Community Compliance Control System (CCCS) Web Application

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# Project Overview

The Community Compliance Control System (CCCS) is a web application for homeowner association board of directors, community managers and homeowners to interact over community restrictions. CCCS will allow users the ability to enter specific compliance concerns for an identified address within their community. These concerns would be collected in a database and require an initial verification followed by monthly reminder checks until the compliance has been cleared. Residents who receive compliance letters would then be able to log into the system, see any images of the violations, dates they were observed, and pay any fines.

# Goals

CCCS would solve violation reporting problems in communities with homeowner associations.

First, as homeowners’ associations get away from paying a community manager to police compliance issues in their community and instead have become reliant on homeowner notification of issues. This application would allow online submittals without having to call a community manager to see if something is not allowed in their community or even just make multiple calls to speak to a person.

Second, when a violation is noted, there are often disagreements that erupt between homeowners and the HOA board regarding the validity of the violation. CCCS will send a notification to the defined user to verify the violation. This could be done online if an image is submitted by the original complainant or require physical verification. Once verified, a violation letter would be generated and sent to the address. Based on the community's violation policy, a fine or additional actions would be initiated.

Finally, a homeowner portal will allow homeowners to check their address to see if there are any violations on file, see images of those violations, request an exemption, and pay any associated fines as applicable. This would be in one place, so homeowner who don’t believe their violation is valid can check for images. If the homeowner thinks they haven’t had a previous violation, they can check history here as well.

# User Personas

The three user personas that would benefit from CCCS are community managers, homeowners’ association board of directors, and homeowners.

1. Community managers will be able to direct homeowners to use the application. They can monitor community activity or respond according to directions of the HOA board of directors.
2. Homeowners’ association board of directors can submit compliance issues, verify violations, keep up on homeowner issues, and eventually run reports to see where most violations occur and what the most common violations are.
3. Homeowners can report violation concerns for other addresses, check their own address, pay fines, see violation history, requires exemptions and view, or add images associated with violations.

# Value

The value of CCCS is the time and cost savings of not employing a community manager to do time consuming and costly drive throughs of communities looking for violation issues. If the original user posts an image of the violation, this will save time since no one will need to do a physical check. Additionally, this will be a revenue generator in how difficult it will be for homeowners to claim there is no proof of violation as the uploaded image will provide proof. The history will also make it hard to deny a repeat issue didn’t exist or that it was taken care of when it was not.

# Problem, Solution, Interaction

The primary goal of the CCCS application is create an easy means of submitting compliance violation concerns, a simple verification method, and an opportunity for homeowners to see what is in their violation account.

Interactions of the application would be the initial compliance violation entered into the database by one of the three personas, followed by a verification of the concern by either automatic image method or via a physical check by a member of the board of directors or community manager.

Once verified, the homeowner will be able to see the violation, any attached images and history. They will also be able request extensions, hearings or pay any associated fines.

MVP

High-Level Overview

The main purpose of the application is to allow homeowners to report homes within their community that have compliance issues (violations) based on the communities governing documents such as their covenants, conditions, and restrictions (CCRs). The application will also provide an easy mechanism for homeowners to check to see if they have any reported violations, pay fines, or request exemptions.

The homeowners’ associations board of directors and the community management will have all the same functionality as the homeowners with added features that include ability to add homeowner users, verification of submitted violations, query of addresses with options for future queries.

## Features

1. Basic administrative login for community managers and homeowner association board of directors
2. Basic login for homeowners
3. Ability for users to create user account
4. Ability for admin to create, edit and delete homeowner accounts
5. Ability for all users to view the community’s covenant, conditions and restrictions, and fine policy
6. Ability for users with accounts to report violations
7. Ability for Admins to view, verify and reject a violation
8. Ability for homeowners to view history, request a hearing, and pay fines
9. Searchability for admins of addresses to see violations, fines, etc.

# High-level System Architecture

Using a basic REST API, will be using Node.JS with Express to connect to a MongoDB storage. The site would be hosted using Amazon S3.

# High-Level Description Of The Data

Data will be represented as JSON objects as follows:

Address

Number

Street

Homeowner

First Name

Last Name

Address

Email

Violations

Fines