Kyoto Sightseeing Map 2.0

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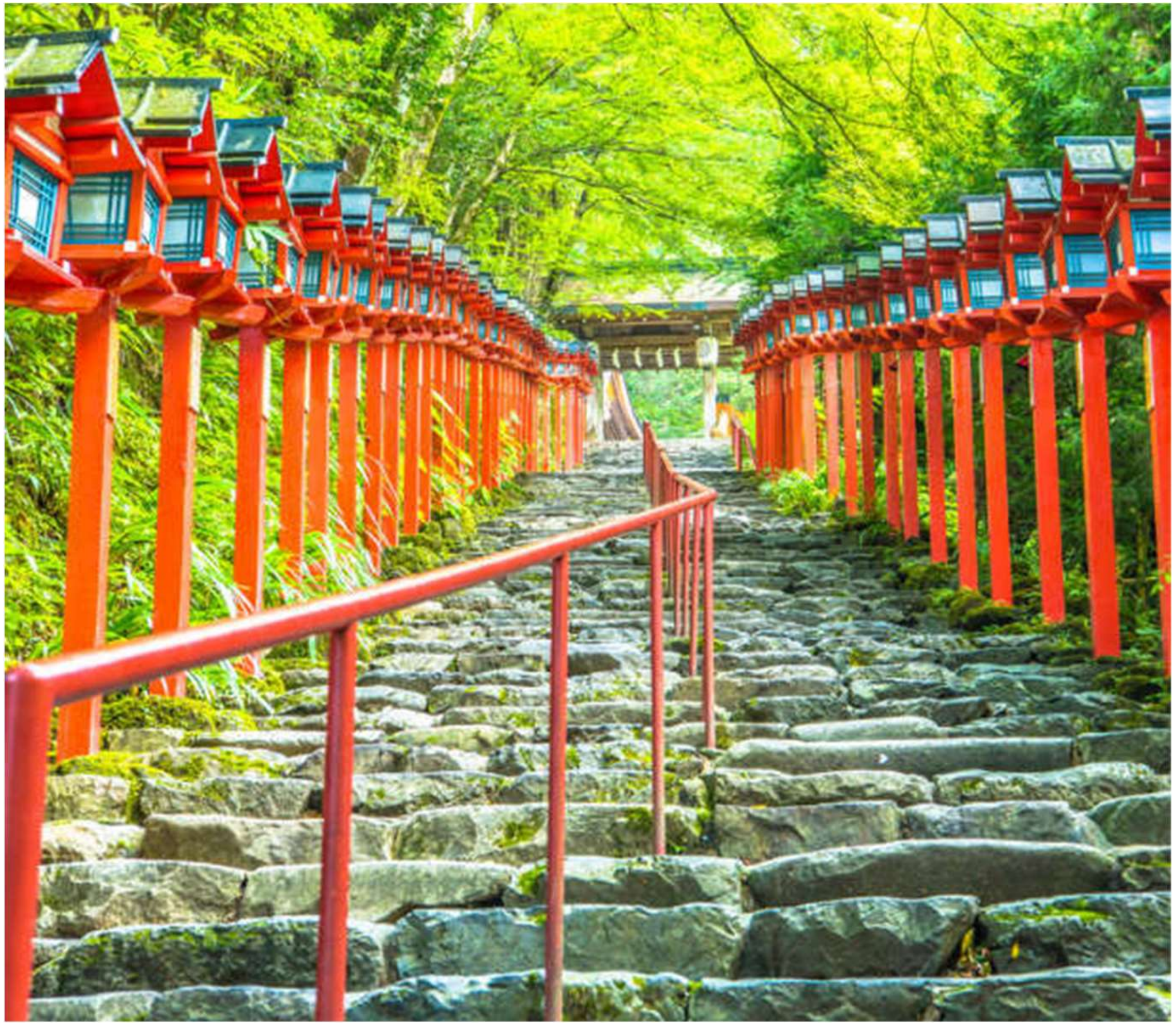
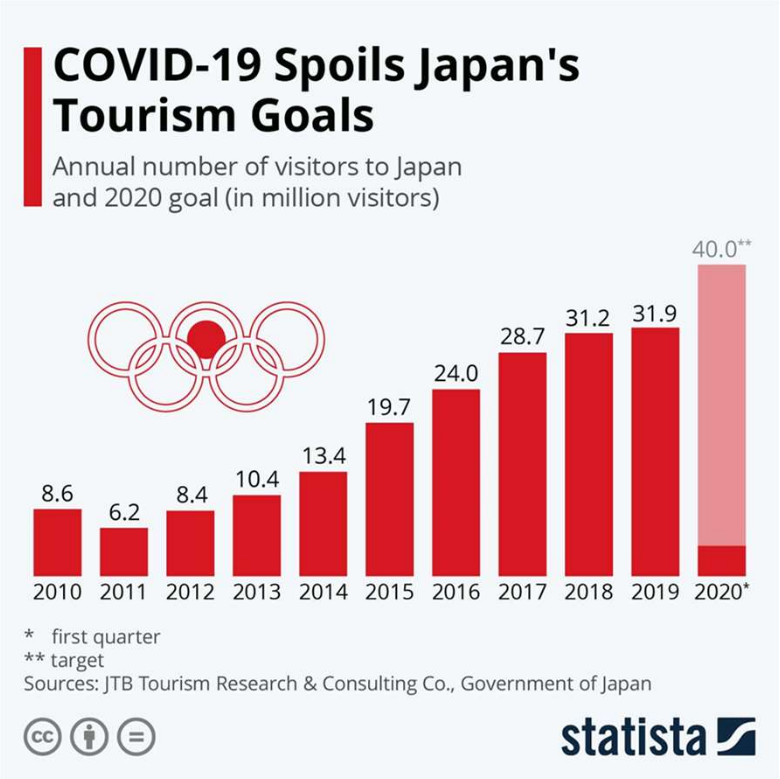


Background and Motivation

Background



A growth of visitor arrivals expected 40 million this year, but would have already been a jump up from 2019's that is 31.9 million international tourists,

More visitors would have also injected more cash into the economy.

The Olympic Games were prospected to bring a boost of $300 billion due to the increase in international and domestic tourists.

Background

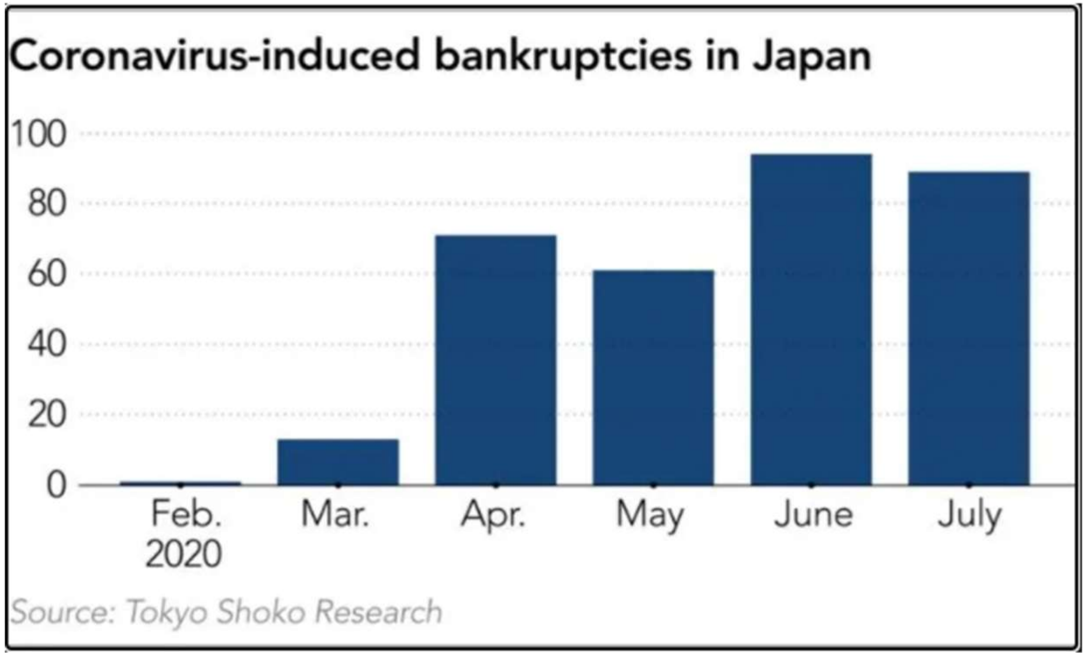
According to a report by the Japan National Tourism Organization,

Tourism received just some 3,800 foreign visitors in July due to restrictions on the entry of people from 146 territories as a measure to check the spread of Covid-19.

While the numbers for July represent a 99.9 percent year-on-year drop, they are slightly higher than the around 2,600 foreign tourists recorded in June, 1,663 in May and 2,917 in April.

The normally bustling Nakamise shopping street is seen empty in Taito Ward, Tokyo, on March 28, 2020 (Mainichi/Naoaki Hasegawa)

Background



Source: Tokyo Shoko Research

Teikoku Databank Ltd. found that 500 businesses had gone bankrupt by Sept. 8

Japan government has recently declared Go To campaign to overcome the economic. There are 4 types of campaigns; Go To Travel Campaign, Go To Eat Campaign, Go To Event Campaign and Go To Shopping Street Campaign.

Current Tourist Website

- **Limited in Functionality**
  Many websites do not provide detail information according to user’s needs.

- **Less Spot Distribution**
  Many websites do not contribute to distributing tourists all over the town. Thus, tourists visit only to the famous location.

- **Lack of attraction**
  Many websites do not contain current information about the tourist spot

Motivation to Overcome Current Problem

- **Appealing information of Kyoto**

  For visitors attraction, we attach the useful information of kyoto’s scenic spot and recommend to show the 360 degree pictures of attractive scenery. We accommodate to show more than a hundred tourist destination all over Kyoto area.

- **Personalized recommendation**

  We try to provide the personalized recommendation about traveling route by using the deep learning methods.

- **Real time information**

  We recommend the chat room with friendly UI-design, to help people get useful and real-time information shared by others. Thus, the user will not feel lonely when traveling alone.

Vision and Overview of Sightseeing Map 2.0

Vision

- Increase user experience in exploring Kyoto via our sightseeing map

- Present an interactive map which accommodate simplicity by classifying tourist destination based on several categories

- Provide destination alternative to user with place recommendation to visit

- People are more aware to travel with health protocol. So we think, put some hospitals marker near the tourist destination may beneficial while traveling

Strong Point of Sightseeing Map 2.0

Spot Categorization

- User may choose their preferences easily
- The map look less full and more beautiful to see

Pictures and 360 degree images

- Allow user has a better illustration of the destination spot
- Increase user experience by viewing 360 degree images

Chatroom

- Allow user to have interaction with others, particularly in pandemic situation
- Distinguish user based on their current area
- Allow user to upload recent images and illustration of spot they visited directly
- Provide current information of Kyoto and/or any spot destination

Sightseeing Map 2.0

Job Description

General work: Use cases were defined

Front-End (By Tyanita & Luiza):

1. front-end designed using HTML, CSS, and Javascript with Map embedded (using free version of Google Map API) and spot classification.
2. Image and spot description for each tourist destination
3. Linked more news about Kyoto's current situation.

Back-End (By Luiza):

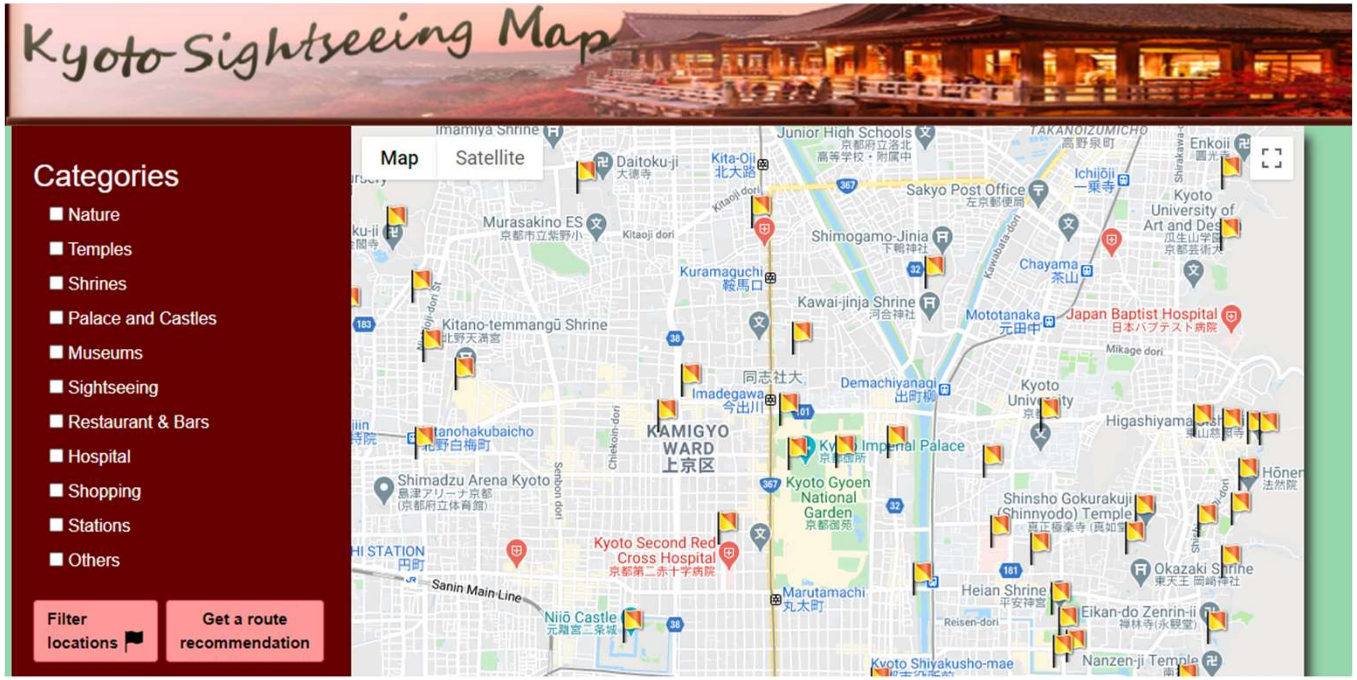
1. Server was set up and is live on Heroku.
2. Database was defined and set up. Communication is available.

Recommendation model (By Tian):

1. Build up two simple Recommendation models: MF (Finding user interest) , seq-to-seq (route recommendation)
2. Create chat room prototype to enrich user experience

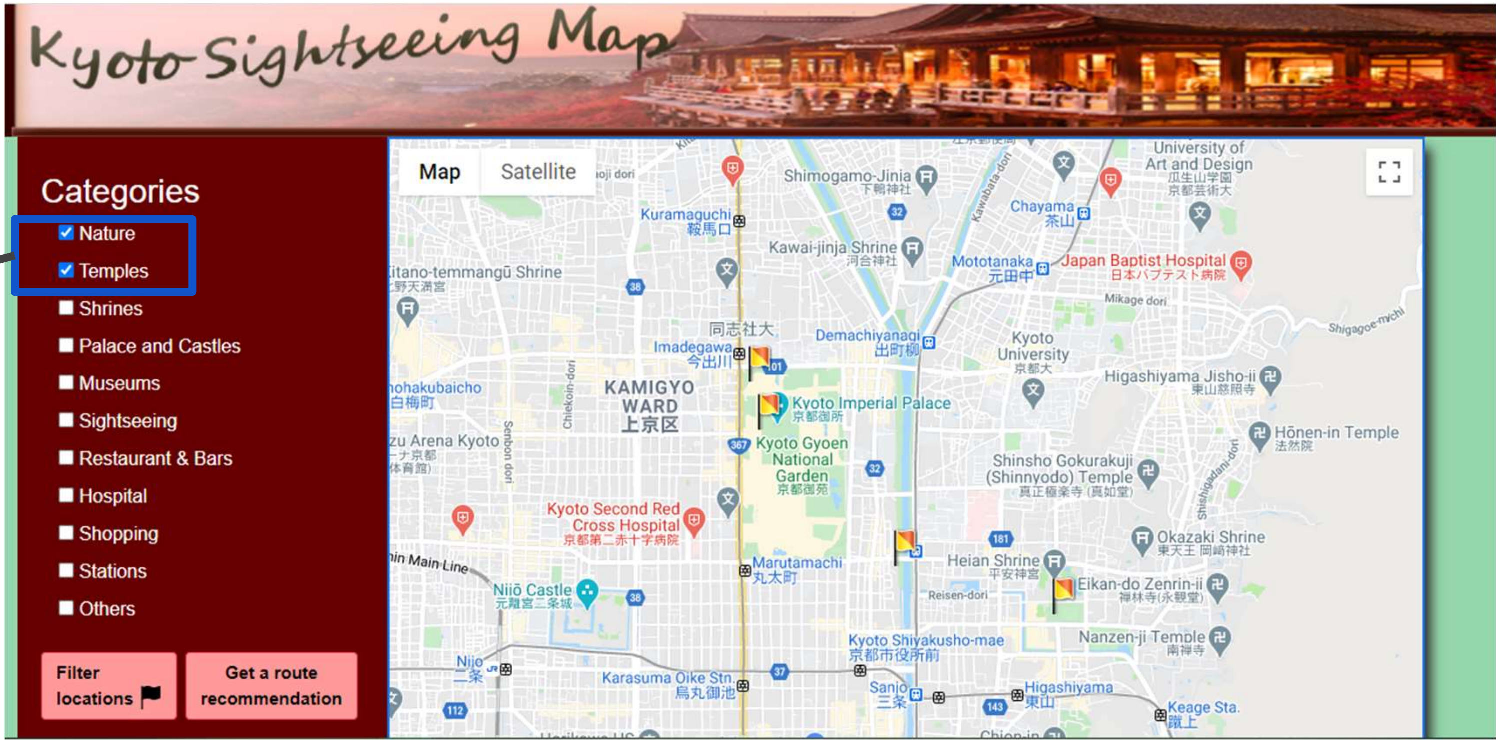
Front-End

Main, url: https://kyoto-map-20-front.herokuapp.com/


Kyoto Sightseeing Map
Categories
☐ Nature
☐ Temples
☐ Shrines
☐ Palace and Castles
☐ Museums
☐ Sightseeing
☐ Restaurant & Bars
☐ Hospital
☐ Shopping
☐ Stations
☐ Others
Filter locations
Get a route recommendation
Map
Satellite
Imamiya Shrine
Daitoku-ji
Kita-Oji 北大路
Junior High Schools
Sakyo Post Office
Ichijoji 一乗寺
Enkoji
Kyoto University of Art and Design
Murasakino ES
Kitaoji dori
Shimogamo-Jinja
Chayama 茶山
Kuramaguchi 鞍馬口
Kawai-jinja Shrine
Mototanaka 元田中
Japan Baptist Hospital
Kitano-tenmangū Shrine
Mikage dori
同志社大
Imadegawa 今出川
Demachiyanagi 出町柳
Kyoto University
Higashiyama
KAMIGYO WARD 上京区
Kitanohakubaicho
Kyoto Imperial Palace
Hōnen
Shimadzu Arena Kyoto
Kyoto Gyoen National Garden 京都御苑
Shinsho Gokurakuji (Shinnyodo) Temple
Kyoto Second Red Cross Hospital
Okazaki Shrine
Sanin Main Line
Marutamachi 丸太町
Heian Shrine 平安神宮
Nijō Castle 元離宮二条城
Eikan-do Zenrin-ji
Reisen-dori
Kyoto Shiyakusho-mae
Nanzen-ji Temple

Front-End

Categories


Kyoto Sightseeing Map
Map
Satellite
Kyoto Imperial Palace
Kyoto Gyoen National Garden
KAMIGYO WARD
上京区
Nijō Castle
Heian Shrine
Eikan-do Zenrin-ji
Nanzen-ji Temple
Okazaki Shrine
Hōnen-in Temple
Higashiyama Jisho-ji
Shinsho Gokurakuji (Shinnyodo) Temple
Kyoto University
Japan Baptist Hospital
Kyoto Second Red Cross Hospital
Shimogamo-Jinja
Kawai-jinja Shrine
Kitano-temmangū Shrine
Demachiyanagi
Imadegawa
Kuramaguchi
Marutamachi
Karasuma Oike Stn
Kyoto Shiyakusho-mae
Sanjo
Higashiyama
Keage Sta.
Nijo
Mototanaka
Chayama
University of Art and Design

Categories

- ☑ Nature
- ☑ Temples
- ☐ Shrines
- ☐ Palace and Castles
- ☐ Museums
- ☐ Sightseeing
- ☐ Restaurant & Bars
- ☐ Hospital
- ☐ Shopping
- ☐ Stations
- ☐ Others

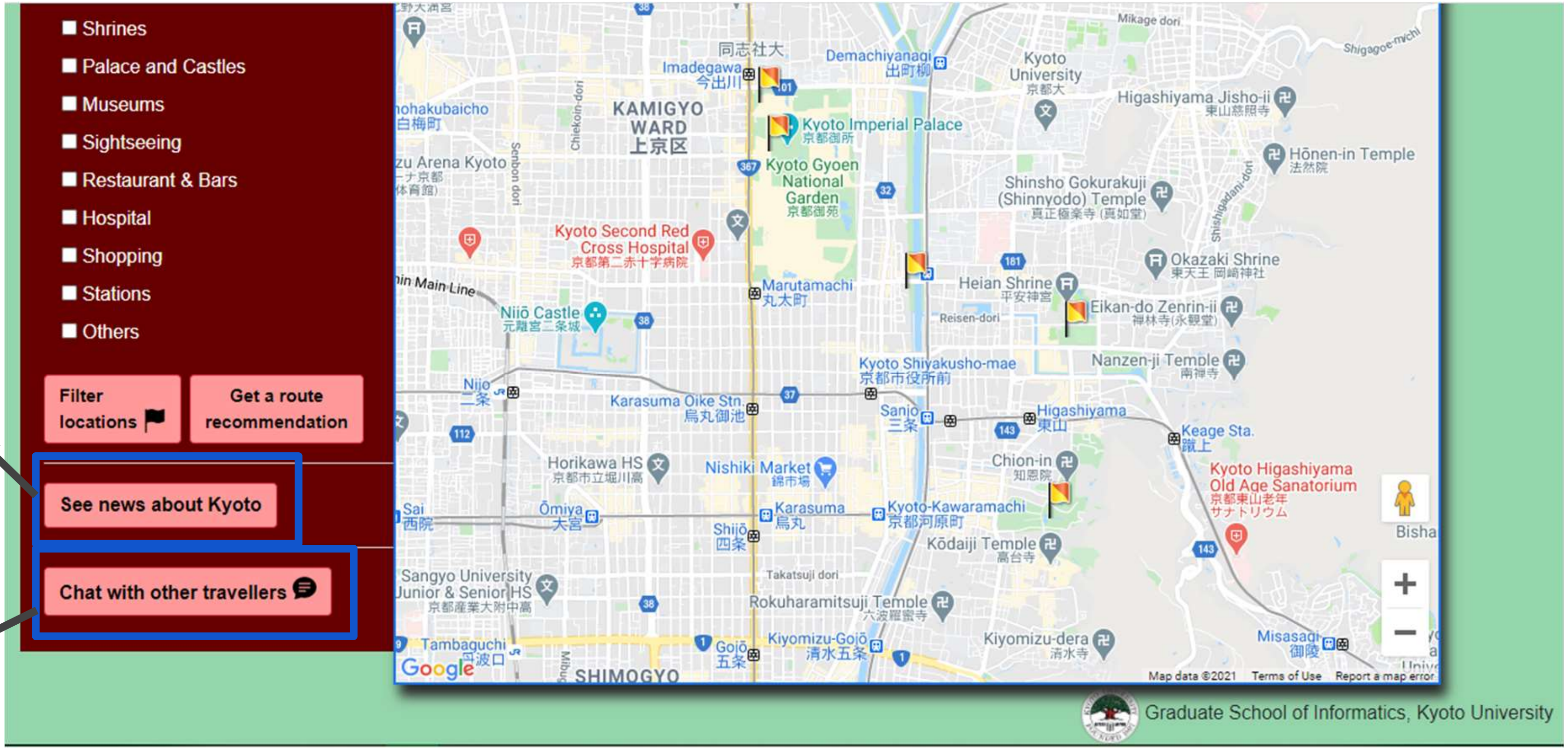
Filter locations
Get a route recommendation

The flag appeared based on filter that user selected

User may choose more than one categories

Front-End

Routes

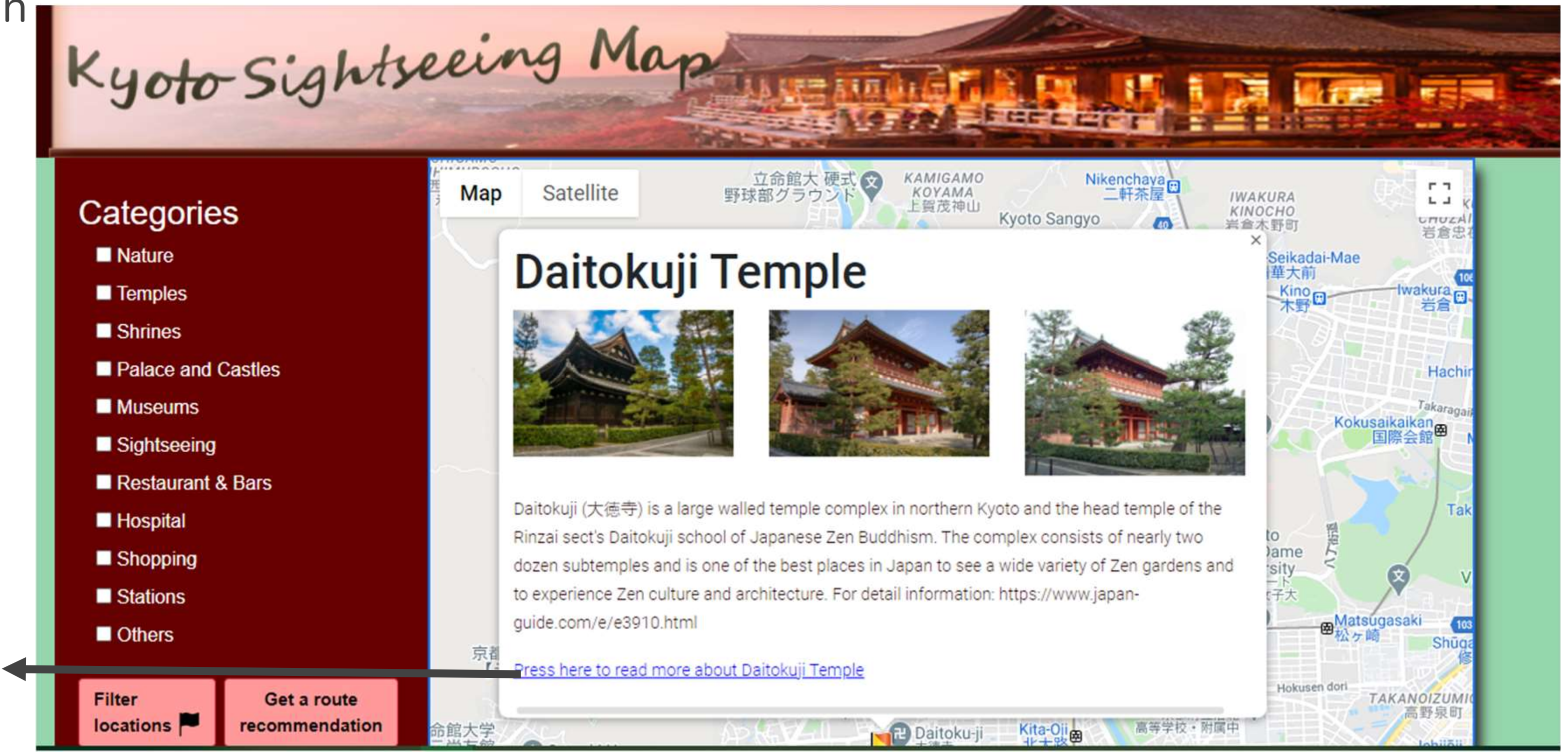

☐ Shrines
☐ Palace and Castles
☐ Museums
☐ Sightseeing
☐ Restaurant & Bars
☐ Hospital
☐ Shopping
☐ Stations
☐ Others
Filter locations
Get a route recommendation
See news about Kyoto
Chat with other travellers
KAMIGYO WARD
Kyoto Imperial Palace
Kyoto Gyoen National Garden
Kyoto University
Nijō Castle
Heian Shrine
Nanzen-ji Temple
Kyoto Shiyakusho-mae
Kyoto-Kawaramachi
Kōdaiji Temple
Kiyomizu-dera
Google
Graduate School of Informatics, Kyoto University

Linked to https://www.japantimes.co.jp/tag/kyoto/

Chat room menu

Front-End

Spot Information



Kyoto Sightseeing Map
Map
Satellite
Filter locations
Get a route recommendation
Press here to read more about Daitokuji Temple

Categories

- ☐ Nature
- ☐ Temples
- ☐ Shrines
- ☐ Palace and Castles
- ☐ Museums
- ☐ Sightseeing
- ☐ Restaurant & Bars
- ☐ Hospital
- ☐ Shopping
- ☐ Stations
- ☐ Others

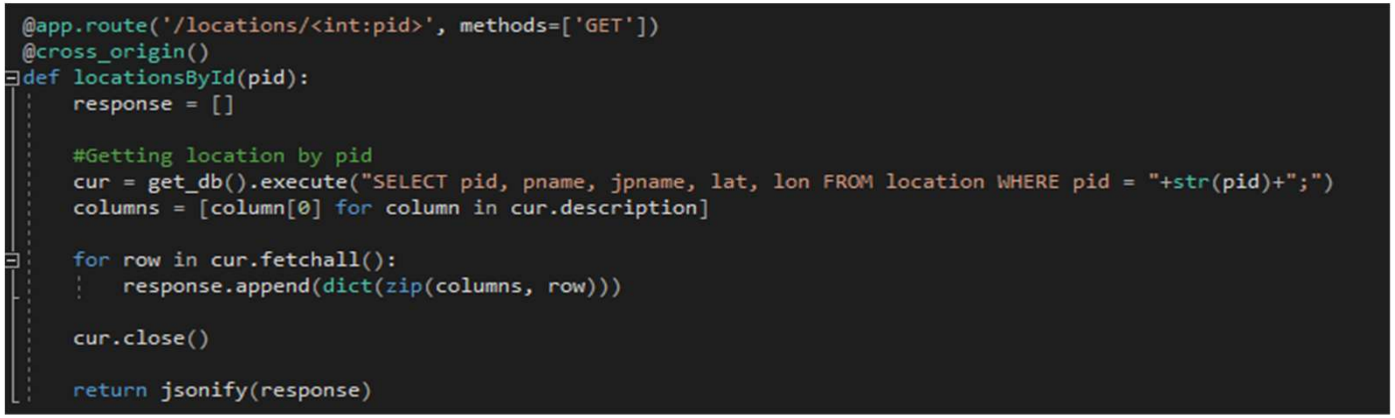
Daitokuji Temple

Daitokuji (大徳寺) is a large walled temple complex in northern Kyoto and the head temple of the Rinzai sect's Daitokuji school of Japanese Zen Buddhism. The complex consists of nearly two dozen subtemples and is one of the best places in Japan to see a wide variety of Zen gardens and to experience Zen culture and architecture. For detail information: https://www.japan-guide.com/e/e3910.html

Linked to official website of the tourist destination or webpage that review detail information about the place

Back-End

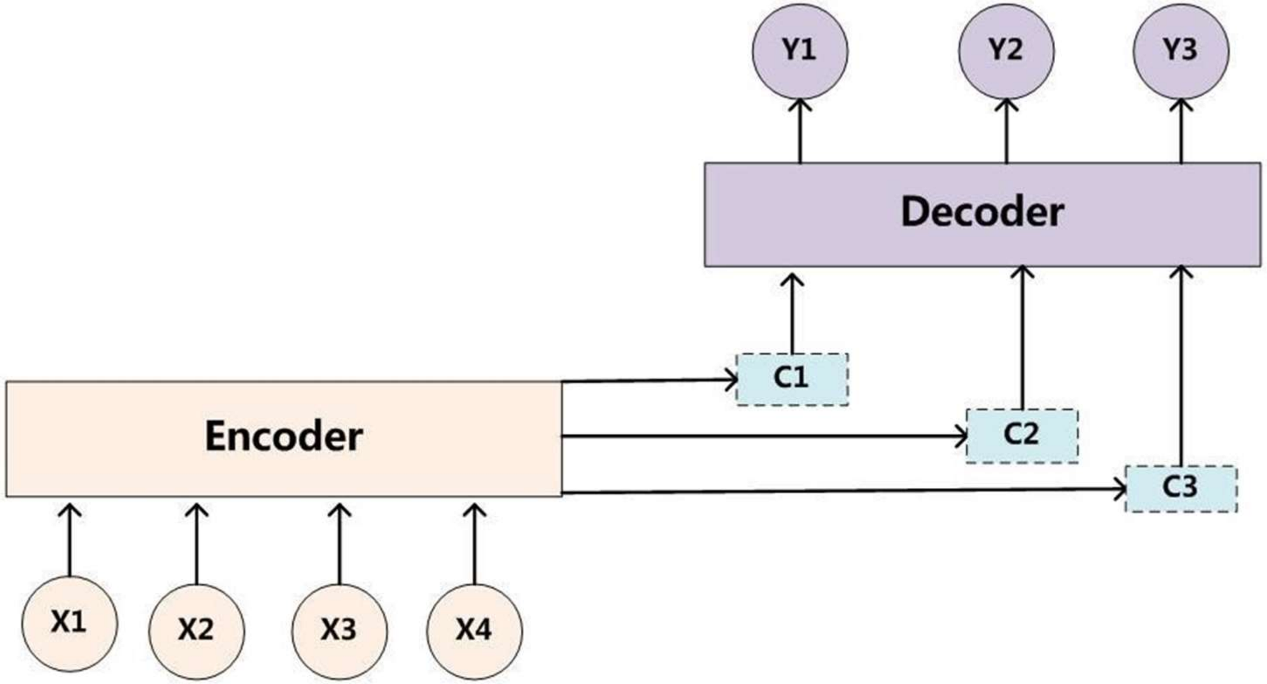
- Database set and filled with information on the cloud. Managed by SQLite.
- Basic communication through GET/POST requests is set up, allowing cross origin communication:
    a. Load information about all locations
    b. Load information about one location
    c. Save a new location, Delete location



```
@app.route('/locations/<int:pid>', methods=['GET'])
@cross_origin()
def locationsById(pid):
    response = []

    #Getting location by pid
    cur = get_db().execute("SELECT pid, pname, jpname, lat, lon FROM location WHERE pid = "+str(pid)+";")
    columns = [column[0] for column in cur.description]

    for row in cur.fetchall():
        response.append(dict(zip(columns, row)))

    cur.close()

    return jsonify(response)
```

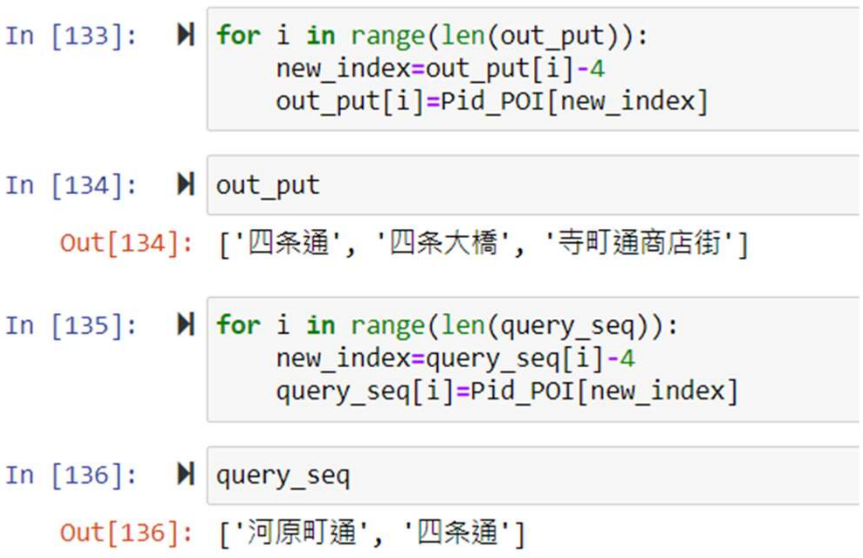
Recommendation model

Seq-to-seq

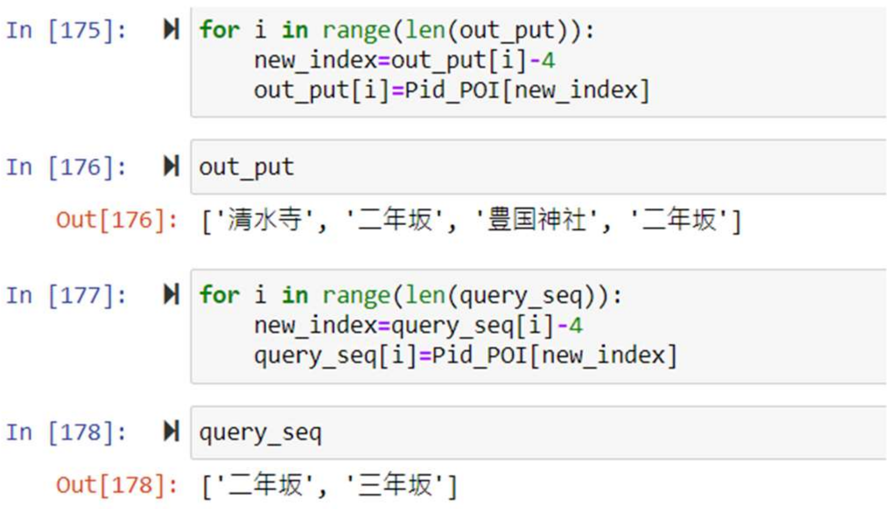

Y1
Y2
Y3
Decoder
C1
C2
C3
Encoder
X1
X2
X3
X4

Recommendation model

Seq-to-seq



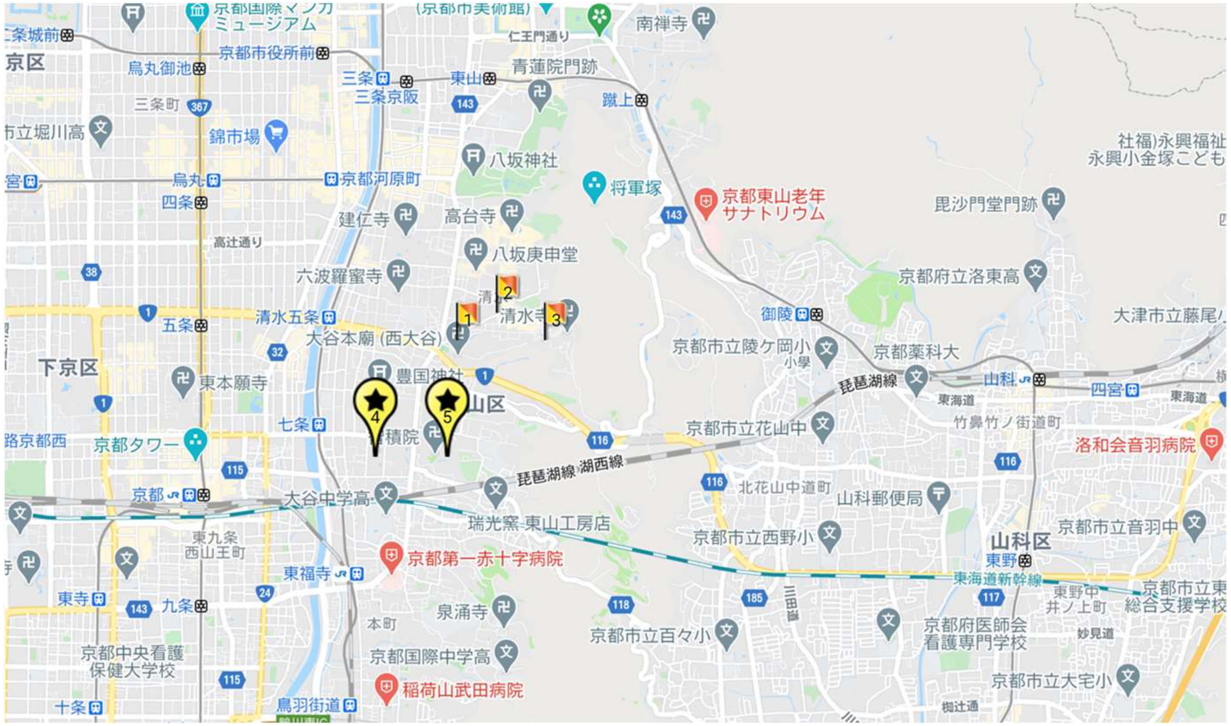
```
In [133]:  for i in range(len(out_put)):
               new_index=out_put[i]-4
               out_put[i]=Pid_POI[new_index]

In [134]:  out_put

Out[134]:  ['四条通', '四条大橋', '寺町通商店街']

In [135]:  for i in range(len(query_seq)):
               new_index=query_seq[i]-4
               query_seq[i]=Pid_POI[new_index]

In [136]:  query_seq

Out[136]:  ['河原町通', '四条通']
```



```
In [175]:  for i in range(len(out_put)):
               new_index=out_put[i]-4
               out_put[i]=Pid_POI[new_index]

In [176]:  out_put

Out[176]:  ['清水寺', '二年坂', '豊国神社', '二年坂']

In [177]:  for i in range(len(query_seq)):
               new_index=query_seq[i]-4
               query_seq[i]=Pid_POI[new_index]

In [178]:  query_seq

Out[178]:  ['二年坂', '三年坂']
```

Recommendation model

Seq-to-seq



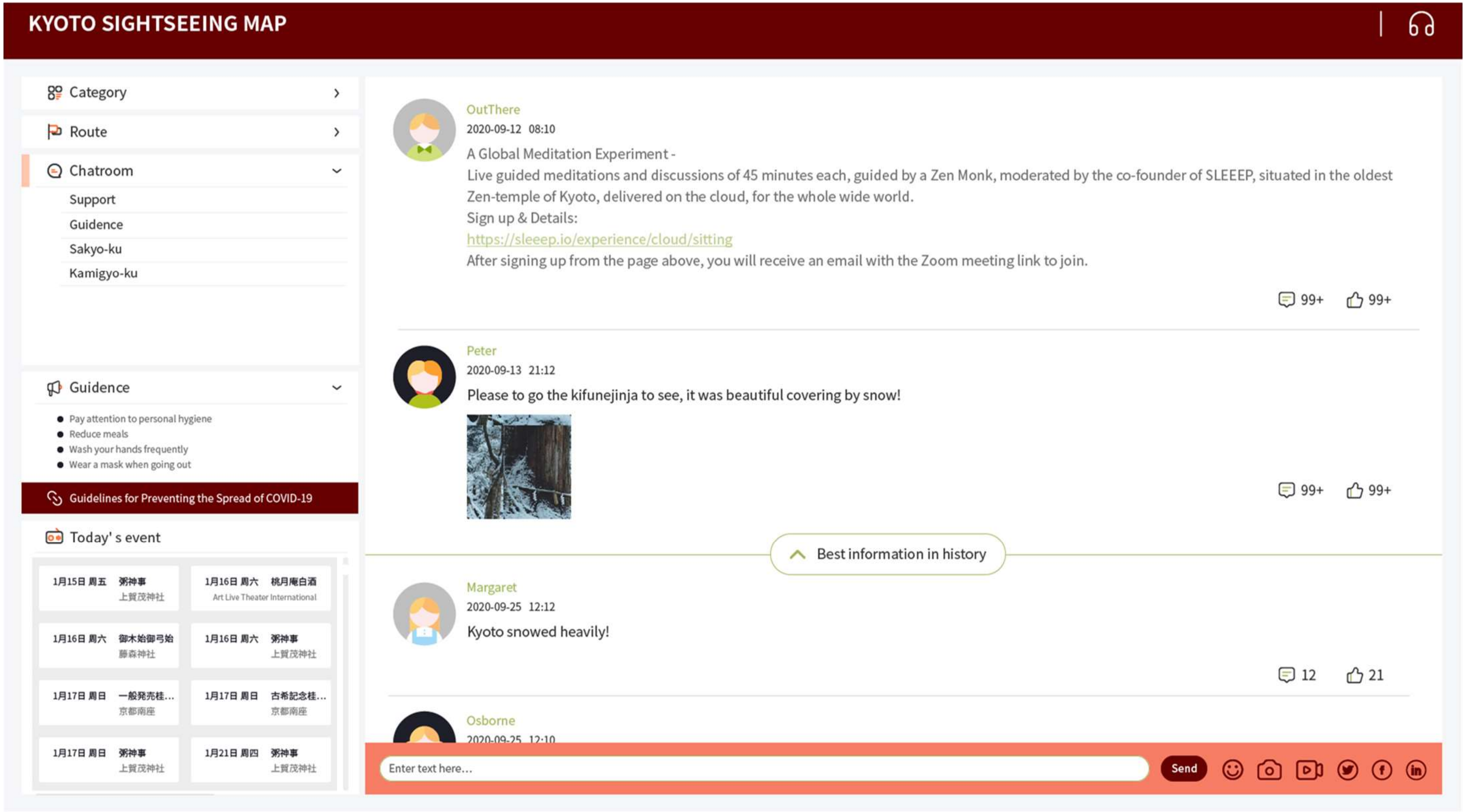
京都国際マンガミュージアム
京都市美術館
南禅寺
二条城前
京区
京都市役所前
仁王門通り
烏丸御池
三条
三条京阪
東山
青蓮院門跡
三条町
蹴上
市立堀川高
錦市場
社福)永興福祉
永興小金塚こども
八坂神社
烏丸
京都河原町
将軍塚
京都東山老年サナトリウム
四条
毘沙門堂門跡
建仁寺
高台寺
高辻通り
八坂庚申堂
六波羅蜜寺
京都府立洛東高
1
2
3
五条
清水五条
清水寺
御陵
大津市立藤尾
大谷本廟 (西大谷)
京都市立陵ケ岡小
京都薬科大
下京区
東本願寺
豊国神社
山区
琵琶湖線
山科
四宮
東海道
竹鼻竹ノ街道町
4
5
七条
積院
京都市立花山中
京都タワー
洛和会音羽病院
琵琶湖線 湖西線
北花山中道町
京都
大谷中学高
山科郵便局
瑞光窯 東山工房店
京都市立音羽中
東九条西山王町
京都市立西野小
山科区
東福寺
京都第一赤十字病院
東野
東海道新幹線
東寺
九条
東野中井ノ上町
京都市立東総合支援学校
本町
泉涌寺
京都市立百々小
京都府医師会看護専門学校
京都中央看護保健大学校
京都国際中学高
妙見道
稲荷山武田病院
京都市立大宅小
十条
鳥羽街道
椥辻通

chat room

Purpose: Let the user quickly know the useful information and get help on time.

Feature:

1. Recently events.
2. Various category chat room to satisfy requirements.
3. Instruction about covid-19.
4. Real time information shared by others .
5. Can be easy shared on Facebook, twitter, instagram simultaneously.
6. You will not feel lonely when traveling alone.


KYOTO SIGHTSEEING MAP
Category
Route
Chatroom
Support
Guidence
Sakyo-ku
Kamigyo-ku
Guidence
Guidelines for Preventing the Spread of COVID-19
Today' s event
Best information in history
Enter text here...
Send
99+
99+
99+
99+
12
21

- Pay attention to personal hygiene
- Reduce meals
- Wash your hands frequently
- Wear a mask when going out

1月15日 周五 粥神事 上賀茂神社	1月16日 周六 桃月庵白酒 Art Live Theater International
1月16日 周六 御木始御弓始 藤森神社	1月16日 周六 粥神事 上賀茂神社
1月17日 周日 一般発売桂... 京都南座	1月17日 周日 古希記念桂... 京都南座
1月17日 周日 粥神事 上賀茂神社	1月21日 周四 粥神事 上賀茂神社

OutThere
2020-09-12 08:10

A Global Meditation Experiment -
Live guided meditations and discussions of 45 minutes each, guided by a Zen Monk, moderated by the co-founder of SLEEEP, situated in the oldest Zen-temple of Kyoto, delivered on the cloud, for the whole wide world.
Sign up & Details:
https://sleeep.io/experience/cloud/sitting
After signing up from the page above, you will receive an email with the Zoom meeting link to join.

Peter
2020-09-13 21:12

Please to go the kifunejinja to see, it was beautiful covering by snow!

Margaret
2020-09-25 12:12

Kyoto snowed heavily!

Osborne
2020-09-25 12:10

Future Development

Possibility for Future Development

General work:

- Test map with some users and get their feedback.

- Implement route recommendation based on User’s preferences.

- Add 360 degrees pictures.

- Possibly create a social network in which routes and locations could be added and shared between users.

References

1. https://www.efe.com/
2. https://www.insidekyoto.com/kyoto-map
3. https://www.realestate-tokyo.com/living-in-tokyo/travel/go-to-campaign/
4. https://www.statista.com/

Thank you for your attention.

Any questions or comments are welcome.