Coronaita: Contact Visualization and Disinfection

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This training will focus on building integrated services for boosting public hygiene and supporting social quarantine from COVID-19. It will provide guidelines on collecting and managing contact data and disinfected places data of COVID-19 confirmed cases; effectively providing such data to users.
Course Structure

1. What would people really want to know?
2. Organizing and Managing Volunteers for Data Collection
3. User-friendly Visualization of Patient Contact and Disinfection
4. Upta: Search Engine for Disinfected Location
5. UptaCleaning: Disinfection Platform Service
6. Government Role and Data Disclosure
7. Conclusion and Takeaways
To understand Coronaita services and how it visualizes data for intuitive user experience

To understand how Coronaita organizes volunteers for database management

To understand how Coronaita recommends disinfected places and disinfection services for safer society
Government disclosed contact data and map based services were not user-centric enough. We concentrated on showing relevant data that individuals really want to know, not what institutions or developers who want to show most data possible.

1. Contact Data organized by patient and district
   - Contact Data organized by places, visited time, and disinfection time

2. Data format in text and tables, or map
   - Intuitive & “User-centric” UI using distance from user, and times passed

3. Contact data shows places to be avoided, but doesn’t recommend places
   - Recommend disinfected places to users.
Organizing and Managing Volunteers for Data Collection

Citizen Volunteers Organized for Data Collection

- Build console for automatic data upload (using Google Firebase and AWS)
- Organize and Assign groups of volunteers
- Two volunteers work as a group, dedicated to one province each
- Volunteers collect patients contact line data from reliable sources (Affiliated Suwon volunteer Center provides credit for volunteer work)
- Administrators verify data and upload into our Database
- Provide data to nationwide users on a visually intuitive manner

Data Sources
- Local Government Website
- Citizen Reports from Coronaita User Channel
- News Article from Reliable Media
03 User-friendly Visualization of Patient Contact and Disinfection

**Find Traffic Data near Certain Location**

- A smiley or crying face icon comes up with number of places COVID-19 confirmed patients visited around the searched place based on sorting.

  *Smiley face*: There is no traffic data around the location or, location is recently disinfected.

  *Crying face*: There are traffic data.

**Find disinfected places data near certain location**

- Smiley or question mark icon with phone number comes up with suggestion of similar nearby locations that have been disinfected recently.

- Phone number is also provided for users to directly inquire for disinfection.

- Users are able to make decision to visit the searched place or not.

*Both services give relevant information for users to change meet up spot or find out if they have contacted patient.*
04 Upta: Search Engine for Disinfected Location

Fully Automated Search Engine for Disinfected Places

- Build online application system for owners of local business and building managers to publicly show that they have disinfected certain place
- Users upload official disinfection certificate, which is verified
- Verified places are shown as disinfected places with smiley face icon through ‘Upta’ website as a part of search result
- Build solution that automates pipelining from web crawling, data refining to posting data online
- Let the bot crawl and collect disinfected place data from local government website
- Data will be automatically uploaded and visualized on ‘Upta’ as a part of search result
- Disinfected places are recommended with 😊 icon next to them

Diagram:

Local Government Website → Web Crawlers → Administrators (verify & upload to DB) → Upta Search Engine DATABASE → Disinfected Places are recommended with Icon

Local Business Owners → Upta Application System
05 UptaCleaning: Disinfection Platform Service

Disinfection Platform as Market Standardizer and Mediator

- Coronaita connects shop owners with disinfection service providers through Uptacleaning.
- It helps users easily reserve, make payment and manage professional disinfection service.
- By establishing partnership with disinfection companies, nationwide demand is covered.
- Partner’s Workspace is our solution for partners that automates from accepting contracts to payment and even planning routes and schedule.
06 Government Role and Data Disclosure

Conditions of ‘Effective’ Data Disclosure

Time
Fast ‘Collect-Process-Share’ process makes data relevant

Consistency
Covering most cases, makes data reliable

Structure
All data are composed identically (time, place, patient, transportation)

Movement Path of the Confirmed Case

<table>
<thead>
<tr>
<th>Region</th>
<th>Type</th>
<th>Address</th>
<th>Date exposed to the virus</th>
<th>Whether to be disinfected</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>a</td>
<td>market</td>
<td>June 17-23</td>
<td>done</td>
</tr>
<tr>
<td>B</td>
<td>b</td>
<td>company</td>
<td>June 12</td>
<td>done</td>
</tr>
<tr>
<td>C</td>
<td>c</td>
<td>Logistics Center</td>
<td>June 26-27</td>
<td>done</td>
</tr>
<tr>
<td>D</td>
<td>d</td>
<td>Shopping mall</td>
<td>July 5</td>
<td>done</td>
</tr>
</tbody>
</table>

Place list which mass infection occurred
Please get diagnosis tested if you visited the place below during this time in spite of no symptoms.

Automated 10 minutes Contact Tracing of Korea
07 Conclusion and Takeaways

Figures of Coronaita

- > 41 Mill. Pageviews
- > 6.4 Mill. Total Users
- > 3K ppl In Channel
- > 60 Volunteers

Implication of Coronaita service

- Data relevance over quantity
- Service simple and usable even for tech illiterate (ex: elders, less educated)
- Reliable data disclosure from authority

Global Press Coverage of Coronaita
Thank You
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