The Virtual Office Door
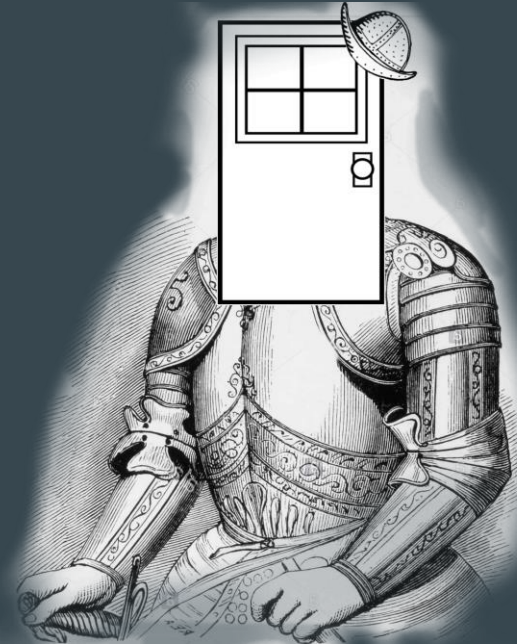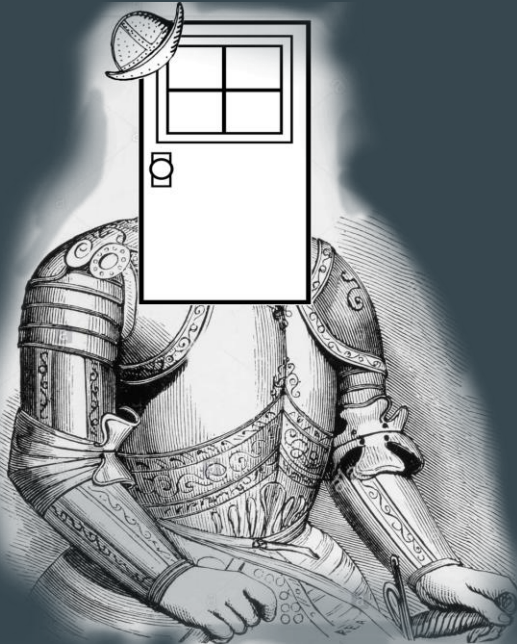
The Conquistadoors

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

The Big Picture

- Office doors serve as a form of communication, and contain non-directed 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 for

- Communication is essential but a physical pre

# In an academic context...
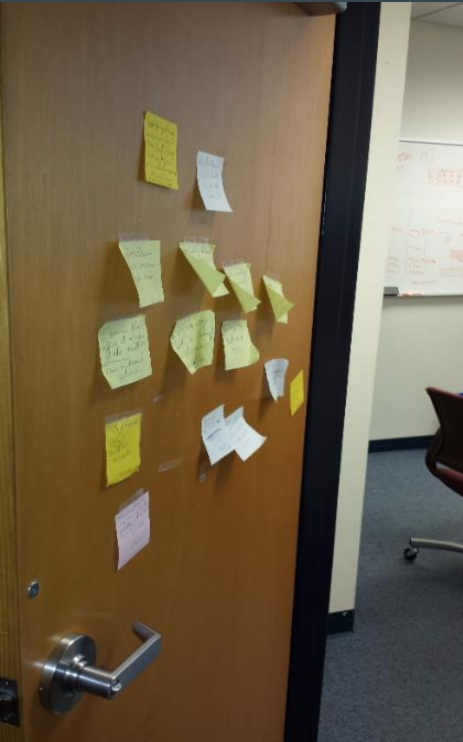
- Teachers are moving to the SICCS building on North Campus.

- 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

The Virtual Door

- We envision a secure, fast and account based Web 2.0 application that operates as a "virtual office door".

- Their "office door" could display:

  - Calendar with events.

  - Sticky notes for quick alerts.

  - And other useful "widgets".

- Modular components that can be resized, repositioned and edited.

- Accessible on a laptop/mobile device as well as a physical office door display.

- Allows users to receive communications from door owners.

Virtual Door Prototype
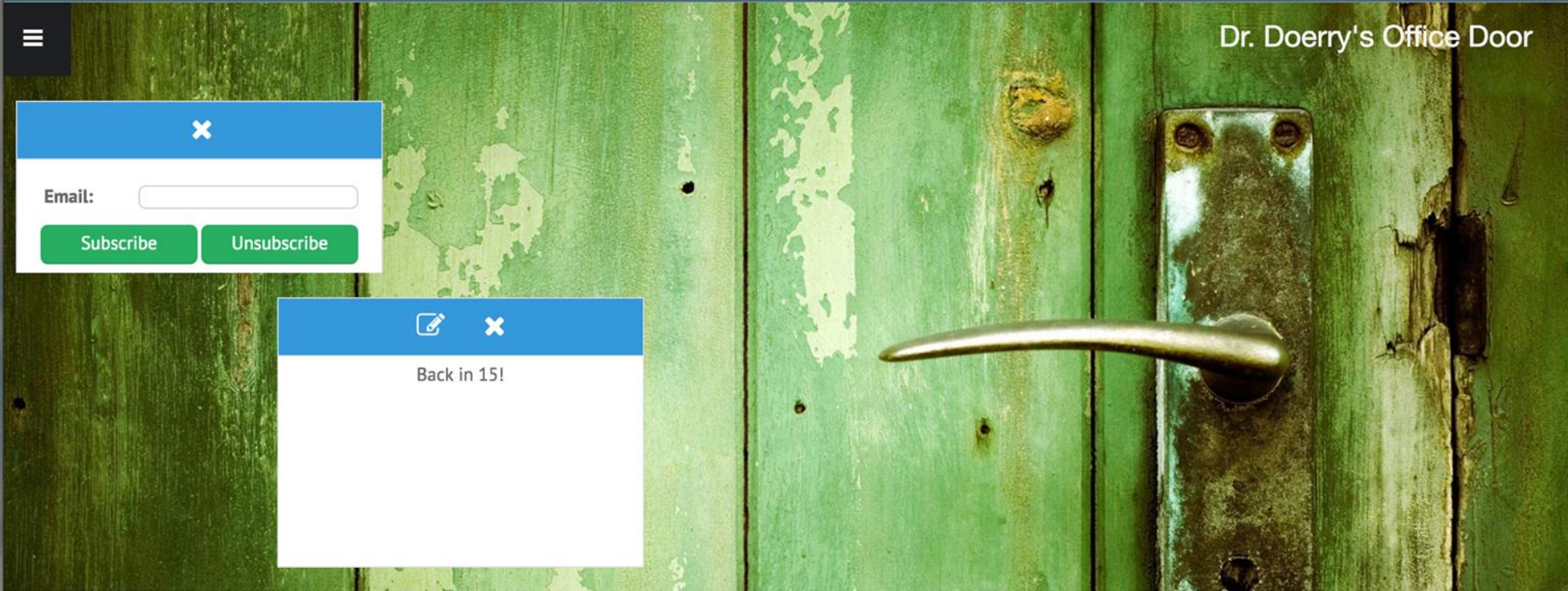
Our main requirements...

1. A basic notification system between the office door owner and a guest.

2. Secure and reliable login to maintain sensitive user information.

3. Customizable office door with widgets

4. Cloud based server to deploy the application and store data

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
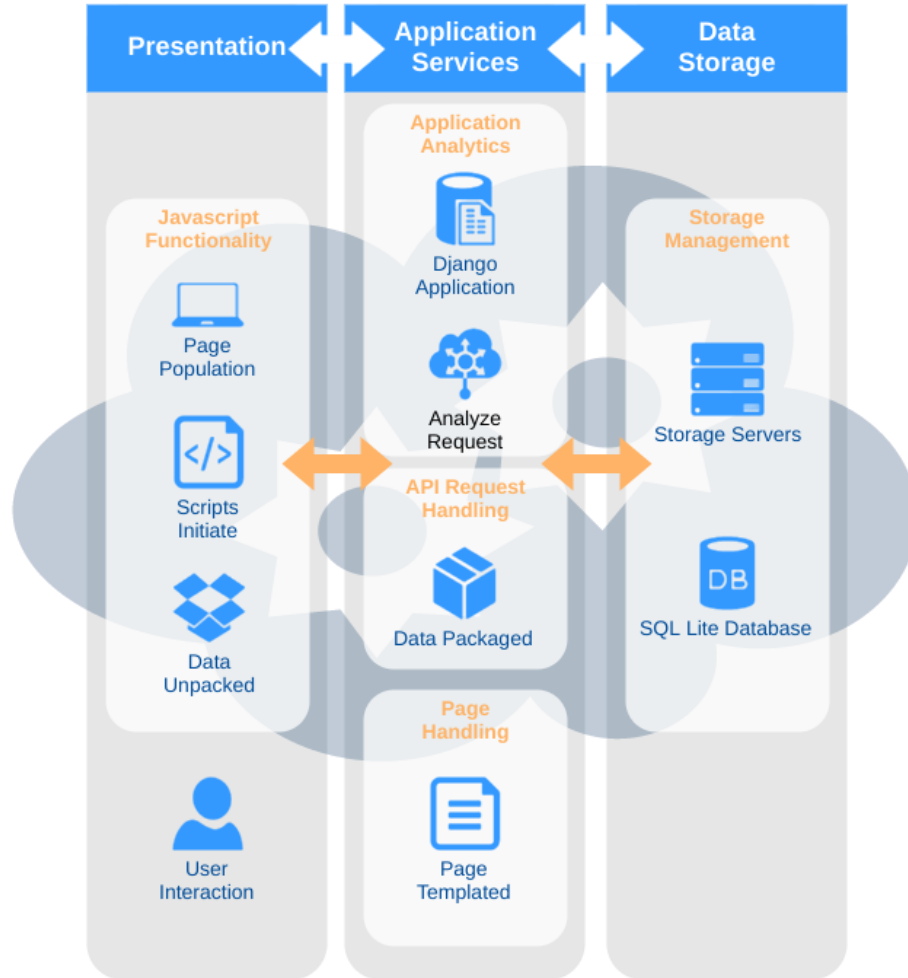
Javascript

    jQuery

    Webix

VirtualDoor Architecture Diagram

Presentation	Application Services	Data Storage

Application Analytics

Django Application

Analyze Request

API Request Handling

Data Packaged

Page Handling

Page Templated

Javascript Functionality

Page Population

Scripts Initiate

Data Unpacked

User Interaction

Storage Management

Storage Servers

SQL Lite Database

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Presentation Layer

Frontpage/Google Login API:

- Easy to use Login system that integrates with current google accounts (personal/NAU)

- Clean design with the user being able to edit profile information on account creation

- 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.
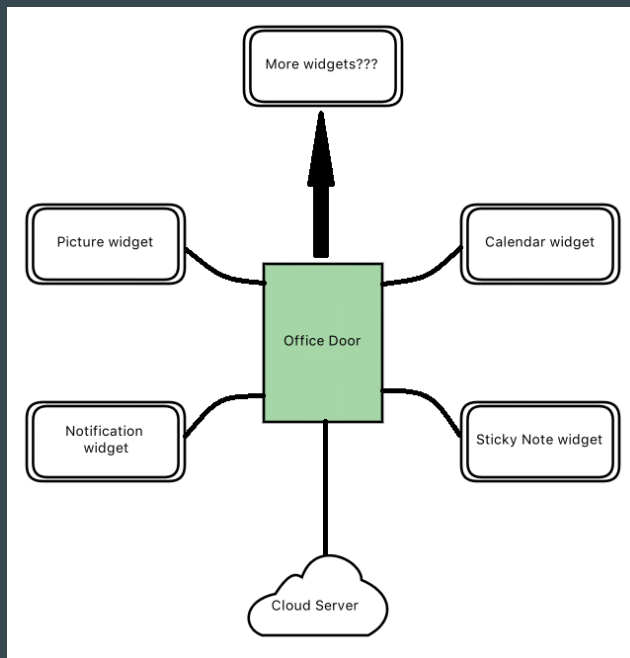
Application Layer

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

Amazon Web Services

Implementation Challenges

Challenge	Resolution
Implementing Google+ API with database	Social Django package to streamline the Django user creation and login process.
Nature of different widgets made door layout modification through POST requests not as straightforward as anticipated.	Utilized label Models for multi-record widgets.
Creating a uniform design for the entire web application.	Base the design off of the webix widget default design but refine it into a clean and user friendly application.

Schedule

Gantt chart here

Conclusion

- Directed vs. non-directed 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 used for use across different disciplines.

Questions?