

1. Log useful information

The six pieces of information logged for each request/reply are:

- 1.1. Request time: the time that the web service retrieve the list of emojis
  - 1.2. Fetch time: the time that the web service take the key words and find the emoji related to the key word
  - 1.3. Response time: the total time for the web service to reply to the Android application
  - 1.4. Keyword: the keyword for searching
  - 1.5. Image url: the url json object returned by the server
  - 1.6. Sequence: the sequence of a certain request.
2. The web service can store and retrieve information from a mongoDB database
- 2.1. The model for the mongoDB database is **emojiInfo.java**
  - 2.2. The driver for saving and retrieving data is in the **emojiMongoDB.java**
  - 2.3. The view is in the **dashboardServlet.java** and shown on **index.jsp**
3. Display operations analytics and full logs on a web-based dashboard
- 3.1. The unique url for the dashboard: <https://limitless-sands-42327.herokuapp.com/emojiDashboard>
  - 3.2. It displays three operation analytics like this

**Average time to fetch a list of emojis**

1184.0 ms

**Average time to fetch one emoji**

3.8125 ms

**Average time to response to Android**

6.875 ms

**Table of Commonly Used Emoji**

Keyword	Fetch Time	ImageUrl	Sequence
null	0	nothing is given	1
null	0	nothing is given	2
joy	45	{"name": "joy", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f602.png?v8"}	3
girl	1	{"name": "girl", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f467.png?v8"}	4
fan	4	{"name": "fan", "image_url": "andrew/cmu/zhengzen/emoji/emojiservlet/404notfound.png"}	5
cool	0	{"name": "cool", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f107.png?v8"}	6

- 3.3. It displays a formatted full log like this

## Table of Commonly Used Emoji

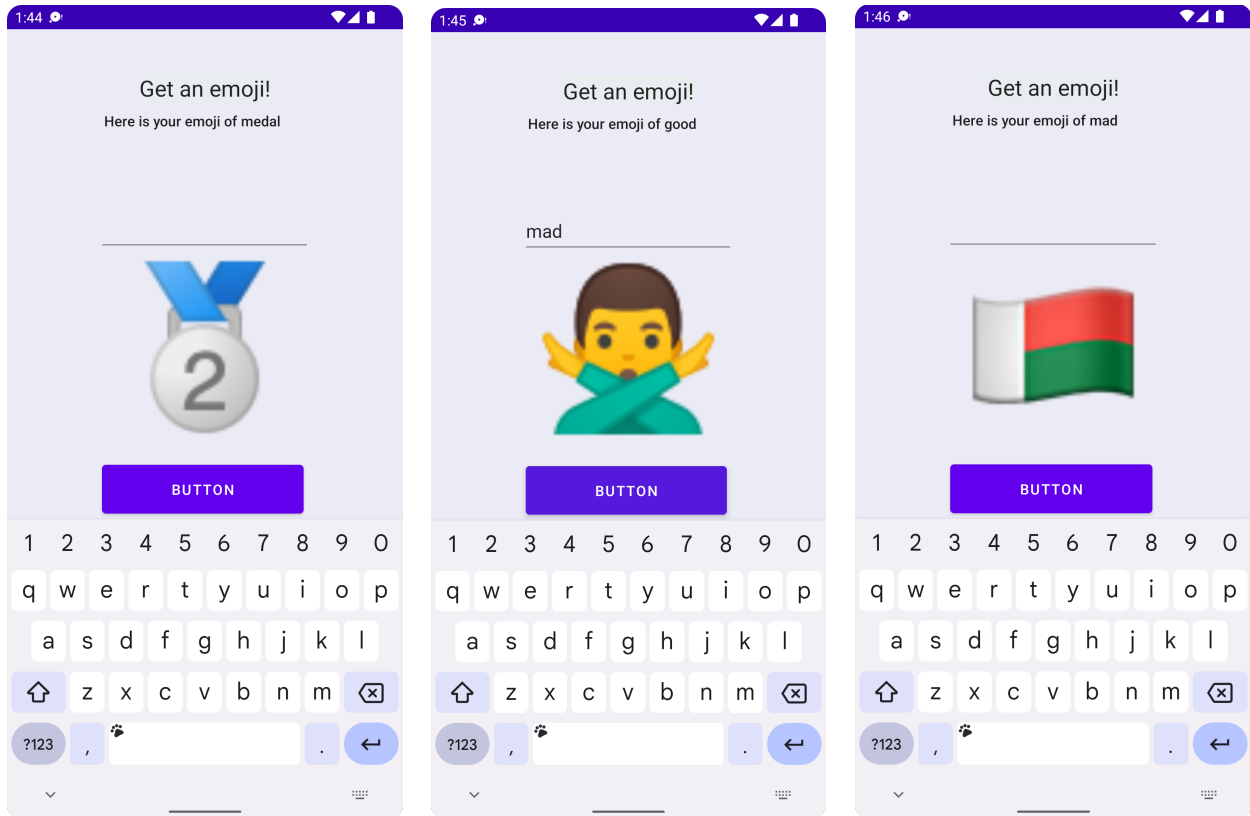
Keyword	Fetch Time	ImageUrl	Sequence
null	0	nothing is given	1
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joy	45	{"name": "joy", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f602.png?v8"}	3
girl	1	{"name": "girl", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f467.png?v8"}	4
fan	4	{"name": "fan", "image_url": "andrew/cmu/edu/zhengzen/emoji/emojiservlet/404notfound.png"}	5
cool	0	{"name": "cool", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f192.png?v8"}	6
jean	3	{"name": "jean", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f456.png?v8"}	7
heart	0	{"name": "heart", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/2764.png?v8"}	8
heart	0	{"name": "heart", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/2764.png?v8"}	9
food	0	{"name": "food", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f96b.png?v8"}	10
burger	1	{"name": "burger", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f354.png?v8"}	11
smoothie	3	{"name": "smoothie", "image_url": "andrew/cmu/edu/zhengzen/emoji/emojiservlet/404notfound.png"}	12
chocolate	1	{"name": "chocolate", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f36b.png?v8"}	13
joy	0	{"name": "joy", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/1f602.png?v8"}	14
fun	3	{"name": "fun", "image_url": "https://github.githubassets.com/images/icons/emoji/unicode/26b1.png?v8"}	15
null	0	nothing is given	1

### 4. Deploy the web service to Heroku

**4.1.** The container name for this task is: limitless-sands-42327

**4.2.** The url for getting emojis is: <https://limitless-sands-42327.herokuapp.com/?keyword={keyword}>

The app looks the same and works the same:



4.3. The url for dashboard is: <https://limitless-sands-42327.herokuapp.com/emojiDashboard>