San Jose Smarter Cities Challenge

Agenda

- Welcome
- The challenge
- Our approach
- Key findings
- Overview of recommendations
- Recommendations
- Conclusion
- Thank you
IBM Smarter Cities Challenge

- Pro-bono consulting grant projects to advise cities on potential benefits of technology to assist with the challenges of urban growth.

San Jose Team Mission

- To advise on Rent Registry implementation & integration, with consideration of the needs and challenges for all users and stakeholders.
- Recommend a framework for a centralized system to search and apply for affordable housing.

CONTEXT

Our approach

- Seven team members
- Two Design Thinking Workshops; over 40 participants
- 43 interviews
- 88 thousand apartments (triplex and above)
- 1.025 million residents

Multiple, disparate data sources. Including: text, structural, social, open source
Important findings shape the team’s recommendations:

- Communications breakdown and misunderstandings with housing providers and tenants about new policy changes.
- Rent Registry scope and details are very contentious across multiple housing provider groups.
- Data privacy concerns about exposing owner and tenant information.
- Need for centralization, integration and automation to increase adoption across the board.
- Increase in administrative burden for owners due to lack of standards and automation.
- Lessons learned from Dahlia useful for successful Affordable Housing system implementation.
- Registry is a solution that requires ongoing user-centric improvements roadmap for adoption.
- Cost of development could be reduced by collaboration with SJSU as well as other technology innovators in the area.

RECOMMENDATIONS

Overview of recommendations

- Smarter Data Management
  Better insights, advanced analytics, modeling/simulations

- Housing Portal
  One consolidated portal
  Foundational housing data

- System solution
  V1: Rent Registry / ARO information
  Controlled view/ add access (user-ID/profiles)
  Additional use-value beyond compliance

- V2: Affordable Housing
  Search
  Application process

Critical enablers

- Data Quality, Privacy and Security
- Improved Housing Communication Plan
- User Centric Design to reduce friction and add value to all stakeholders
The Journey

To understand each other, as representatives of citizens, and stakeholders in the City of San Jose

To explore the opportunities that will create a real impact within the Rental and Affordable Housing communities

To develop innovative ideas that can be taken into future roadmaps

Solving complex problems requires us to work together across differences.
Human-centered outcomes require empathy for the people you serve.

Principles

See problems and solutions from a new point of view

A focus on user outcomes
When you use Design Thinking, put your users' needs first.

Multidisciplinary teams
Collaborate across disciplines to move faster and work smarter.

Restless reinvention
Everything is a prototype. Listen, learn, and course-correct.
The Problem Statements

Workshop 1 - “How might we design a continuously evolving rent registry that benefits tenants, landlords and the city (without breaching privacy)?”

Workshop 2 - “How might we solution a single ‘search and application’ process for affordable housing?”

The Personas

Personas: Landlord in the middle

Personas: Tenant

Personas: City Housing Diplomat (also Budget program manager)

Personas: Landlord in the middle

San Jose, CA USA
Four Brainstorming topics (Workshop 1):
1. Communications, Education & Adoption
2. Data Entry and Sources – In & Out, including reporting
3. Private & Public Data
4. Rent Registry 2019 (Consider who are the Users, potential Phases and Other uses for the registry)

And Finally - Voting

Heat Map – Data Entry & Sources Vote

Heat Map – Communications & Education Vote

Heat Map – Rent Registry 2019 Vote

Heat Map – Private vs. Public Date Vote

San Jose, CA, USA
Findings from the Design Thinking workshops

- User Centred Design
- Communication
- Education

Simplicity

Data Questions & Transparency

Expansion into Housing Portal

Pre vs. Post Design Thinking Concepts

Pre-Design Thinking Concept Cloud

Post-Design Thinking Concept Cloud

- Alternative: How about a self-compliant survey?
- A lot of folks don't have English as their first language
- 2008 rents went down to 199's level, e.g., for a studio - $580
- Owners dislike paperwork and logistics involved in Section 8
- Owners dislike one tenant able to see other tenants' rent
- Owners dislike City's lack of empathy in small owner's the tenant
- Large Property Owners - 150 units and 200+ units

Rental Registry recommendations:

- To Owners

<table>
<thead>
<tr>
<th>Background</th>
<th>Task</th>
<th>Owner's role</th>
<th>Owner's dislike</th>
</tr>
</thead>
<tbody>
<tr>
<td>The difference is - 9000</td>
<td>Likes</td>
<td># of occupants, etc.</td>
<td>Rent Registry</td>
</tr>
<tr>
<td>- Police calls</td>
<td>- Expense</td>
<td>- Income</td>
<td></td>
</tr>
<tr>
<td>- Fire calls</td>
<td>- Libraries</td>
<td>- Rent Registry</td>
<td></td>
</tr>
<tr>
<td>- Community Benefit</td>
<td>- Mobile?</td>
<td>- Parking</td>
<td></td>
</tr>
<tr>
<td>- Private</td>
<td>- Mobile?</td>
<td>- Parking</td>
<td></td>
</tr>
</tbody>
</table>

- Police calls
- Following rules
- Discretionary spending
- Damage recovery / suits
- Eviction
- Code Enforcement
- Cable bills
- # of occupants, etc.
- Expense
- Income
- Community Benefit
- Mobile?
- Parking
- Libraries
- Rent Registry
- Rent
- Info needed for Rent Registry

- Don't have a lobby and don't have a union
- Tenants (tenants are right, right?)
- Owners want to see the blurb
- Owners want insights on good vs bad tenants
- Owners want 5% instead of low CPI level
- Don't have a lobby and don't have a union
San Jose, CA, USA

Affordable Housing Community Engagement

Juanita needs help finding a low income housing apartment.

When Juanita is visiting the local library with her children, she sees a City of San Jose Housing Information kiosk.

Amy is the volunteer at the kiosk and helps Juanita understand how to use the City of San Jose’s housing site (in Spanish), to find and apply for low income housing.

Amy also offers Juanita a time tomorrow to come back to get help with the application, and explains the concept of a waitlist.

The next day Juanita returns to the Library to meet with Amy again and they find two apartments for Juanita to apply for, using just one application form.

While she waits to hear about the Apartment waitlist, Juanita uses Facebook to track waitlist progress. She will be alerted via Facebook messenger when she has been accepted to the next round.
Overview of recommendations

RECOMMENDATION: COMMUNICATIONS PLAN

Successful approach relies upon 3 key Pillars

- Messaging
- Communications Platform
- Community Campaign

Data Quality, Privacy and Security

Improved Housing Communication Plan

User-Centric Design to reduce friction and add value to all stakeholders

San Jose, CA, USA
RECOMMENDATION 2 - COMMUNICATIONS PLAN

Example of a Process: Tenant Petition 1

<table>
<thead>
<tr>
<th>Tenant Petitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improper Rent Increase</td>
</tr>
<tr>
<td>Improper Pass-Through</td>
</tr>
<tr>
<td>Improper Fee Charges</td>
</tr>
<tr>
<td>Other ARD violations</td>
</tr>
</tbody>
</table>

Petition filed with Rent & Refund Rights Program, including complete supporting documentation

Landlord has 30 days to file a response after receipt of notice from Program staff that a petition has been filed

Petition Examiner asks Program Staff to schedule a hearing

Petition Examiner issues Administrative Decision within 20 days after deadline for submission of a response

Parties submits comments to the Administrative Decision within 10 days after the Decision is mailed to them

Either party can appeal the Administrative Decision to the Director of Housing within 30 days after receipt of notice from Program Staff

No appeal submitted

Administrative Decision becomes final

Director affirms the Administrative Decision

Director remands the Administrative Decision to Petition Examiner

Petition Examiner issues Reconsidered Decision

Reconsidered Decision becomes final

Communications Roadmap

Timeline | Horizon 1 (3-6 months) | Horizon 2 (6-12 months) | Horizon 3 (year 1 onwards) |
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Augmenting the vision</strong></td>
<td>Iterative - Continuous updating of information, continuous engagement with the community</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Delivering on the vision</strong></td>
<td>Communication and Engagement - Roll-out of new Information, creation of enhanced digital platform</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Setting the Stage</strong></td>
<td>Plan - Information and key messages, user-centric focus on messaging, approaches and platforms, resources, and personnel</td>
<td></td>
</tr>
</tbody>
</table>
Overview of recommendations

- **Smarter Data Management**: Better insights, advanced analytics, modeling/simulations
- **Housing Portal**: One consolidated portal, Foundational housing data

System Solution

- **V1: Rent Registry / ARO Information**: Controlled view/access (user ID/profiles), Additional user value beyond compliance
- **V2: Affordable Housing**: Search, Application process

Critical enablers

- Data Quality, Privacy and Security
- Improved Housing Communication Plan
- User Centric Design to reduce friction and add value to all stakeholders

Introduce a wholistic Data Quality, Privacy and Security framework

- **Data cleansed and quality checked at all levels and entities**
- **Master Data Management with Automation**
- **Capture true reason of every interaction**

- **Data needs to be protected**
- **Address citizen's concerns**
- **Comprehensive privacy & Security**
City conducts design thinking to capture requirements for Housing Portal.

City releases Portal VI.0 to capture ARO information.

City engages Industry for transition to Portal V2.

Industry partner begins work on transition to Portal V2.

City releases Portal V1.2 with increased functionalities and begins next Usability assessment.

Industry partner delivers beta Portal V2.0 to city for review.

City decides to expand Portal to cover other housing.

City begins execution of integration of databases to move to Portal V2.0.

Industry partner delivers Portal V2.1.

Industry partner delivers Portal V3.
RECOMMENDATIONS: Housing Portal Roadmap

**Overview of recommendations**

**Smarter Data Management**
Better insights, advanced analytics, modeling/simulations

**Housing Portal**
One consolidated portal
Foundation housing data

**System solution**
- V1: Rent Registry / ARO information
  - Controlled view / read access (user ID / profile)
  - Additional revenue beyond compliance

**Critical enablers**
- Data Quality, Privacy and Security
- Improved Housing Communication Plan
- User-Centric Design to reduce friction and add value to all stakeholders
RECOMMENDATIONS

The art of possible...

November 6th, 2017

Revised Apartment Rent Ordinance (ARO) Memo

The Apartment Rent Ordinance, found in Municipal Code Chapter 17.23, and its companion Regulations control rent increases on apartments that are covered by the ordinance. At this time, changes have been made to the Apartment Rent Ordinance and additional provisions are in place...

More details...

Amendments to the Tenant Protection Ordinance (TPO)

The amendments to the Tenant Protection Ordinance reduce the categories of additional family members covered by the exemption to the TPO's allowed eviction for material or habitual rental agreement violation by removing brother and sister. That amendment limits these protections to family members that are a spouse, domestic partner, child, foster child and parent...

More details...
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More Events
### East San Jose, available units

<table>
<thead>
<tr>
<th>Address</th>
<th>Zone</th>
<th>Units</th>
<th>Rent</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 S 71st St, San Jose, CA</td>
<td>East San Jose</td>
<td>1 of 3</td>
<td>$1875</td>
<td>★★★★☆★</td>
</tr>
<tr>
<td>1006 Leighway Ave, San Jose, CA</td>
<td>East San Jose</td>
<td>1 of 4</td>
<td>$2150</td>
<td>★★★★★★</td>
</tr>
<tr>
<td>1003 E Williamson St, San Jose, CA</td>
<td>East San Jose</td>
<td>2 of 4</td>
<td>$1800-2200</td>
<td>★★★★☆★</td>
</tr>
<tr>
<td>1040 S 120th St, San Jose, CA</td>
<td>East San Jose</td>
<td>3 of 34</td>
<td>$1700-2100</td>
<td>★★★★★★</td>
</tr>
</tbody>
</table>
### Available Units

<table>
<thead>
<tr>
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<td></td>
</tr>
</tbody>
</table>

#### Unit Information

- **Unit Name**
  - Unit A: available $2200
  - Unit B: occupied
  - Unit C: available $1800
  - Unit D: occupied

#### Additional Features

- Accessible
- Laundry service
- Pet-friendly
- Public transport
- Parking

---

I am interested in Unit C. Please send me the application. Thank you!
# All Properties > East San Jose

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>4</td>
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<td>4</td>
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</table>

## Unit Details

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Availability</th>
<th>Advertised Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit A</td>
<td>available</td>
<td>$2200</td>
</tr>
<tr>
<td>Unit B</td>
<td>occupied</td>
<td></td>
</tr>
<tr>
<td>Unit C</td>
<td>available</td>
<td>$1800</td>
</tr>
<tr>
<td>Unit D</td>
<td>occupied</td>
<td></td>
</tr>
</tbody>
</table>

Additional Features:
- Accessible
- Laundry service
- Pet-friendly
- Public transport
- Parking

---

To: City

I am currently in Unit B, and my rent is $1500. Please update the system for future records.

Sarah

Advertise properties
View future tenant ratings
Update rent information
Send Tenant notices
Communicate with current Tenants and City
The Apartment Rent Ordinance, found in Municipal Code Chapter 17.23, and its companion Regulations control rent increases on apartments that are covered by the ordinance. At this time, changes have been made to the Apartment Rent Ordinance and additional provisions are in place...

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Owner Properties

<table>
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<th>Rent</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ 1000 Villanova Av</td>
<td>West San Jose</td>
<td>1 of 15 available $1950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 1001 Fairmont Av</td>
<td>East San Jose</td>
<td>6 of 5 available -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ 1003 E Williamson St</td>
<td>San Jose, CA</td>
<td>2 of 4 available $1800-2200</td>
<td></td>
<td></td>
</tr>
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<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Availability</th>
<th>Advertised Rent</th>
<th>Current Rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit A</td>
<td>available</td>
<td>$1700</td>
<td></td>
</tr>
<tr>
<td>Unit B</td>
<td>occupied</td>
<td>$1500</td>
<td></td>
</tr>
<tr>
<td>Unit C</td>
<td>available</td>
<td>$1600</td>
<td></td>
</tr>
<tr>
<td>Unit D</td>
<td>occupied</td>
<td>$1350</td>
<td></td>
</tr>
</tbody>
</table>

+ Add a new unit

+ Add a new property
### Owner Properties

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</tr>
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<td>-</td>
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#### Unit Items

<table>
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<td>occupied</td>
<td>$1500</td>
<td></td>
</tr>
<tr>
<td>Unit C</td>
<td>available</td>
<td>$1800</td>
<td></td>
</tr>
<tr>
<td>Unit D</td>
<td>occupied</td>
<td>$1200</td>
<td></td>
</tr>
</tbody>
</table>

- Add a new property

---

Rent is overdue by 2 days. Please consider this a final reminder to pay rent within 72 hours. Thank you!

---

Water restrictions begin next week. Please be wasteful of water usage. Thank you!
<table>
<thead>
<tr>
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From: tenant-by4231

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More details
Welcome, selena@city.com

Dashboard

Rent History

Rent Statistics

<table>
<thead>
<tr>
<th>Zone</th>
<th>Min</th>
<th>Average</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>$1900</td>
<td>$2100</td>
<td>$2600</td>
</tr>
<tr>
<td>South</td>
<td>$1650</td>
<td>$1975</td>
<td>$2050</td>
</tr>
<tr>
<td>East</td>
<td>$1400</td>
<td>$1800</td>
<td>$1875</td>
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<tr>
<td>West</td>
<td>$1875</td>
<td>$2150</td>
<td>$2400</td>
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</table>

Ratings

<table>
<thead>
<tr>
<th>Owners</th>
<th>Tenants</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>5%</td>
</tr>
<tr>
<td>1-2</td>
<td>15%</td>
</tr>
<tr>
<td>2-3</td>
<td>25%</td>
</tr>
<tr>
<td>3-4</td>
<td>45%</td>
</tr>
<tr>
<td>4-5</td>
<td>10%</td>
</tr>
</tbody>
</table>

Owner Notice Processing

Tenant Complaint Processing

Refinements to TPO are coming up soon. Keep an eye out for a blog post with details. Thank you!

SEND A MESSAGE
RECOMMENDATIONS

Overview of recommendations

Smart Data Management
Better insights, advanced analytics, modeling / simulations

Housing Portal
One consolidated portal
Foundational housing data

V1: Rent Registry / ARO information
Controlled view / edit access (user ID / profiles)
Additional user value beyond compliance

V2: Affordable Housing
Search
Application process

Data Quality, Privacy and Security
Improved Housing Communication Plan
User Centric Design to reduce friction and add value to all stakeholders
CONCLUSIONS

1. Housing Communications ➔ important starting point; dedicated resource

2. Data Quality, Privacy & Security
   ➔ Data Governance will require strong private / public collaboration

3. Housing Portal
   ➔ this is NOT a rent registry database....it provides far more value
   ➔ follow a user-centric design and implementation with ongoing roadmap

4. Smarter Data Insights ➔ Great opp'ty beyond just reporting, but modeling / simulation

ACKNOWLEDGEMENTS

Thank you to all of the stakeholders who took the time to meet with us!

Sam Liccardo  Maria Jimenez  Ramos  Pinjic  Roshen  Sethna
Slesby Bass  Rob Lloyd  Danielle Pirslin  Irene Smith
Zach Berke  Cheryl Lubow  Emily Prado  Arti Tangri
Dave Bopf  Tascha Mattos  Susan Price-Jang  Fred Tran
Lindsay Caldwell  Mollie McLeod  Theresa Ramos  Henry Tsai
Rosa Cano  Peter Miron-Conk  Warren Reed  Rachel VonderVeen
Ron Duba  Jacky Morales-Ferrand  Kathy Robinson  Sara Wright
Michael Fitzgerald  Melissa Morris  Vince Rocha  Ann Wu
Lester Fontecha  Evelina Nava  Khanh Russo  Rick Wu
Ragan Hemmiger  Charla Neta  Michael Santero  Alexa Youssefian
Dean Hotop  Vu-Bang Nguyen  Shireen Santosham  Fereshteh Zakeri
Bill Hult  Christian Oliano  Ken Schmechel  Jeff Zell

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