



CS122 Project
Proposal Presentation

Chicago Wanderlust

The Ultimate
Accommodation Finder for
Leisure Travelers

PRESENTED BY Team: Chicago Explorer

Jan 25, 2017

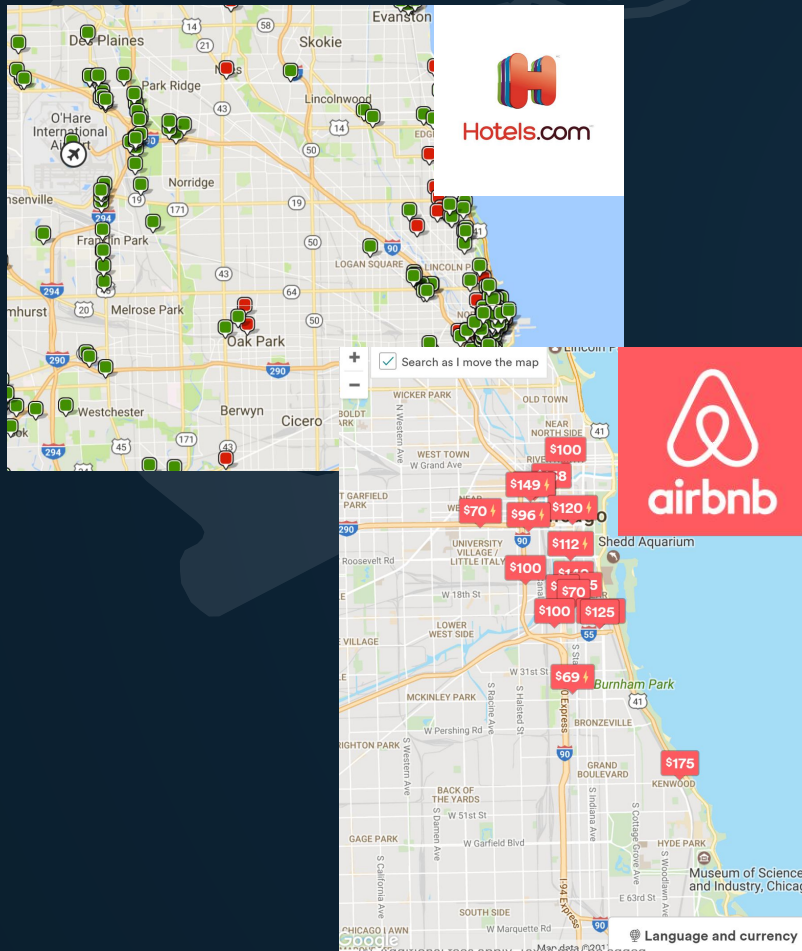


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Part I. Introduction & Goals - Needs

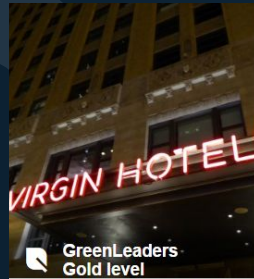
In 2016, Chicago set a visitation record of **54 million** visitors.



Hotel	Reviews	Rank	Price (per night)
Four Seasons Hotel Chicago	2,317	#5 of 185 hotels in Chicago	\$345*
Thompson Chicago, a Thompson Hotel	1,782	#6 of 185 hotels in Chicago	\$209*
Park Hyatt Chicago	1,458	#7 of 185 hotels in Chicago	\$295*
Virgin Hotels Chicago	874	#8 of 185 hotels in Chicago	\$139*

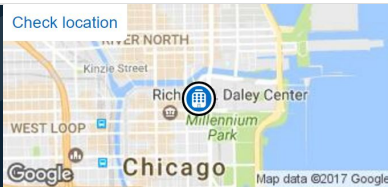
Part I. Introduction & Goals - Problems!

- Are the surroundings safe to walk around?
- Is it convenient to drive to/take public transport to my desired attractions?
- Is there good food to my taste within walking distance?

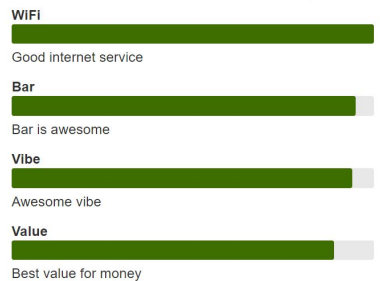


Virgin Hotels Chicago
874 Reviews
#8 of 185 hotels in Chicago
"My new favorite hotel" 01/20/2017
"Wonderful!" 01/18/2017

[Green](#) [Mid-range](#) [Downtown / The Loop](#)



Exceptional 4.8 / 5



[See all 893 Hotels.com reviews](#)

874 Reviews from our TripAdvisor Community

Read reviews that mention:

Search reviews



All reviews

commons club

social hour

rooftop bar

bluetooth speaker

chamber suite

street prices

richard branson

smeg fridge

free happy hour

priced mini bar

miss ricky's

astronaut ice cream

room service

mobile app

dressing room

yoga mat

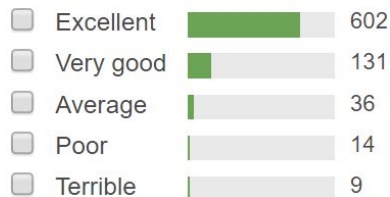
train noise

dressing area

provide ear plugs

thought of everything

Traveler rating



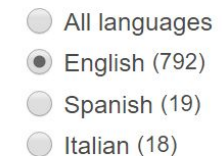
Traveler type



Time of year



Language



[More](#)

Part I. Introduction & Goals - User Interface: Inputs



● ● ●

<http://www.chicagowanderlust.com/>

☰

*Find within a click clicks,
- a safe, convenient, and tasty experience for your stay in Chicago!*





Check-in

01/25/17 

Wednesday

Check-out

01/26/17 

Thursday

1

Night



Price Range

Min (\$) Max (\$)

80 ▾ 150 ▾



Good Food Around? Yes ▾

Type(s) of Cuisine You Like ▾



Rent a car? Public Transport? ▾

Type(s) of Attractions You Like ▾

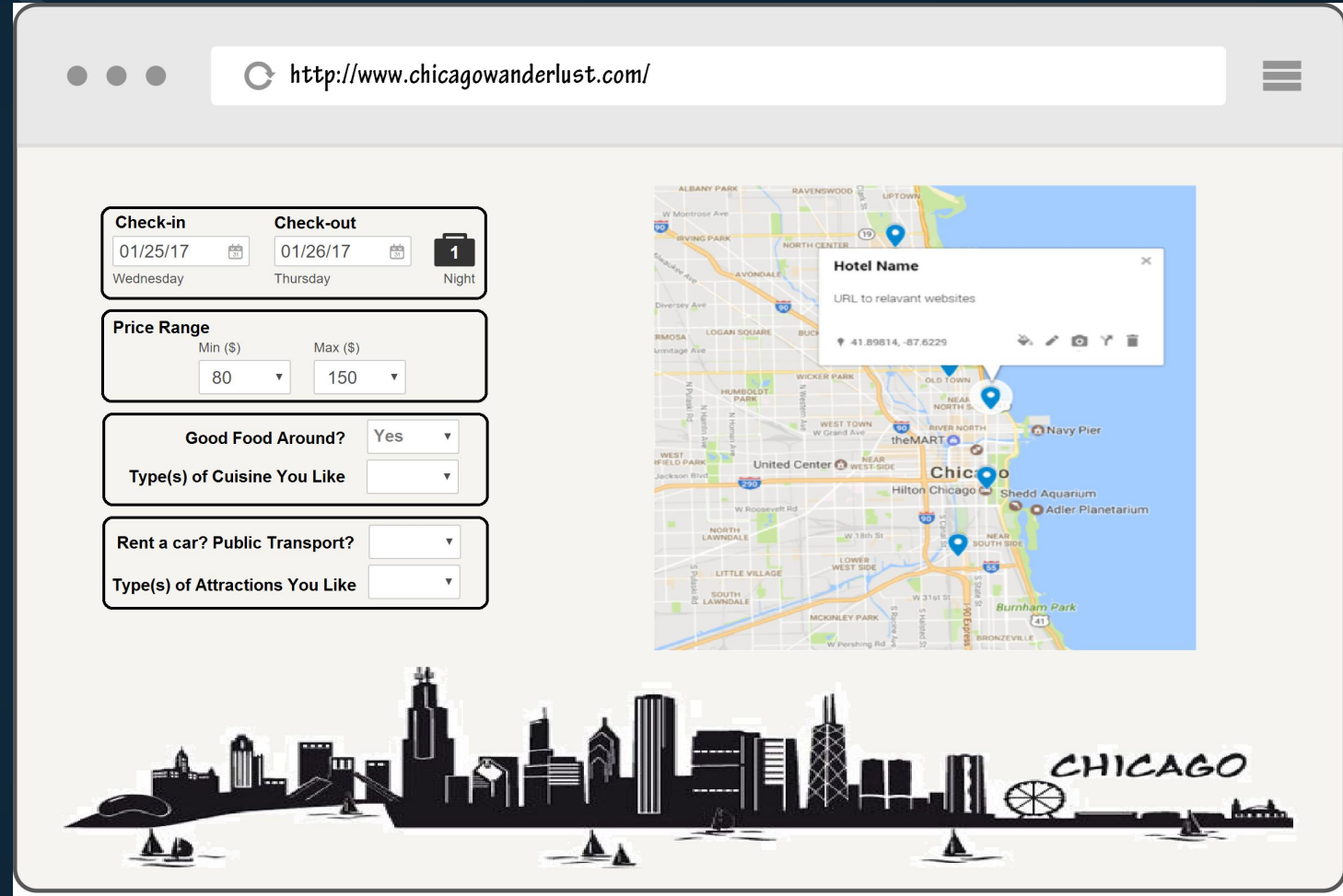


Part I. Introduction & Goals - User Interface: Outputs

Recommend the Top 5 Places for Your Stay

- ✗ Dangerous neighborhoods
- ✗ Unfavorably reviewed places
- ✗ Hassle comparing hotels & Airbnbs

- ✓ Easy access to your desired attractions
- ✓ Easy to get food to your taste



The screenshot displays the website <http://www.chicagowanderlust.com/>. The interface includes several search filters on the left:

- Check-in:** 01/25/17 (Wednesday)
- Check-out:** 01/26/17 (Thursday)
- Night:** 1
- Price Range:** Min (\$) 80, Max (\$) 150
- Good Food Around?:** Yes
- Type(s) of Cuisine You Like:** (dropdown menu)
- Rent a car? Public Transport?:** (dropdown menu)
- Type(s) of Attractions You Like:** (dropdown menu)

On the right, there is a map of Chicago with a pop-up window titled "Hotel Name" showing the URL "http://www.chicagowanderlust.com/" and the coordinates "41.89814, -87.6229". The map also shows various landmarks and neighborhoods. At the bottom, there is a silhouette of the Chicago skyline with the word "CHICAGO" written next to it.

Part I. Introduction & Goals - Goals

- A. Develop a scoring algorithm that reasonably captures the accessibility of a particular location to multiple places of interest.*
 - B. Improve the efficiency of real-time data scraping.*
 - C. Effectively manage the relational databases of crimes and attractions.*
 - D. Design a friendly and interactive user interface.*
- Make full use of the knowledge acquired in CS122 and self-teach additional skills in data cleaning, consolidation, and visualization, as well as in web development.

Part II. Fantastic Data and Where to Find Them

Category	Type	Source	
Hotel	real-time request	TripAdvisor	Airbnb
Appetite	real-time request	Yelp	
Convenience	real-time request / pre-stored	Timeout Chicago	Google Maps
Safety	pre-stored database	City of Chicago Data Portal	



Part III. Tools and Useful Techniques

Stage	Tool
Data gathering	Scrapy , BeautifulSoup (for closed-source website)
	API (for open-source website)
Data Cleaning	Data Wrangler , Pandas, Numpy, RegExr
Data consolidation	SQL
Web Development Framework	Django
Front-End Framework	Bootstrap
Data visualization	Plotly, D3, Tableau, Bokeh (TBD)

Part III. New Tools to learn

- Python Based
- Fast
- Export data in common format

Scrapy



- Accelerate the data cleaning process

Trifacta Wrangler



- Tons of packages
- Supportive community
- Built-In Admin Panel

Django



- Robust framework for beginner
- Responsive web design
- Flexible and allow modification

Bootstrap



- Abstract insight from data
- Allow Interactive graph

Visualization Tools



Part IV. Tentative Timeline

Checkpoint 1 (Week 6)	Checkpoint 2 (Week 8)	Presentation (Week 10)
<ul style="list-style-type: none">• Sufficient experiments on sample datasets• Finalize recommendation model• Decide high level architect: data structure, recommendation algorithm, user interaction, etc.• Pseudo-code	<div>Frontend:<ul style="list-style-type: none">• User interface based on selected data• Google map integration and other visualization</div> <div>Backend:<ul style="list-style-type: none">• Construct pre-stored database• Optimize real-time data request• Implement search and recommendation algorithm</div>	<ul style="list-style-type: none">• Link frontend, backend, database• Implement manual tests• Final modification and documentation• Reflect on future enhancement