



Clean the Realm

Making chores less terrible

Info 360 A: Design Thinking
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The Design Problem

One of the most stereotypical aspects of college living is its messiness. This aspect runs rampant among this demographic for many reasons, but mainly because it is often one of the first times these students are living away from home, during the stressful, busy years of college. This problem is only magnified by the drama of cohabitating with new people and learning how to motivate oneself and others.

Young adults are busy people. With classes, late night study sessions, homework, social activities, student jobs, relationships, and maybe even working out, it can be nearly impossible to make time for household responsibilities.

Another reason messiness is a problem is that delegating chores with roommates can cause tension. The messy roommate can easily feel guilty, separated, and looked down upon by their housemates, which only lessens their motivation to clean. At the same time, the clean roommate can feel used, overwhelmed, irritated and disgusted, which can lead to them nagging their messier counterparts. The planning process, outlining everyone's responsibilities, making sure the chore split is fair, and creating ramifications for chore completion and incompleteness, is time consuming and requires a lot of communication between all housemates. The implementation requires even more communication, assigning different chores multiple days a week, making sure everyone knows what is expected of them, and checking if chores are completed. The enforcement process often consists of nagging text messages or passive aggressive refrigerator sticky notes. The existing solutions take a considerable amount of effort and do not adequately relieve household tensions.

Messes can get out of control, and when they do, one's motivation to clean plummets. A lack of motivation is a main reason why young adults are so well known for their mess. College students are still transitioning from adolescence to the 'real world', resulting in an elevated mess threshold (Bonker). Motivating yourself to clean is very difficult when you have a high tolerance for disorganized environments. When the only incentive for doing an unsavory chore is it being done, finding the time and energy to complete the task becomes difficult.

If this problem ended with your quarters looking dingy, this would be less pertinent of an issue, but messy apartments have severe consequences. First, where there are food messes there are pests, ranging from mild inconveniences to legitimate health concerns (in addition to violating the lease). Messes also lead to stress (Carter), clutter does not allow our minds to relax, create, or be productive, and instead makes us feel guilty, distracted, anxious and frustrated. When performing well in college is crucial to a student's future, any of these negative stimuli can put that future in jeopardy. Speaking of future, the last age where habits are relatively easy to change is early adulthood (Plante), meaning that what cleaning routine students develop now will stay with them for years to come.

Our team was inspired by the following question: **how can young adults work together as roommates to keep their living space clean?**

The following design attempts to address this challenge.

The Project Scope

The following design specification will outline the design, features and functionality of a mobile application called Clean the Realm. This app is designed to provide a convenient way to track and organize chores and increase the accountability of housemates, all through the lens of a fantasy role playing game (RPG). Our interface makes it clear what chores the user is supposed to do, and when everything needs to be done by. It also provides incentives through competition with roommates and arranges various rewards for being the cleanest and consequences for missing chore deadlines.

Alternative solutions for chore management include big charts on the refrigerator; but these are only accessible when you are in the kitchen, and need to be recreated every week. Shared to-do lists or chore excel charts are another option, but both can be complicated with their loose structure, and give the user too much freedom with the overwhelming amount of functionality. We were greatly inspired by HabitRPG, a self-improvement web application designed to help the player keep track of their life goals and stay motivated by overlaying game mechanics, because it “provides external motivation for completing your day-to-day activities” (HabitRPG). Lucky for us, HabitRPG doesn’t provide the team aspect that is so crucial to our problem with roommates. A major feature missing from these existing solutions was roommate confirmation, all these designs are susceptible to their users checking off poorly done or unfinished chores.

We decided that a smartphone application would be the easiest way to engage our users because the majority of young adults in college, our target audience, use them. In addition, phones are easy to access, enabling the user to view their chore reminders and leaderboard standing wherever they have service.

Users will be able to download the application from the App Store, but pricing infrastructure and management are beyond the scope of our project. Each member of a household must download their own Clean the Realm for their mobile device.

Clean the Realm takes a fantasy, Middle Earth-esque spin on HabitRPG, with the idea that “when even the smallest successes provide you with an immediate reward, you’re less likely to procrastinate” (HabitRPG). With the current Game of Thrones/Hobbit popularity, we decided on an earthy fantasy lens, with quests instead of chores, and realms instead of house/apartments, as well as pleasing green tones, all of which adds a fun sense of adventure to the cleaning process.

Our target users are young adults living with two or more roommates. Clean the Realm is not designed for students living in on-campus housing, by themselves, or with only one other person, but there may be features that these individuals would find helpful.

Our application affords a lot of customization and scalability. Realms can choose whether they have one administrator, or if everyone can edit and approve chores. Administrators can create, edit and delete chores (or roommates when needed). At this point in time, there will only be one application schema, but we will let the users customize their realm and personal sigil (symbol / avatar).

Clean the Realm makes staying on top of chores easier by automating chore management, and giving users tangible motivation. The instant gratification of experience points (XP) when they complete a chore, negative incentives when they don't, and long term goals of weekly or monthly rewards, creates a three pronged approach to getting our users to develop healthy cleaning habits.

The application assumes that the young adult will be familiar with smartphone technology. Unfortunately, Clean the Realm is not currently designed for people with severe hand or eye disabilities. The application must have access to the Internet through the user's device in order to connect with the realm network so it can update as needed. Future versions of our application may fix some of these omissions in functionality, and we will create a web-based application.

Assumptions:

- Each user has their own Smartphone (Prototyped with iPhone 5) where they can run the application Clean the Realm.
- Each user is a willing participant in Clean the Realm.
- Each user will follow through with the ramifications (rewards/penalties) as agreed upon during setup.
- Household has less than 20 participants.
- Users will not hack/cheat any part of the system.
- Users will be fair and unbiased in confirming chore completion.
- Users are inclined towards friendly competition and other fun.
- Users 21 or under will not choose the pizza & beer incentive.

Application Functionality:

Once the first user downloads Clean the Realm, they are asked to 'Create New Realm' where they then enter their name and email, pick their personal sigil (avatar/icon), and invite their other roommates by entering email addresses when prompted. Users then continue to the setup pages, where they name their realm, pick leadership settings, list chores that need to be done, and assign point values to those chores (harder, more unfavorable chores are worth more points; easy, clean chores- less). After setup is complete (3 - 8 minutes), the first user is guided to the home page. Subsequent users can join existing realm using the email invite, or realm ID#.

Like HabitRPG, Clean the Realm operates on its currency, experience points (XP), and levels to incentivise users. But to beef up the motivation to clean, since our focus is almost specifically on unfavorable chores, we added real world incentives to the mix. During the set-up process, the household gets to choose between monetary incentives: a \$0.50, \$1, or \$2 fine when a chore deadline is not met, which goes into a physical place, think jar or piggy bank, in the house, and the first roommate on the leaderboard for the month takes it all, Monopoly Free Parking style (or in a larger house, top 3 roommates split the money 1st - 50%, 2nd - 30%, 3rd - 20%). Cyber praise/shaming incentive: top of the leaderboard gives you bragging rights messages among your 'realm' or household, missed deadlines inform roommates of your failure. Last, a group can choose the college favorite- pizza & beer incentive: where those who missed deadlines must buy the winner said pizza and beer. These are all fun features that will motivate cleaning with a friendly competition.

Once in the application, users start at home, which quickly displays what chores point of view user needs to do, chores waiting for approval, and chores completed- displayed by a progress bar filling from red, to yellow, to green, respectively. The user can also see where they stand amongst their roommates' chore progress for the week, and easily confirm their roommate's chores as done. Users can then navigate to 'Record' where roommates are ranked by points and level, 'Calendar' where user can access a visual display of all their chores' due dates, and 'Ramification' where they can see the penalties they owe, and rewards they can earn.

The Target Audience

The following personas stem from people who exhibit specific characteristics of our targeted users. Whereas these personas are fictitious entities, they are an amalgamation of many real potential users, synthesized into our “ideal” users. The main focus is that these personas all live in households with multiple roommates, and tensions have arisen because of the chore delegation. Throughout our design process, we used these personas as a reference point to keep the user and user experience a main focus of our decision making process.

Personas:

Sabina Tyler

AGE 20

OCCUPATION University of Washington - Communications Major
Pottery Barn - Sales Associate

STATUS In a Relationship

LOCATION Seattle, WA

PROFILE The Messy Roommate

ETHNICITY Caucasian American



“Finding the time, energy, and motivation for anything can be hard. And it just gets worse when that thing is a chore”

GOALS

- To graduate from UW
- To maintain friendships with roommates
- To improve habits & motivation

FRUSTRATIONS

- Not enough motivation for chores
- Chores don’t come naturally
- Roommates’ frequent nagging

BIO

Sabina is a junior at the University of Washington, and spent her first two years in a sorority, where she enjoyed cleaning maids and cooks that saved her from experiencing the drudgery of domestic chores. This year she is living outside of the sorority house with some of her sorority sisters. Sometimes she has difficulty balancing school work, relationships, working out, hobbies, and her household responsibilities.

Sabina grew up in a wealthier family in Bellingham, a town a few hours north of Seattle, and did not develop the best cleaning habits as a child. As a child she enjoyed playing casual RPG-style games like the Sims, Pokemon, and Neopets. She has a competitive personality, and has a team-conducive mentality stemming from her years on the cheerleading squad in high school.

She interacts with her iPhone almost constantly, and loves to utilize it to help solve various problems in life. Her favorite apps/tools include homework managers, Facebook, and Spotify.

One of Sabina’s roommates recently has downloaded Clean the Realm on their phone in hopes of getting everyone to stay on top of their chores. Although Sabina’s schedule is crammed, she realized that she has not been keeping up with her share of the household responsibilities. Sabina agreed to download Clean the Realm; now she can be reminded daily to do her chores and has more motivation to manage her time better.

Blake Lander

AGE 22

OCCUPATION University of Washington - College of Build Environments

STATUS Single

LOCATION Seattle, WA

PROFILE The Clean Roommate

ETHNICITY Pakistani American



"Just because I am a neat freak, doesn't mean my roommates are. Or that I will pick up after them."

GOALS

- To graduate from UW
- To maintain friendships with roommates
- To not live in a pig pen

FRUSTRATIONS

- Roommates don't check chore chart
- Roommates wait as long as possible to complete chores
- Roommates mark half-done chores as done

BIO

Blake is a senior at the University of Washington who recently moved out of his parent's house in Wedgwood, where he had lived since he was 5. As an only child, moving into an apartment with three other young men is a huge step from a quiet home in the suburbs with his parents.

To his friends he's known as a bit of a stickler when it comes to organization. He is someone who hates disorder, and is most comfortable when everything is where it should be. He is not used to having to tell others what to do, and conflict stresses him out. Blake always keeps his space clean and put together. He makes his bed every morning, hangs all his clothes up, and immediately cleans up any spills. His parents recall a time where instead of playing with his toy cars, he would organize them, by color, by type, and would be irate if anyone tampered with them.

In his apartment, Blake has adopted the role of chore delegator and enforcer, much to his roommates' chagrin. He made a chore chart out of a poster board which is pinned above the sink, where everyone can see it as they enter the kitchen, showing what everyone needed to do, by when. Unfortunately, Blake's roommates often neglect their responsibilities, and some roommates (Blake, mostly) end up doing more chores than the others. This is why Blake downloaded Clean the Realm. Although the game and competition features do not resonate strongly with him, he anticipates they will motivate his roommates. Blake chose the monarchy government style, since he felt slightly bitter towards his roommates during the setup process, and frankly, doesn't trust their judgement as to chore completion. Clean the Realm will let him delegate tasks much more efficiently than the chore chart, and the app's built in reminders, enforcement, and incentives alleviate the need for Blake to constantly play the 'Bad Cop'.

Hypothetical Scenarios:

The Forgetful Slob: Balancing chores and life can be difficult

Sabina demonstrates the viewpoint of a busy roommate. Sabina has a lot on her plate, most of which, she prioritizes before her household responsibilities. Sabina is more involved in clubs, and gets better grades than the majority of her 9 housemates, so she feels slightly entitled to less chores than her sorority sisters who spend a good deal of time napping, reading leisurely, and playing games on their phones.

One morning, after an eventful frat party the night before, one of Sabina's sorority sisters approaches her about the state of her chores. She tells Sabina that her large workload is no excuse to unload all of her household responsibilities onto the rest of the house. Her roommates are getting tired of this behavior, so they decided to join Clean the Realm. Sabina's sisters realize that she has a hard time motivating herself to complete tasks not related to her academics or clubs, so they picked an application that specializes in incentives.

Clean the Realm finally provides Sabina the structure, organization, and clear-cut consequences needed to break her rut. She loves that it gives her incentives to do the things she never had the motivation to do. The fact that it is RPG themed aligns with her interests, and is another reason she was glad to join Clean the Realm.

The Exhausted Nagger: Getting all roommates to contribute to weekly chores

Blake demonstrates the viewpoint of a clean roommate, who tends to do more than his share of chores so that the house maintains some living standard. Blake walks into his apartment that he shares with 3 other roommates, and he doesn't like what he sees. He has just returned after a weekend at his grandma's house, and the apartment is a mess. The kitchen stove has had chili spilled all over it, and every countertop is littered with some kind of bread crumb. As he walks into the living room, the sight is no prettier, shoes lying all over the floor, half-drunk beverages on the coffee table. Blake is not happy. But that is not to say he is surprised; he's been trying to get his roommates to keep the house neat ever since they first moved in.

Blake has chided his three roommates several times already this year, but he tells them again that he would appreciate it if they did their work too, to ensure fairness in the household. Blake knows that if he expects them to change, he will have to find a solution himself. After reading reviews of the most popular household chore managers, Blake decides on Clean the Realm, and downloads the app and creates a Realm profile. He represents an administrator for our app. Blake delegates the chores and their incentives, and invites his three roommates. With the game-like nature of the app, and the pizza and beer reward system, Blake's roommates agree to join.

Having an organized chore list at their fingertips, and having beer and pizza at stake, helps Blake's roommates get their chores done in a timely fashion. And if they miss deadlines, Blake doesn't mind as much, because then he gets some good free food for his efforts.

The User Tests

Six Informatics undergraduates from the University of Washington volunteered to serve as testers for our paper prototypes of the Clean the Realm application. These six students were chosen from our peers in Info 360: Design Thinking, and had no familiarity with the design process of Clean the Realm. These two sets of user tests were essential in highlighting fundamental issues with our design.

Testing Script:

For the testing process, one of our group members read the script (printed in full, in the index, behind the bibliography) out loud to the users, who were separated in a quiet section of the computer lab. All users were given the same prototype as the others in their user test set (two weeks apart). The first set received the lower fidelity paper prototypes, the second, a higher fidelity paper prototype. Everyone involved in the testing process was capable of reading, writing, and speaking English as their primary language. Our design team was responsible for administering the user tests and recording user observations.

Our script first welcomed our testers, and introduced the concept of our application. We encouraged our users to inform us of any struggles, questions, thoughts, or concerns. We also explained why we would not answer any questions involving the tasks they were assigned, so as not to interfere with the process or data being collected.

After this, we started our two test scenarios. The first scenario tested the setup process exclusively, because the most time consuming part of our app is the setup process, we wanted to make sure that it was as simple and quick as possible, without losing any functionality. Our script asked our testers to do the following tasks:

- Make realm diplomatic, and delegation randomized
- Use the water sigil for your realm
- Use the purple jellyfish sigil for yourself
- Give all monthly fines to the top performer of that month
- Add clean bathroom and watering plants to realm chores
- Change Laundry to 4 points

The second scenario tested the main part of the application, to see how intuitive our main pages (Home, Records, Calendar, and Ramifications) were. Our script asked the following:

- Where do you stand in points for roommates? (what place, how many points)
- Verify that Ian and Angie have put their fines in the physical house money jar.
- How many times do you need to unload dishwasher this week?
- Verify that Joe's chores he marked as done are complete.
- How many times do you need to unload dishwasher this week?
- Has your standing changed?

Evidence of User Testing & Test Observations:

For this design specification, we will focus on two of our second prototype's testers, Chenan Mao and Jacob Gilmore. The testing process was helpful for uncovering mistakes, or confusion we as designers missed. Most of the issues with our second prototype were related to the setup pages, which we expected, because setting up lists of chores, chore point values, and deadlines takes more functionality than checking that the chore is done.

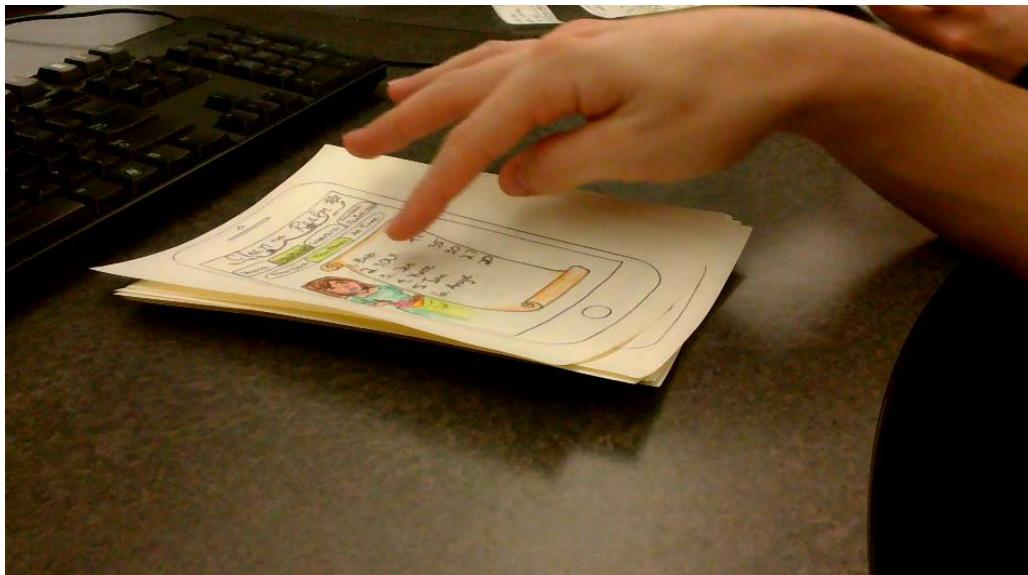


Tester Jacob Gilmore, examining the recently expanded 'Rewards and Penalties' options, during the setup process scenario in a user test.

We decided to make the initial setup process separate from the normal app, because the options can be quite complicated and we wanted to separate that clutter from the regular tabs. The setup pages were still more complicated than they needed to be, and the users did not understand the consequences of some of the choices.

Jacob assumed that the ‘sigil’ (the icon or avatar) the user had to choose for his or her ‘realm’ (the apartment, house, dorm) would be more than just a superficial picture, perhaps some would give bonus attributes, because there were no contextual clues to indicate otherwise.

Our vocabulary may have been a bit too obscure for some users in it’s fantasy, Tolkien-esque theme.



Tester Chenan Mao, ‘clicking’ where he stands in the Leaderboard, durring the main app scenario in a user test.

Most testers encountered a bit of confusion with the gamification elements of our application. The point system was not explained anywhere, and the values seemed arbitrary. Though many users did take note that the more unsavory chores were worth more points than the easier ones. Most confusion on the point system ended after the user encountered the Leaderboard or Rewards & Penalties (now titled Records and Ramifications) pages.

Chennan also questioned our wording for the “set location using wifi map?” option. He thought it would be clearer to drop the “map”. We decided to drop this feature entirely for this release, but in future versions, different households will be able to find other Realms near them so they can compete with each other for the cleanest Realm in the neighborhood.

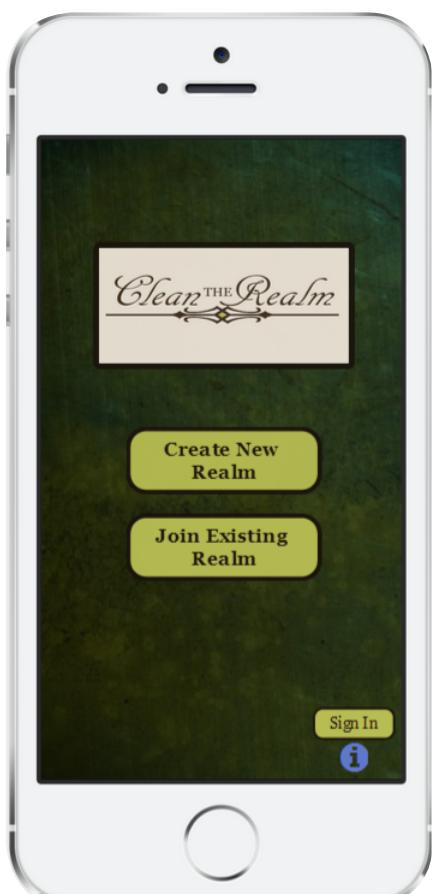
The consistency across the setup pages in the paper prototypes were not always standard. The use of both check boxes, drop-down menus and radio buttons proved confusing and cluttered. Two critics found the placement of the “back” button in the top left corner to be confusing, as we placed the “next” button in the bottom right. We thought this would be convenient since pressing next during the setup is more common than back, and one’s eyes naturally lead to the bottom right, but it struck half of the testers as unintuitive. It goes to show the subjectivity and importance of multiple perspectives in these choices.

The Application Details

Clean the Realm has two distinct parts, the setup process, and the functional main application. While the set-up process is the most complex, we will start with the functional main part because it is the most important, and will be what the users spend most time interacting with.

The functioning part, is comprised of the Home page, where you can easily see what you need to do in relation to others' progress bars, the Leaderboard, which displays the roommate's ranking, the Schedule, where one can easily see what is due for each day of the week, and the Rewards page, where you can see what you have won/been fined for being a top roommate/missing deadlines (all consequences will be defined and agreed upon during setup process).

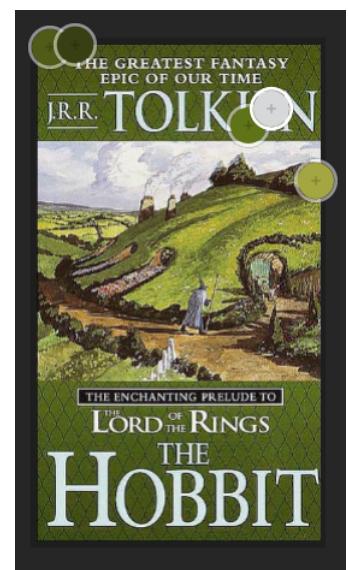
The setup part, is where the person in charge of setting up the system in their household would select all of the settings which they would want, for example if they want Egalitarian or Monarch government style. They also get to choose how the chores are delegated, what rewards and penalties there are, and invite the rest of the roommates via email address. Once they have completed the setup the first user will be guided to the main part of the application



After finding a cover of Tolkien's The Hobbit that fit the fun, earthy, adventurous tones we were looking for, we uploaded it to Adobe Color CC, and came up with the color pallet seen above and to the right.

We used these very colors to create a beautiful logo and user interface, that is pleasing to the eye, and directly inspired by our theme.

Our Welcome page, to the left, is a great example of this color scheme.



Home Page:

Decision: Use a tab bar for navigating through each page

Rationale: Each tab has important functions, so all tabs need to be accessible from which ever tab the user is currently on. Since we only have four tabs, each with a short title, the tab bar proved to be an easy, intuitive solution.

Decision: Use a toggle button for switching between day and week

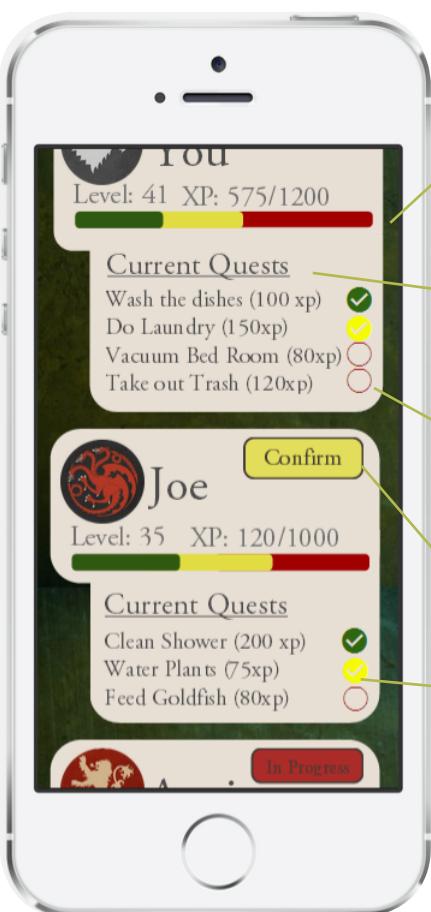
Rationale: We decided on a toggle button because we wanted to take up minimal vertical space, and the toggle button looks good with the tab bar. This is also conventional for other products (choosing between popular artists of the week or month), and we use this convention for the rest of the app.

Decision: Users having sigils as well as name

Rationale: Sigil, an inscribed or painted symbol considered to have magical power, a seal (Sigil). We decided to have sigils instead of avatars or icons, to fit with our fantasy theme. Let's user personalize Clean the Realm with various animals, or fantasy creatures. Allows for quick recognition on Home and Records pages.

Decision: Users have levels and XP

Rationale: Users need a system to be ranked by, to see who will win rewards, but they also need that system to be scaleable, so that people who complete their chores every week are acknowledged for their work. We decided that they would get XP from each chore they complete (after it is confirmed) and with enough XP, they get to level up. Levels will impact standing on the scoreboard located in Records and give you more XP for each chore that you do (but only slightly). The "XP: 575/1200" here means that this user has only earned 575 XP so far this week, of the 1200 XP worth of points that they were assigned.



Decision: Progress bars to show amount of chores done

Rationale: One of our favorite aspects of to do lists is seeing all of the list items that are checked off, which is why we chose to use a progress bar to give a visual representation of points earned, and left to earn. This is one of the many gameifications we used to make tracking chores more fun. Green means done and approved by another roommate, yellow is done and waiting approval, and red is in progress. It fills left to right because western culture reads left to right.

Decision: Current Quest Lists, always displayed for user's box

Rationale: We decided to call chores quests instead of chores, to make them more fun, and because the Home page serves as the to do list, so the user's box is at the top, and their quest bar is always expanded so they never have to click on it to see what they have left to do, what is waiting approval, and what is done.

Decision: Checklists, user can only check off their undone chores

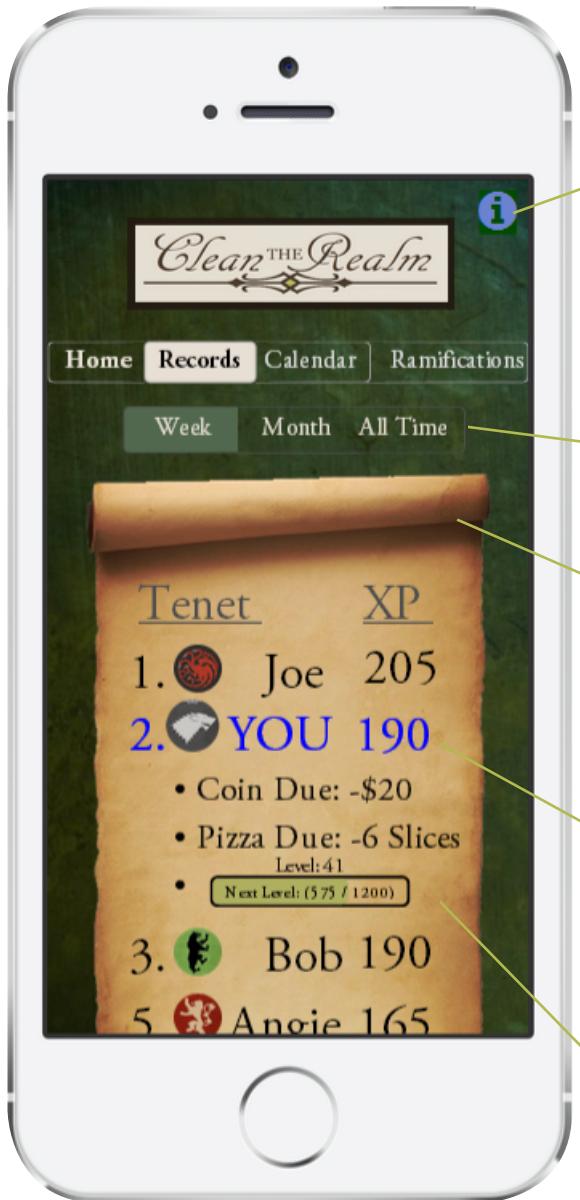
Rationale: Users are not allowed to confirm their own chores, just say that they are complete. to avoid cheating. To check done, all the user has to do is click either the chore name, or the red circle next to it.

Decision: Confirming User's Chores, big button showing attention is needed

Rationale: If one user is dependant on another user's action, that action should be clear, so we put a huge confirm button on Joe's box (shown expanded, but quests would be collapsed) to say that it needs attention. To confirm it, user clicks anywhere in Joe's area, to expand quests, then would click the yellow checked circle, or chore name, "Water Plants" in this case.

Records Page:

The records page serves as a typical leaderboard or score board, that also shows other important information. Here, the user can see how much money, pizza, and beer they (or anyone else) owes. Users can also see how close they are to reaching the next level.



Decision: Place blue information button at the top right of screen

Rationale: Blue is a common color for information buttons, this blue matches the blue in our color pallet. Information and settings buttons are commonly found in upper corners, and since the left corner was taken in the setup process (we will get there soon) the info button was placed in the right there, so we decided to keep its placement consistent throughout the application.

Decision: Show records of week, month, and all time

Rationale: Depending on whether you set up your realm to give rewards & penalties every week or month, users should have access to both. Users could be interested in seeing who is the cleanliest roommate of any of these timeframes, so we give them access to that information.

Decision: Background for records is a scroll

Rationale: To stick to the fantasy theme, we decided to use scrolls as backgrounds for both the Records page and the Ramifications page. It fits the color pallet, and adds to the adventurous, fun nature of our application, as well as give a light background the user can read off of easily.

Decision: Sigils and YOU mark where you are

Rationale: In the unlikely event that two people have the same name in your household, we decided that it would be most important that they easily see where they stand, so instead of the user's name, it says 'YOU', and shows the sigil. For everyone else, the sigils alone would differentiate names. But we made the user's name bright blue, and all caps lock, so that it is always visible. Users are ranked here by their XP, the number to the right of their name, for the week/month/all time indicated by toggle above.

Decision: Expandable information

Rationale: This is what the scroll looks like with the user's 'YOU' clicked on and expanded. Originally, it would just be the list with the extra information collapsed. We decided to make the list clean when you first look at the page, to resemble a conventional leaderboard, and only when you click on anyone's name do you see their information. This information shown will include what they have won, what they have due, what level they are progressing on, and how many more XP until they reach the next level. The bright blue capslock 'YOU' indicates that it can, and should, be clicked on, so the user can see their information.

Calendar Page:

The calendar page gives a quick visual display of what chores are due which days. The user can toggle between week and month, which will show a week calendar, and a month calendar, with the dates or month shown above to the left. When the user clicks on a certain day, that day's quests will pop out, below the calendar, with the point value for that quest. Each icon represents a quest.



Decision: Show week or month calendar

Rationale: We imagine our users will typically be looking at the week calendar because of its clarity, but we decided to give them the option of having a month calendar, even on a small screen, so that they can see how busy their month is, and plan accordingly.

Decision: Show date range for week setting

Rationale: One of our testers from user testing recommended we add this element. We decided to do so, so that the user would know what week he is looking at in case it did not match up with the current week, which it normally does on default. This way, when you swipe between weeks, it is clear which week it is.

Decision: Week calendar layout

Rationale: Calendar apps are always a bit tricky on phones, since there is so little space for so much information that needs to be spread out. We decided to make long columns for the week days because users would not get that orientation confused when switching between week and month views.

Decision: Using icons for calendar

Rationale: Making use of the small calendar space takes creativity. Instead of using text, as we have throughout this application, we decided to use icons because they fit into the small places much better, and when you space them correctly in this grid pattern, it is even easier to tell when you need to do what.



Decision: Show Month

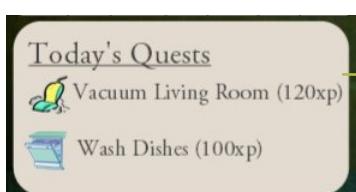
Rationale: It is convention in all calendars to have the month at the top left of the month grid.

Decision: Showing icons and month layout

Rationale: Our month grid is very squished, but that is the only way that it would fit. To combat this, our icons became smaller, and on the days with more than two chores (not shown here) the day would have the number of chores on it.

Decision: Pop up quest box

Rationale: We decided to have an expanded quest box below the calendar when the user clicks on a day or chore, in either week or month calendar, because there was more information we wanted to provide. We provided a larger icon, so they can recognise it and its colors easier. We provided the name of the quest, because sometimes the icons are unclear, especially the dishwasher- it looks similar to a washing machine. And we provided the amount of XP the quest is worth, to keep the users incentivised by our point system.



Ramification Page:



Here on the Ramifications page, we can see what rewards are up for offer, and what penalties to watch out for. This acts as a rule book for your realm, to help you identify what you owe or get when something happens. We assume that the household will enforce all payments.

Decision: Rewards Penalties Toggle Button

Rationale: Previously we had rewards and penalties on the same page, but the longer they both became, the more inconvenient the page became, so we decided to split them into two, and let users toggle between them. We used a toggle button here because it is a similar concept to toggling between two time frames, and because all the other pages have a toggle button, it would seem odd to put another form of navigation there.

Decision: Grid columns, use of money and pizza

Rationale: XP comes first, because no matter what your Realm decides to use, ramifications wise, the game always operates on XP. Money comes second because it is the more costly of the add-on options. We decided to do monetary incentives because losing and winning money motivates people to do chores in a way that XP could never do. Pizza comes last because it is less costly than money. We chose pizza because even though it is less expensive than money, winning free food tastes more like victory than winning the same amount of money that pizza would cost; it is more of a positive, playful incentive than money, and we liked that.

Decision: Grid Rows

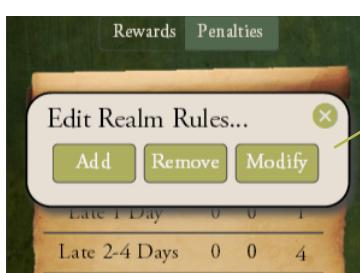
Rationale: We decided to have varying degrees of lateness because things come up and people have to adjust to them at a drop of a hat, and being a day late should not be counted the same as a week late. The default settings shows that we value paying your fines more than being late by the XP loss. Back up on rewards, we give extra points to being done on time, and streaks because we want to encourage positive behavior more than punish bad behavior, although we acknowledge the need to use both.

Decision: Edit capabilities

Rationale: This edit button is locked now because the user is not an admin. This comes from the governing style (which we will expand on in setup), which must be monarchy, where only certain administrators have the responsibility of editing the ramifications board. The other option is an egalitarian style, where everyone has editing capabilities. This button is fairly large because other than looking at rewards and penalties, adding another rule or editing the existing ones are the only things to be done on this page. When you press it, the following pops up:

Decision: Editing process

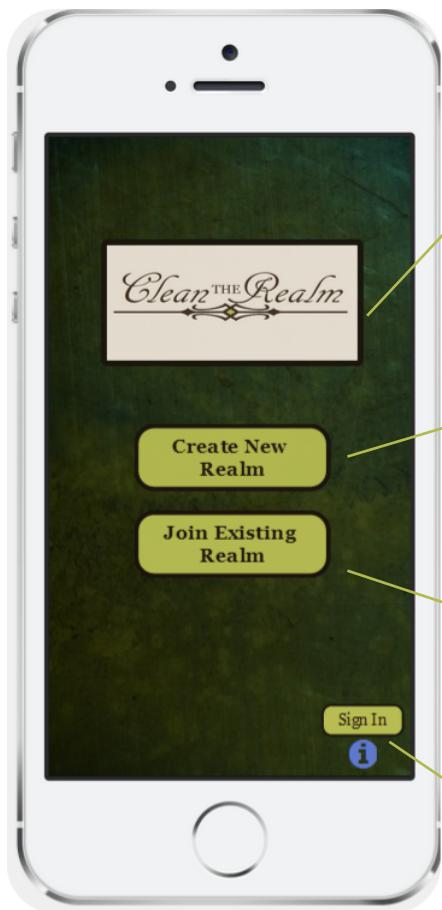
Rationale: Here the user can add a new rule, where a new line is added to the chart and the user would then enter the reason, XP gain or loss, money gain or loss, and pizza gain or loss, then hit enter (the walkthrough is shown in the video). The user can also remove or edit existing rules. When done, they hit the X button, which as convention symbolizes, will exit the editing process.



Welcome Page:

Upon opening Clean the Realm for the first time, the user will be taken to this page. If a previous user gets a new phone, factory resets their phone, or simply logs out of Clean the Realm, this is also the page they will see next time they open the application.

Because this is the introduction page for Clean the Realm, we wanted it to introduce our theme clearly (see page 10) as well as give clear paths for everyone's needs.



Decision: Logo and App Name

Rationale: We decided on Clean the Realm because it shows the app is about cleaning, a realm, meaning 'a kingdom, land, dominion' (Realm) which we then stretch to dormitory room, apartment, and house, using creative license. Clean the Realm simply sounds cooler than Clean your house. The name together is simple, memorable, and tells exactly what our app is about, but we needed the logo to show our fantasy game feel. We brought in our color scheme and added a Tolkien-esque underline, and the end product looks good with our app or by itself.

Decision: Create New Realm button

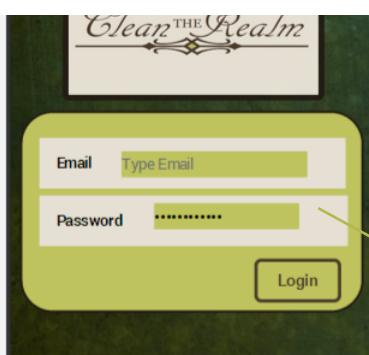
Rationale: We decided to have this button first so that the first person who joins Clean the Realm is drawn to it, because they must create their realm first. This color is bright and friendly, accented with the warm dark brown text and outlining, both colors are featured in the logo to create a cohesive nature to the page.

Decision: Join Existing Realm

Rationale: We decided to have this button second because the subsequent (not the first users) would have been told about the app by the founding roommate, or invited via email by founding roommate. (See page 20)

Decision: Sign In & Info button

Rationale: In case of app re-installation/new phone/other, there needed to be a sign in on first page. Did not need to be emphasized as much as creation buttons for new users, since this is only in rare circumstances. The information button will have a basic summary of our app's purpose and functions' information. This is for people who are not sure of what they are getting themselves into and need reminding. They downloaded the app, and maybe forgot what it was for, before signing in. This is at the bottom because we wanted it next to the only other small button on this page so that the green background would not be broken up more than necessary.

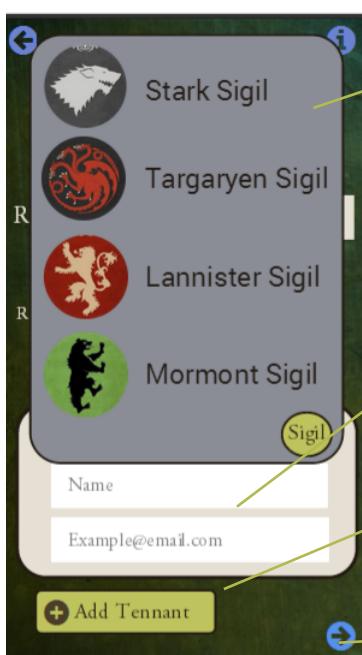
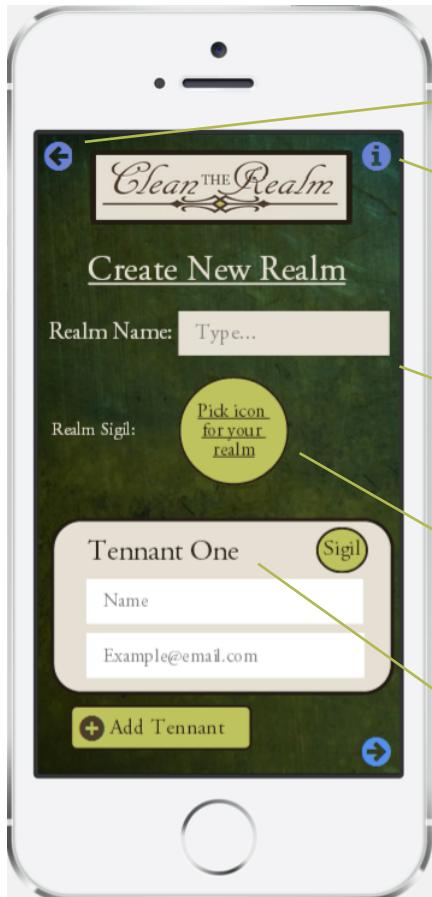


Decision: Pop up Log In Button

Rationale: We decided to have the Log In pop up from the sign in button so that it wouldn't take up unnecessary space on the welcome page. There is no password retrieval because signing in only occurs once in a while, and we did not have time to build in that functionality for this release.

Create Realm Page:

The create new realm page is where you name your realm (your apartment, dorm room, house), and pick out a sigil for it (remember that sigil means symbol), and invite your roommates via email.



Decision: Back Button

Rationale: This takes you back to the “Welcome” page. We put this at the top so that it reads like a book, and mistakenly hitting ‘Create New Realm’ can easily be reversed.

Decision: Info button

Rationale: Gives information for each information thing on this page. Walks user through what they need to do for each item, what things will be used for, and reassures them that we will not steal their identity/email. This is a conventional place for an info button.

Decision: Realm Name

Rationale: People should name their Realm so when inviting other users via email, it gives them some idea that it is not a scam email. Also users should always name their creations.

Decision: Realm Sigil

Rationale: For setting common Realm Theme to create visual continuity between all tenants' sigils. All Tolkien-esque, Game-of-Throne-esque, Hogwarts-esque, etc.

Decision: Tenant One & Sigil

Rationale: This is the person setting up the realm. They enter name for inner-realm identification, email for registration, and personal sigil, which will be relevant to the Realm's sigil.

Decision: Sigil Picking

Rationale: The “pick icon” will expand when one clicks the small sigil button right of Tenant One. It will give you a choice of pictures aligning with your House Sigil, to differentiate you from your housemates. This Sigil theme is Game of Thrones.

Decision: Tenant one Name & Email

Rationale: Name is what the user will be titled on all their information for their roommates' applications (user is called “you” on their own). Email is how they will confirm account, sign in, and be contacted if any major changes occur to the application.

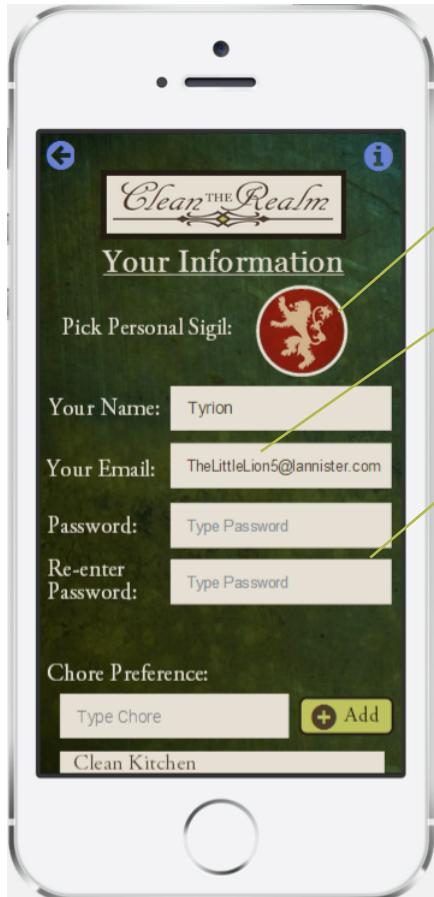
Decision: Add Tenant

Rationale: To add more roommates, you give name and email address, then hit invite. This app will then send them an email, asking them to join, with a link which will jump them straight to the “Join Existing Realm” page and where their name, email, and Realm ID# are already filled in.

Decision: Next

Rationale: Goes to Your Information, is at bottom because of convention.

Your Information:



Decision: Personal sigil again

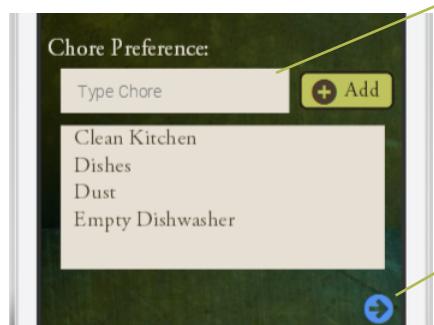
Rationale: This is the sigil picked from previous page. This is the user's last chance at changing it, so we wanted to give them another chance to do so.

Decision: Name and Email again

Rationale: Auto filled from previous (either Join Existing or Create Realm) page. This is here so users can double check correctness.

Decision: Passwords

Rationale: Password Entry for signing in again (though you will be kept signed in, so shouldn't happen often). Doubled so that they can check correctness.



Decision: Chore Preferences

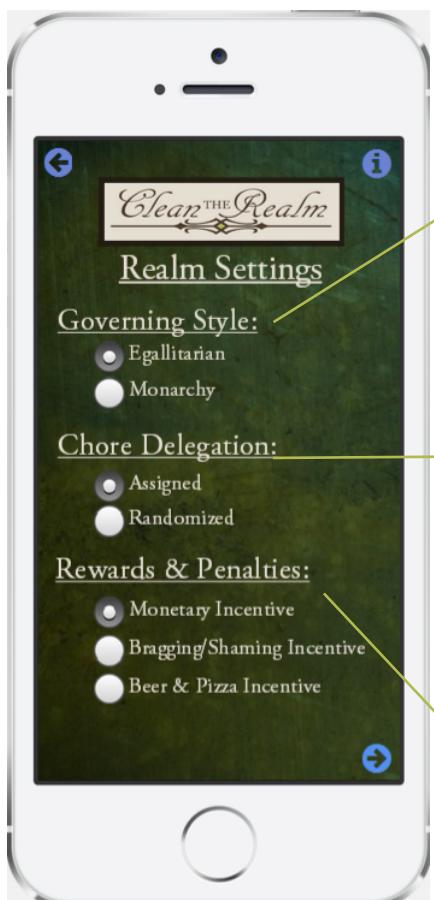
Rationale: Chores will be automatically be assigned randomly, with everyone receiving roughly the same amount of chore points (describes difficulty/disgustiness of chore) a week.

Entering user's chore preference would let them alter the assignments slightly so the person who hates dishes, but is okay cleaning the shower can puts that information into the sorting algorithm. The result is that they would be assigned to clean the shower more, and wash dishes less.

Decision: Done Button

Rationale: If you are creating a new realm, you will now go to Realm settings. If you are joining an existing realm, see page 21.

Realm Settings Page:



Decision: Governing Styles

Rationale: We decided to give users the choice of everyone having power or select people having power, to give users flexibility.

Egalitarian: Everyone has administrative privileges and responsibilities. Everyone can edit chores and confirm other roommates' chores as complete

Monarchy: Founder of the Realm is only administrator. This can be edited and given to someone else, or switched to Egalitarian at later time.

Decision: Chore Delegation

Rationale: C

Assigned: Chores are stagnant unless re-assigned. This would take a lot of work on administrator's part.

Randomized: Chores are shuffled every week (weighted to preferences given on previous page) so that everyone has roughly equal workloads. Work per chore will be assigned on the next page.

Decision: Rewards & Penalties

Rationale: Users can choose between **monetary incentives**: placing a dollar in a jar for every missed chore deadline, and the highest scoring roommate at the end of the month or week, gets whatever is in the jar.

Cyber praise/shaming incentive: top of the leaderboard gives you bragging rights messages among your 'realm' or household, missed deadlines inform roommates of your failure.

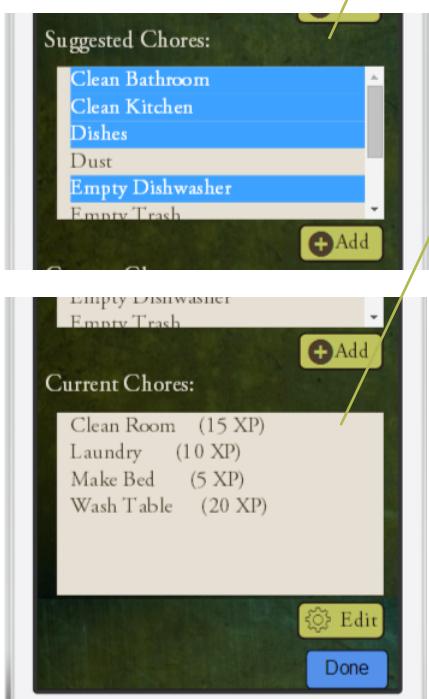
Or the college favorite- the beer and pizza incentive: where those who missed deadlines pitch in to buy beer and pizza for the winner of the house. Users can also create their own reward and penalty incentive scheme.

Chore Settings Page:



Decision: Add Chore

Rationale: Auto fills to common chores (or you can type your own) and press enter/done on touch keyboard, or add, to add that chore to current chores list. We wanted this to be as quick and easy as possible for users.



Decision: Suggested Chores

Rationale: Lists common chores that people frequently add on our app. You can scroll with scroll bar, and clicking on it highlights the chore, and pressing add at the bottom adds all highlighted chores.

Decision: Current Chores

Rationale: This is where all the added chores are listed. You can click on the edit box to edit details, or delete chores. The details are the points, the harder or more disgusting the chore, the higher the points, so users will be incentivised to do even the least appealing chore because it earns them points, which is how they will earn money and pizza. Users can also add the frequency it must be done, and a description of the chore (like how much to feed the fish, for example).

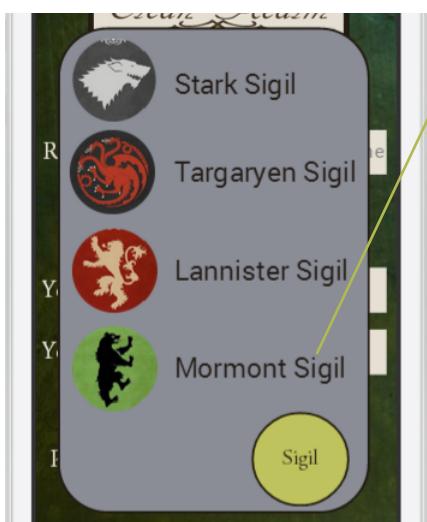
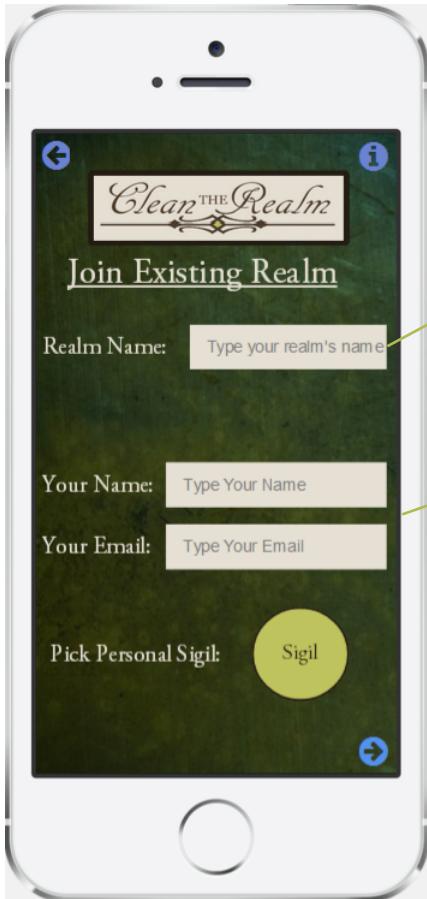


Decision: Congratulations!

Rationale: This pop up message will appear once user hits done button at the bottom. It congratulates users because the setup process is the most tedious part of the whole application and we want to let them know that we appreciate them sticking with it this long.

Join Existing Realm Page:

If joining an existing Realm, this is where you are directed (instead of creating a new Realm).



Decision: Realm Name

Rationale: Each House has a Name, so that you can connect with your group's correct house. Joining from Email invite would have this auto filled for you.

Decision: Name & Email

Rationale: Name is what they will be titled on all their information for their roommates applications (user is called "you" on their own). Email is how they will confirm account, sign in, and be contacted by if any major changes occur to the application.

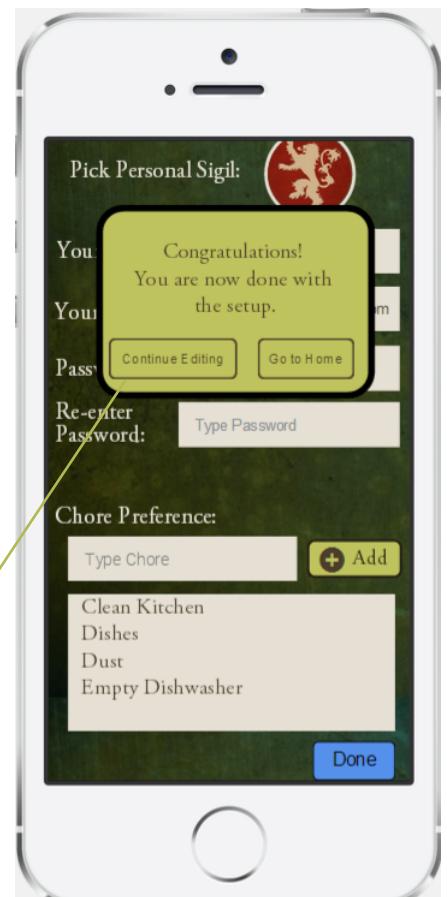
Joining from Email invite would have this auto filled for you as well.

Decision: Sigils and Info page

Rationale: The sigils are the same as the founding users, just on the joining existing page.

Once they pick a sigil and have everything filled out, users click next, and are taken to the Your Information page.

This is almost the same as the info page for founding users, but it has a done button at the end.



Decision: Congratulations!

Rationale: This pop up message will appear once user hits done button at the bottom. It congratulates users so they know they did everything correct.

The Impact & Significance

Clean the Realm introduces a fun, competitive aspect to the daily chore grind, encouraging roommates to do their share of the cleaning.

Because chores are the number one cause of tension between roommates (CBS), Clean the Realm has the ability to save friendships, keep everyone sane, cause parents to worry less about their young adult's well-being, and instill positive cleaning habits into those without them (Plante).

As mentioned in our problem statement, chores can have a negative impact on your brain and academic work, which is the last thing college students need.

Right now, Clean the Realm is targeted towards college roommates, but with a few minor adjustments, parents could use the app to incentivise children to do their chores. A few more adjustments and it could move into any sort of group work- student group projects, workout groups, business project groups, event planning groups, etc. There are many opportunities we could take from this point, and we are very excited to have introduced you to, Clean the Realm, and hope you too can agree that it would indeed "make chores less terrible".

The Limitations & Tradeoffs

As we narrowed down the scope of our project, we had to cut out lots of ideas, and limit its functionality.

One of the big limitations we ran into was the screen size, especially dealing with the calendar and setup pages where the bigger screens would be more helpful. We stayed with mobile devices despite this because they were handier to keep around.

One tradeoff we made in the design process was to limit our time in high fidelity prototyping but gain more time solidifying a plan in paper prototyping. This was a good decision because we were happy with the ideas before turning them into graphics on JustInMind.

All in all, our app kept its basic form from start to finish, compared to other designs.

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The Appendix

Test Protocol Script:

"First off, welcome, and thank you for participating as a representative user in this testing process. This whole interaction should take no more than 20 minutes of your time.

Today we are testing our recently prototyped design for a chore delegation system, primarily targeted at young adults living with multiple roommates. We have structured it as an RPG system, to help motivate people to do tasks they would normally be unincentivised to do.

Considering that this is an early round of prototyping, please excuse the low fidelity models! This also means that some of our ideas may be rough around the edges, which is why we need you! If anything negative occurs, please be assured that it is NOT your fault, and we WANT to know about it, to improve the design as quickly as possible.

Our Chore Delegation System today is modeled as a phone app. This app is expected to be used as a supplement to your usual daily routine, as it acts like a to do list (but way cooler). It can remind you throughout the day what chores you need to complete, and lets you easily collaborate with housemates to make sure everything gets done on time.

During your time with this application, you are more than welcome to voice your thoughts, questions, or concerns. I will not be able to say anything involving this task at hand, as to not interfere with the process, but your instantaneous feedback is valued. After your time with the application, we will have the opportunity to discuss any of your concerns or thoughts, as well as go over some questions about your experience with our prototype.

Any questions before we begin?.... Perfect, here is our Chore Delegation System, let's start!

In today's first scenario, you are to set up a profile for you and your two roommates:

Make realm diplomatic, and delegation randomized

Use the water sigil for your realm

Use the purple jellyfish sigil for yourself

Give all monthly fines to the top performer of that month

Add clean bathroom and watering plants to realm chores

Change Laundry to 4 points

In today's second scenario, you are to use the application for day to day activities:

Where do you stand in points for roommates? (what place, how many points)

Verify that Ian and Angie have put their fines in the physical house money jar.

How many times do you need to unload dishwasher this week?

Verify that Joe's chores he marked as done are complete.

Has your standing changed?

This concludes our user test. Do you have any questions?"