

The Virtual Office Door

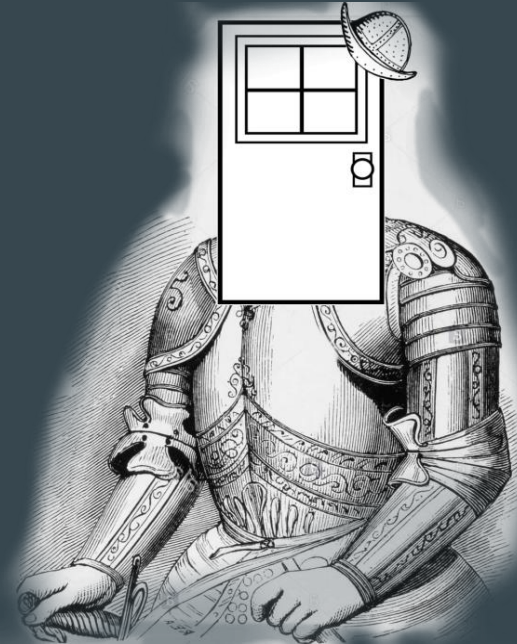
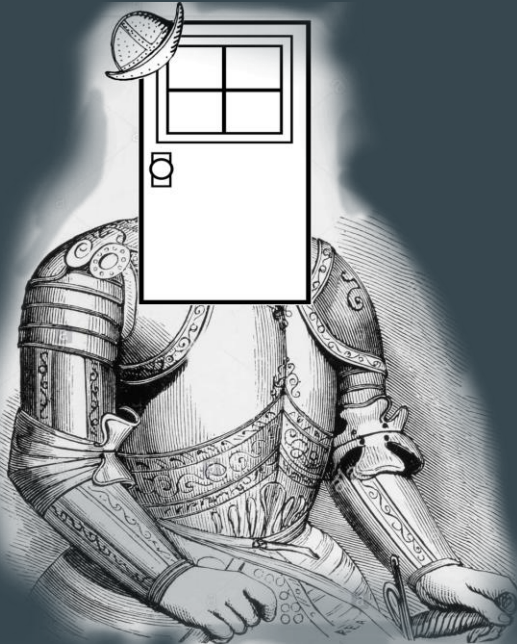
The Conquistadoors

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Our Mentor:
Dr. Eck Doerry

Our Clients:
Dr. Eck Doerry and Dr. Michael Leverington



The Big Picture

- Office doors serve as a form of communication (e.g. notes, flyers, calendars, etc.)
- Many different people need access to office door information
 - Professors, Students, Managers, and working professionals
- Millions of people utilize office doors as a form of communication
- Communication is essential but a physical pre



The Even Bigger Picture

Direct Communication

Emails, Phone Calls, Text Messages, Paper Handouts, Voice Messages

Message is sent to those that need to hear or read the message.

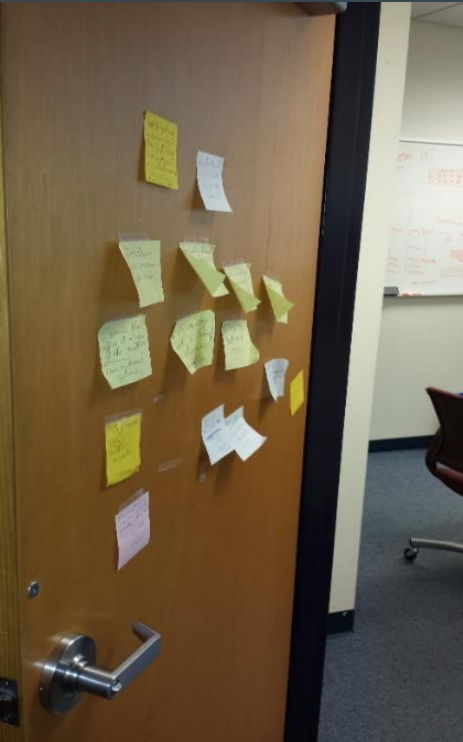
Indirect Communication

Bulletin Board Postings, Posted Sticky Notes, Public Calendar Postings

Message is posted so that readers need to go seek out the information

Where the main problem lies!

The problem in an academic context...



- Teachers are moving to the SICCS building on North Campus.
- Classes are still being held on South Campus though!
- Teachers still use office doors, but they become cluttered.
- Email communication with students is slow and unreliable
- Teacher office hours are always subject to last minute change
 - No way to communicate this to the students in a timely manner
- Teachers need an easy way to inform students

Solution: A Virtual Office Door

- We envision a secure, fast and account based Web 2.0 application that operates as a “virtual office door”.
- The “office door” can display:
 - Calendar with events vs. BBLearn current system
 - Sticky notes for quick alerts vs. manual email sendouts.
 - Notification widget to instantly inform users of pertinent updates
- Accessible on a laptop/mobile device as well as a physical office door display.
- Allows users to receive communications from door owners, which turns indirect communication into direct.

Virtual Door Prototype

The Virtual Office Door Home Profile ▾ Your Door Door Options ▾ About ▾ [Log out](#)

Dr. Tollefson's Office Door

Email: [Subscribe](#) [Unsubscribe](#)

No class today!

Wednesday April 12 2017 + -

Project 2 due 11:55 PM on April 28, 2017

The screenshot displays a web application interface for a virtual office. The background is a scenic view of a town and mountains. Overlaid on this are several floating windows. At the top, a navigation bar includes the site name and menu items. Below it, a window titled 'Dr. Tollefson's Office Door' contains an email subscription form. To the right, a window displays the message 'No class today!'. In the lower-left, a window shows a calendar entry for 'Project 2 due' on April 28, 2017. In the lower-right, a window displays a cartoon robot character. The robot is white and grey with a camera lens for a head and is set against a yellow background.

Our main requirements...

1. Customizable office door with widgets
2. Cloud based server to deploy the application and store data
3. Secure and reliable login to maintain sensitive user information.
4. A basic notification system between the office door owner and a guest.

Implementation Overview

Django Web Framework

Python 3.5

Django REST framework

Allows communication through API calls regardless of the caller's state

Serializes and passes database information back and forth via GET and POST requests

Javascript

jQuery

Webix

Guided

VirtualDoor Architecture Diagram



Presentation Layer

Frontpage/Google Login API:

Easy to use Login system that integrates with current google accounts

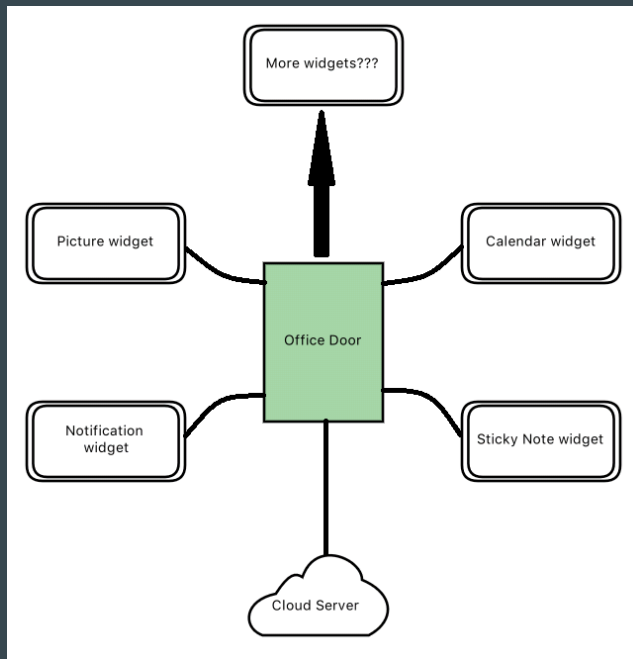
NAU and many companies already use a google account for work or school reasons

- Clean design with the user being able to edit profile information on account creation
 - User might want displayed information to be different than their google account information
- Integration with database for profile storage and account security

Presentation Layer (cont.)

Virtual Office Door:

- 4 main sub-interfaces, the widgets.
 - Each widget interfaces with the other layers of the architecture in some way.
- This is the component that the user will interact with the most.



Application Layer

Four main components of our Django application:

URLs

- Specify which URLs call which views

- Allow views to be called with parameters through URL patterns

Views

- Python functions that manage how requests are handled

Serializers

- Specify JSON format of a Model to serialize

Data Storage Layer

Models

Serve as a template for the Database

Each Model class correlates to a table in a database

Each class variable correlates to a column in a table

Sqlite3

Storing user information

Storing widget information

Amazon Web Services

Database stuff

The Virtual Office Door

Welcome to the Virtual Office Door website! You can get started by signing in above.

The Virtual Office Door

Hello Tyler Tollefson!

Use the links in the navbar to navigate the website.

Create Your Current Profile Information

Your First Name:

Tyler

Your Last Name:

Tollefson

Your Door URL:

mydormdoor

Your Door Image:

Choose File

kqggh2641mjsx.jpg

Repeat Background Image?

Submit Profile

Your Current Profile Information

Your First Name:

Tyler

Your Last Name:

Tollefson

Your Door URL

mydormdoor

Tyler Tollefson's Office Door

Add Widget

Save Grid



Tyler Tollefson's Office Door



Tyler Tollefson's Office Door

✎ ✕

Tyler Tollefson's Office Door

✎ ✕

New note:

Update

Tyler Tollefson's Office Door



Hello world~!

Thursday April 13 2017



Event:

Date:



Time:



Add Event

Tyler Tollefson's Office Door



Hello world~!

Thursday April 13 2017



Going home!

12:00 PM on April 14, 2017

Tyler Tollefson's Office Door

Hello world-!

Email:

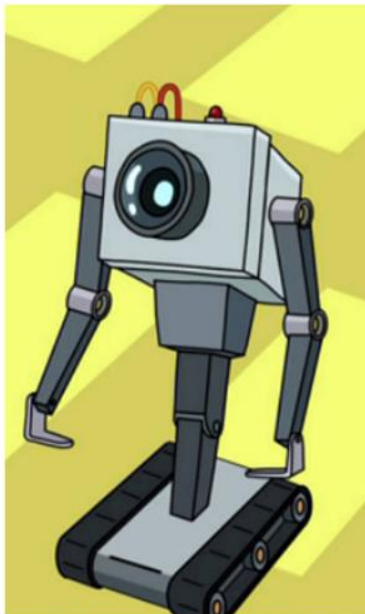
Subscribe

Unsubscribe

Thursday April 13 2017

Going home! 12:00 PM on April 14, 2017

Back in town! 11:00 AM on April 17, 2017



How we are testing...

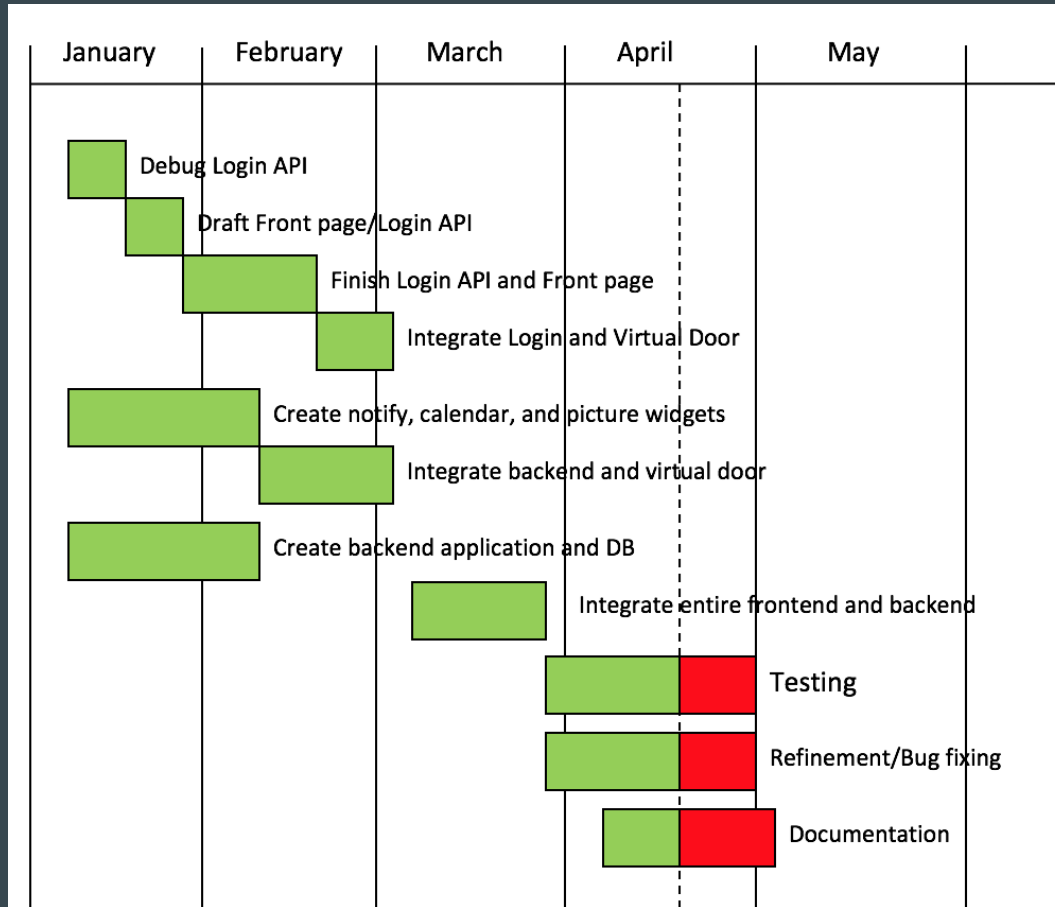
- Identify, Document, Resolve, Repeat

```
function testPostEvent(){
  //test if HTML tags are handled with post requests
  var calendar_input = {message:'Hello <p>World</p>', e_date:'2017-12-20', d_time:'12:59:00'};
  try {
    $.post("../api/calendar/" + username + "/",
      {"data": JSON.stringify(calendar_input, null, ""), "csrfmiddlewaretoken": csrf_tok},
      function (data) {
        console.log("Event posted." + data);
      });
  } catch (err) {
    throw "HTML input not supported by DB."
  }
}
```

Implementation Challenges

Challenge	Resolution
Email notification services cost money	Route through a centralized Gmail account
Different widgets made door layout modification not as straightforward as anticipated.	Utilized label Models for multi-record widgets.
Duplicate widget support would require reworking current design	Design idea saved for future updates (post capstone).

Schedule



Conclusion

- Direct vs. Indirect communication
- Communication is essential in the workplace.
- Time is money.
- Our Goal: To deliver a web application that allows for virtual office door communications between teachers and students, that could be easily used across different disciplines.
- Project Status
 - Requirements document satisfied
 - Working prototype



Questions?