NEAT
A solution for every home
TEAM

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MEET DAVE
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28 Year Old
Surgery Resident
Working 10 to 16 hour shifts
“It’s really hard to keep the house clean and organized when I don’t have much time.”
55% of Americans point to an unclean home as a source of stress\(^1\)

\(^1\) - http://www.huffingtonpost.com/2013/05/22/home-organization-stress-survey_n_3308575.html
An unclean environment has negative health outcomes
Where do we begin?
Semi-structured Interview

4 Students & Professionals

Conducted In-Context
What did we find out?
Cleaning is frustrating
Cleaning has internal and external **triggers**, and it is **not a priority**
People tend to clean in bursts, and they only clean what they own.
How can we help out?
Identify Tasks
Glance at the overall cleanliness of the house

Access cleaning history for every room
Prevent a messy home when receiving visitors

Promote cleaning activities during idle times
Suggest cleaning activities

Identify general maintenance tasks
Design 1

- **Diagram Description**:
  - **Dashboard**:
    - Main dashboard with the overview of the house's cleaning status.
  - **Notification Panel**:
    - Shows when visitors are coming and hidden maintenance tasks to be done around the house.
  - **Indicators**:
    - Indicator of the cleaning status of a room.

- **Key Features**:
  - Tap to select a room.
  - Data bar based on when you last cleaned this room.
  - Example of hidden maintenance thing in bathroom.
  - Additional features for adding notes and historical data on this room.

- **Task Management**:
  - After swiping one of the small tasks like cleaning the tub to indicate it was completed, a pop-up appears to confirm how long it took.
Design 2

- Smartphone app to make sense of your data main screen.
- Hidden main screen log.
- House information status.
- Settings.
- Wearable to pass data input. Voice activated.
  Ex: Cleaning bathroom slate.

If tapped on: USE ENTER TIME THEY HAVE AVAILABLE.

SUGGESTIONS:

- Use items they have available.
- Use items they have available.
- Use items they have available.
- Use items they have available.

FUTURE VISITORS:

- May Have a friend over.
- May Have a family visit.
- May Have a special event.
- May Have a reunion.

HIDE TASKS:

- Change air filter.
  - If tapped a filter.
  - Change air filter.
  - Time to change.
  - Scheduled: May 2.

- Show the hidden tasks and when they should be performed.
- The app alerts.
- Generates reminders for these tasks.
- If need to add a hidden task pop up here.

- House info:
  - Clean shower days ago.
  - Clean floors days ago.
  - Clean toilet days ago.
  - Wash clothes days ago.
  - Clean windows days ago.

- Showing you the cleaning history and how many days ago since you did X.
Design 3

- Notification appears when the design recognizes the user needs to clean a particular item.
- Dragging allows the user to set aside time specifically for cleaning.
- ○ represents a touch.
- ○ → ○ represents a dry.
- Tapping on suggested times allows the user to initiate a cleaning specific time period.
None were really quite there
Use what already gets people to clean
Internal and External Triggers
Design 4.3
Smart house concept

1. Use existing personal data
   Parse through the user’s emails and text messages to identify internal and external triggers

2. Collect cleaning metrics
   Use wearable devices to collect cleaning metrics: time on task, frequency and task name

How to obtain the data

Voice recognition commands
“Start cleaning toilet”
Glance at the overall cleanliness of the house
<table>
<thead>
<tr>
<th>Days Ago</th>
<th>Task</th>
<th>Time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Change bedsheets</td>
<td>10 min</td>
<td>basic</td>
</tr>
<tr>
<td>8</td>
<td>Dust furniture</td>
<td>10 min</td>
<td>basic</td>
</tr>
<tr>
<td>8</td>
<td>Clean floor</td>
<td>15 min</td>
<td>basic</td>
</tr>
<tr>
<td>7</td>
<td>Dust floor</td>
<td>10 min</td>
<td>basic</td>
</tr>
<tr>
<td>13</td>
<td>Hang all clothes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Clean windows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Organize cleaning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bedroom 1

- 2 days until required cleaning
- Total time: 45 min
- Cleanlife: 10 days
- 4 basic tasks (must do)
Prevent a messy home when receiving visitors

<table>
<thead>
<tr>
<th>Day</th>
<th>Task</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>Clean bath sink</td>
<td>10-11</td>
</tr>
<tr>
<td>Tomorrow</td>
<td>Clean toilet</td>
<td>15-11</td>
</tr>
<tr>
<td>Tomorrow</td>
<td>Swipe floors living room</td>
<td>10-11</td>
</tr>
<tr>
<td>Tomorrow</td>
<td>Clean kitchen counter</td>
<td>10-11</td>
</tr>
<tr>
<td>Friday</td>
<td>Change sheets</td>
<td>5-11</td>
</tr>
</tbody>
</table>

*Mom is arriving in 4 days. Have the house ready.
To do: 6 tasks
Total time: 60 min*
Promote cleaning activities during idle times.
<table>
<thead>
<tr>
<th>Task</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dust the floor</td>
<td>15&quot;</td>
</tr>
<tr>
<td>Clean the toilet</td>
<td>15&quot;</td>
</tr>
<tr>
<td>Clean the mirrors</td>
<td>10&quot;</td>
</tr>
<tr>
<td>Change towels</td>
<td>5&quot;</td>
</tr>
<tr>
<td>Wipe counters</td>
<td>10&quot;</td>
</tr>
</tbody>
</table>

How much time do you have?

- 15"
- 30"
- 45"
- 60"
<table>
<thead>
<tr>
<th>Maintenance Tasks</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoke detector batteries</td>
<td>2 or 3 home fire deaths result from fires in homes with no smoke alarm.</td>
</tr>
<tr>
<td>Air conditioner filter</td>
<td>Last maintenance date: January 1st 2015</td>
</tr>
<tr>
<td>Inspect roof</td>
<td>Next maintenance date: October 1st 2015</td>
</tr>
</tbody>
</table>
Storyboard 1: Suggesting cleaning tasks based on available time
Storyboard 2: Using external triggers to encourage cleaning

Jane has been watching TV for the last 2 hours.

Hello Jane! How many days you have until the moving in 2 days?

Tasks to do:
- Kitchen
- Clean counter, wipe fridge
- Clean floor
- Hanging area
- Visit the floor

Now Jane is ready to receive mom!
What have we learned?
You have to explore bad designs to get a good design
Always keep the user needs in mind
No idea is a crazy idea
QUESTIONS?

NEAT

A solution for every home

QUESTIONS?