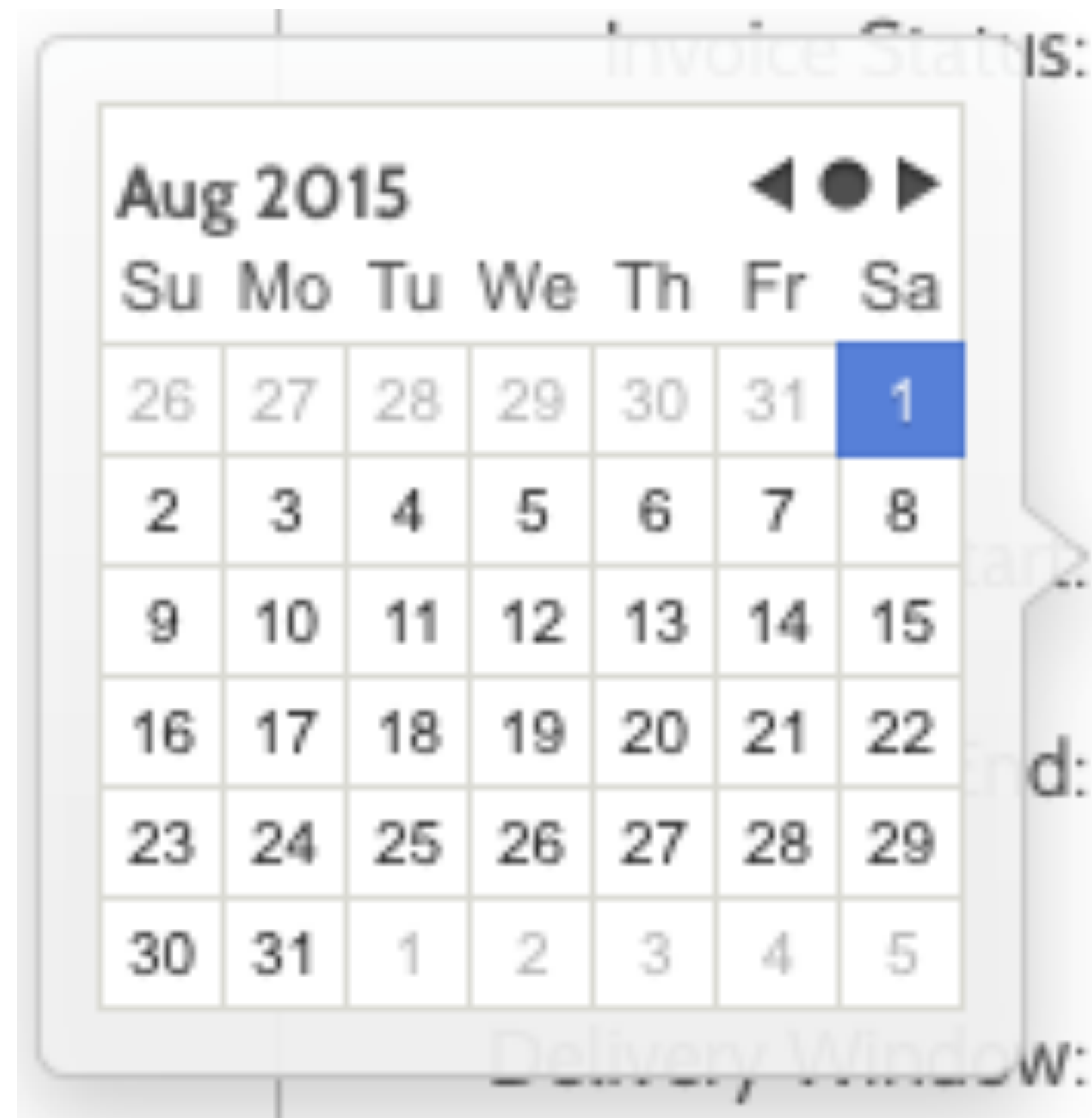
[illegible]

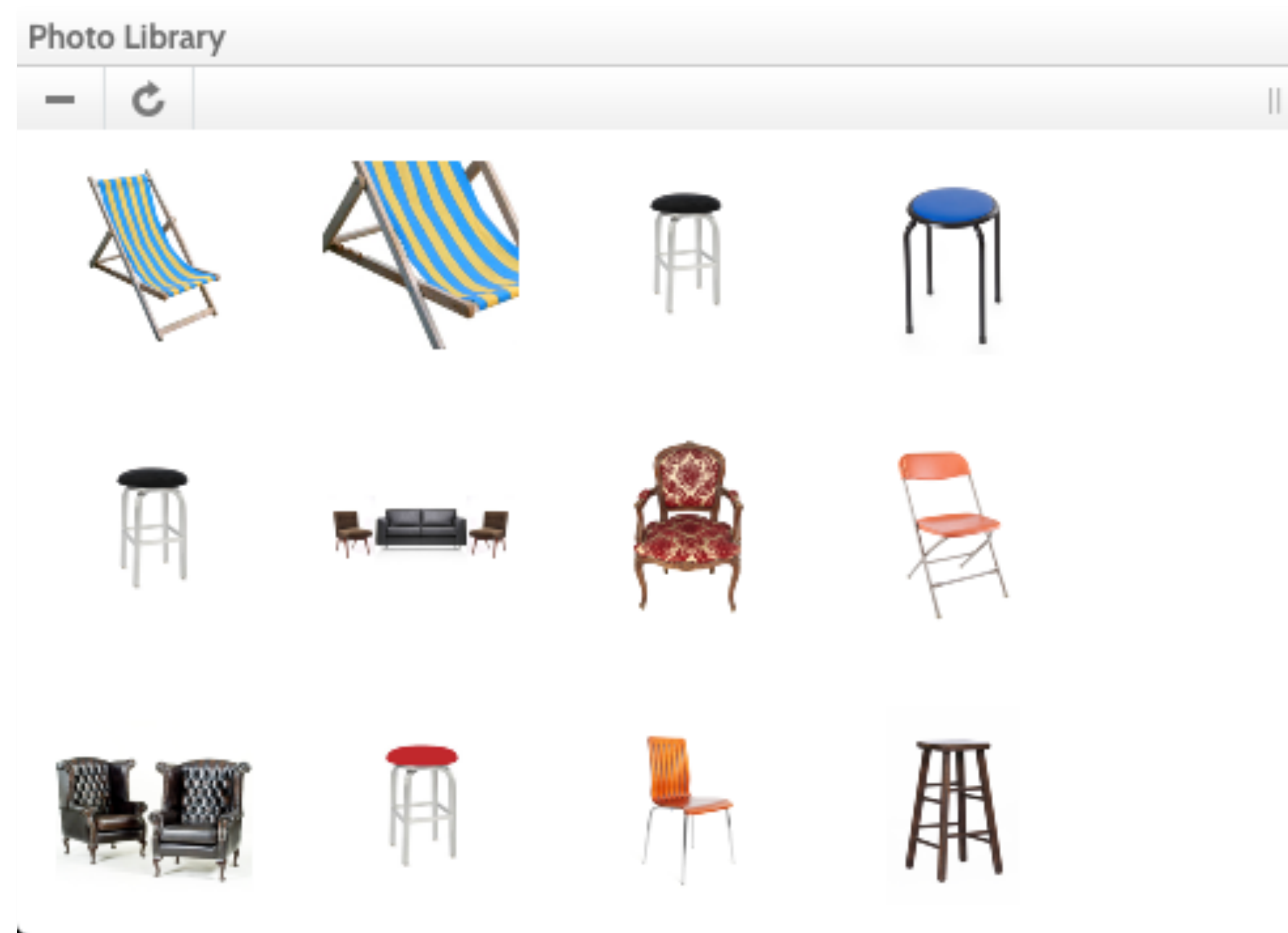
Photo	Item
	Babar Red Couch
	Babar Black Couch

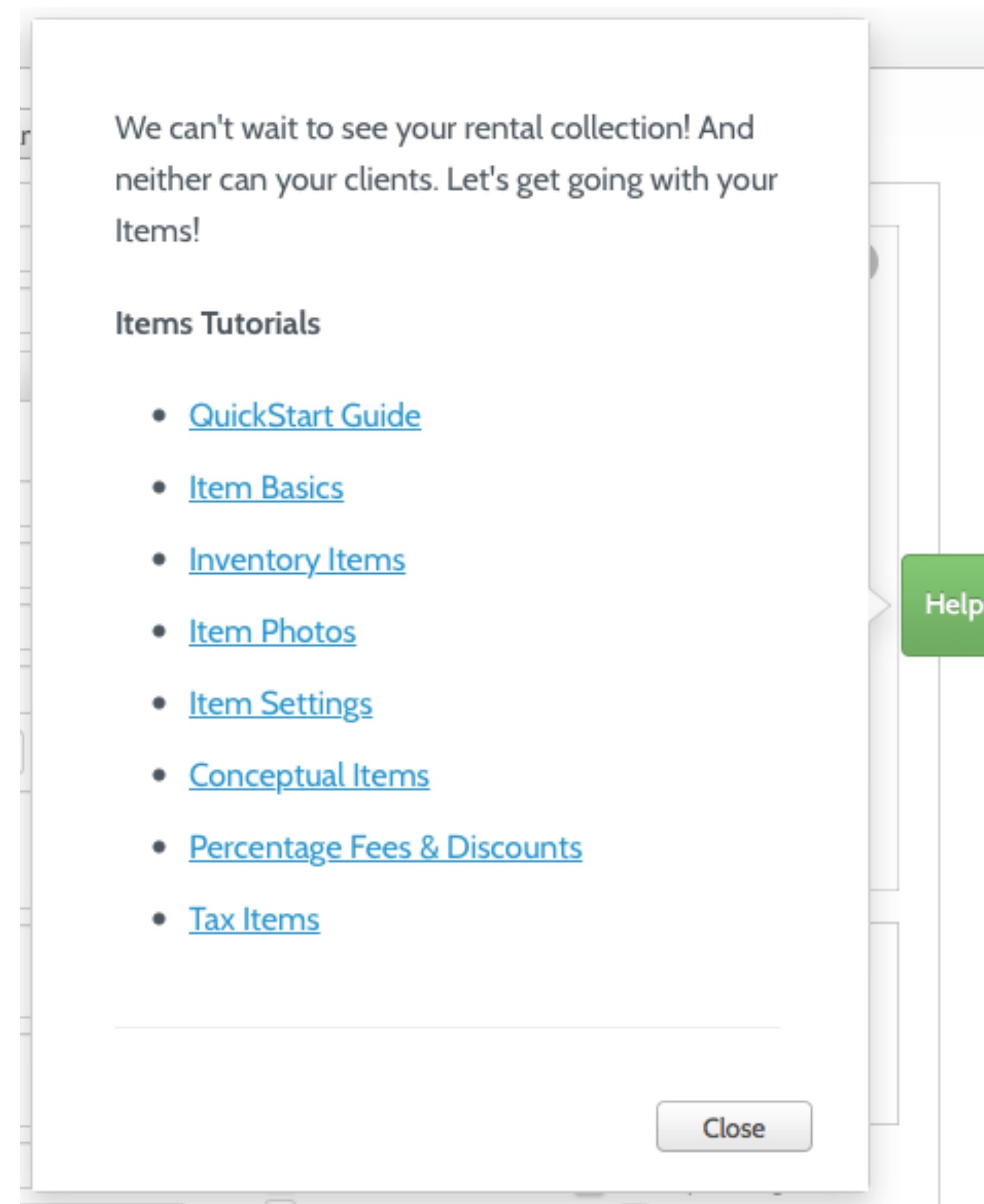
nvoice Status:


PROPOSAL










 New Payment

Date:

Type: 

Amount: ☒ Full Balance 8496.00
☐ Required Deposit 0.00
☐ Other Amount

Reference:



**Unable to delete inventory item; currently in use
by 2 invoices.**

Continue

- ▶ Multiple different types of view and controls
- ▶ Drag-and-drop is used extensively

Safari File Edit View History Bookmarks Develop Window Help

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Dashboard Items Orders Reports Support Users Account Log out

Categories

- All Items
- New Category
- Couches
- Linens
- Chairs
- Tables
- Fees

Items

Dumbo Chair

Horatio Brown Chair

Photo Library

Here

Dumbo Chair

Edit Item

Detail Quantity Change Events Usage Related Items

Name: Dumbo Chair

Custom ID:

Inventory Type: Chairs

Current Quantity: 100

Replacement Cost: 0.00

Rental Price: 100.00

Number of Uses:

Origin:

Dimensions: x x

Description:

Tags:

Internal Note:

Warehouse Location:

Original SKU:

4th Image

Display in public gallery

Item is conceptual

Item is taxable

Item is tax

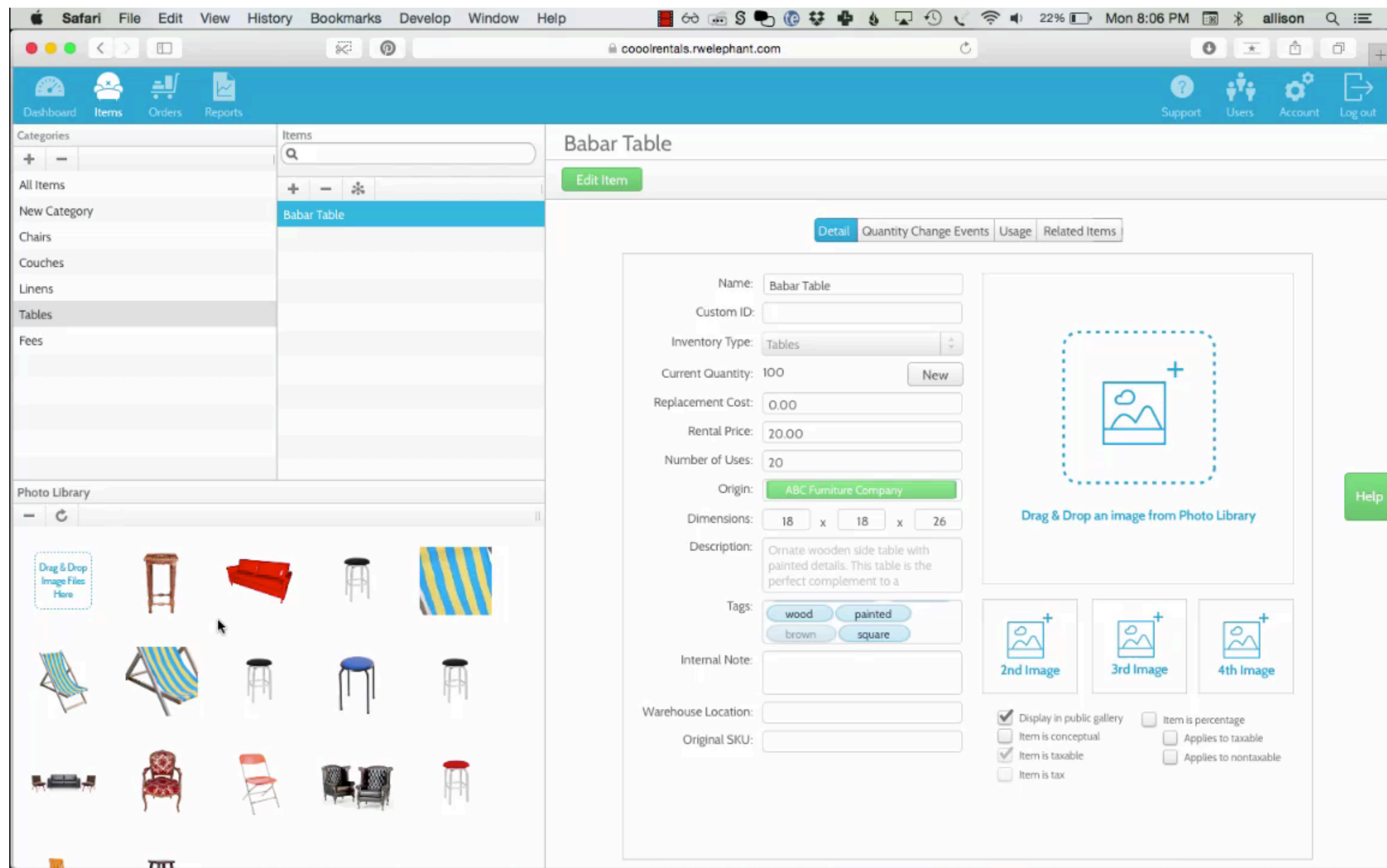
Item is percentage

Applies to taxable

Applies to nontaxable

Help

Reorder Categories & Items



Dragging Photos Onto Items

Dragging Items Onto Orders

- ▶ Multiple different types of view and controls
- ▶ Drag-and-drop is used extensively
- ▶ Menus from table items and token items

+	-	✱	
Babar Table			
Duplicate Item			

Client:

Phone:

Email:

Edit Contact...

- ▶ Multiple different types of view and controls
- ▶ Drag-and-drop is used extensively
- ▶ Menus from table items and token items
- ▶ CPUserDefaults

THINGS WE LOVE ABOUT CAPPUCCINO

- ▶ The Toolchain. Building interfaces in Xcode provides a lot of power. XCodeCapp takes care of the details behind the scenes.
- ▶ Rapid prototyping
 - Create new feature in a couple of hours, so no big loss if it isn't useful.
- ▶ It's mostly Cocoa, so able to benefit from the wealth of Cocoa documentation online
- ▶ It's JavaScript, so it's easy to use many JavaScript libraries and techniques

03

HOW YOU SHOULDN'T
USE CAPPUCCINO
IN YOUR APPLICATION

BACKGROUND

- ▶ I did very little development work between mid-2005 and the start of RW in late 2010. A LOT changes in five years!
- ▶ I didn't have much JavaScript experience, and little experience writing a GUI application, so I made a lot of mistakes
- ▶ Basically “learned” Objective-J/Cappuccino by reading *Cocoa Programming for Mac OS X* on a drive from California to New Hampshire... and then created the first version of the application

EARLY DECISIONS

- ▶ Interface initially created using Atlas
- ▶ Cappuccino has progressed tremendously since the application was started
 - Support for many classes that weren't available
 - Improved performance thanks in large part to the new compiler
 - XcodeCapp
 - Cup instead of deepDropUpload
- ▶ The different parts of the application were too tightly coupled

**WHAT WOULD I DO
DIFFERENTLY?**

- ▶ Learn the toolchain
- ▶ Learn the patterns (delegate, MVC)
- ▶ Start with a small unrelated application just to learn Cappuccino
- ▶ Rewrite that application from scratch a couple of times to try out different ways of doing the same thing
- ▶ Think through server interaction (and avoiding race conditions)

Trying to be too clever:↵

↵

```
[self·saveInvoice:function(response){↵  
    ▶ var·responseStatus·=·response.status;↵  
    ▶ var·responseData·=·response.data;↵  
    ▶ if·(responseStatus·==·"success"){↵  
        ▶ ▶ //Invoice·saved··Reload·data↵  
        ▶ ▶ var·invoiceID·=·responseData.invoiceID;↵  
        ▶ ▶ [self·loadInvoiceHeader:invoiceID];↵  
        ▶ ▶ [self·loadInvoiceLineItems:invoiceID];↵  
        ▶ ▶ [self·loadPayments:invoiceID];↵  
    ▶ }else{↵  
        ▶ ▶ //That·didn't·work··Display·error·message↵  
        ▶ ▶ ...↵  
    ▶ }↵  
}]↵
```

Less clever, more better:↵

↵

```
[self·saveInvoice:function(response){↵
    ▶    var·responseStatus·=·response.status;↵
    ▶    var·responseData·=·response.data;↵
    ▶    if·(responseStatus·==·"success"){↵
    ▶        ▶    //Invoice·saved··Reload·data↵
    ▶        ▶    var·invoiceID·=·responseData.invoiceID;↵
    ▶        ▶    [self·loadInvoice:invoiceID];↵
    ▶    }else{↵
    ▶        ▶    //That·didn't·work··Display·error·message↵
    ▶        ▶    ...↵
    ▶    }↵
}↵]
```

Best? ↵

↵

```
[self saveInvoice:function(response){  
    ▶ var responseStatus = response.status;↵  
    ▶ var responseData = response.data;↵  
    ▶ if (responseStatus == "success"){↵  
    ▶     ▶ //Invoice saved. Refresh data.↵  
    ▶     ▶ [invoiceLineItems removeAllObjects];↵  
    ▶     ▶ [invoiceLineItems addObjectsFromArray:responseData.line_items];↵  
    ▶     ▶ [lineItemsTableView reloadData];↵  
    ▶ }else{↵  
    ▶     ▶ //That didn't work. Display error message↵  
    ▶     ▶ ...↵  
    ▶ }↵  
}]↵
```


- ▶ Learn the toolchain
- ▶ Learn the patterns (delegate, MVC)
- ▶ Start with a small unrelated application just to learn Cappuccino
- ▶ Rewrite that application from scratch a couple of times to try out different ways of doing the same thing
- ▶ Think through server interaction (and avoiding race conditions)
- ▶ Be more consistent (create every table view, pop up button, array controller, etc., the same way)





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