

Metadata indexing/retrieval in Databases

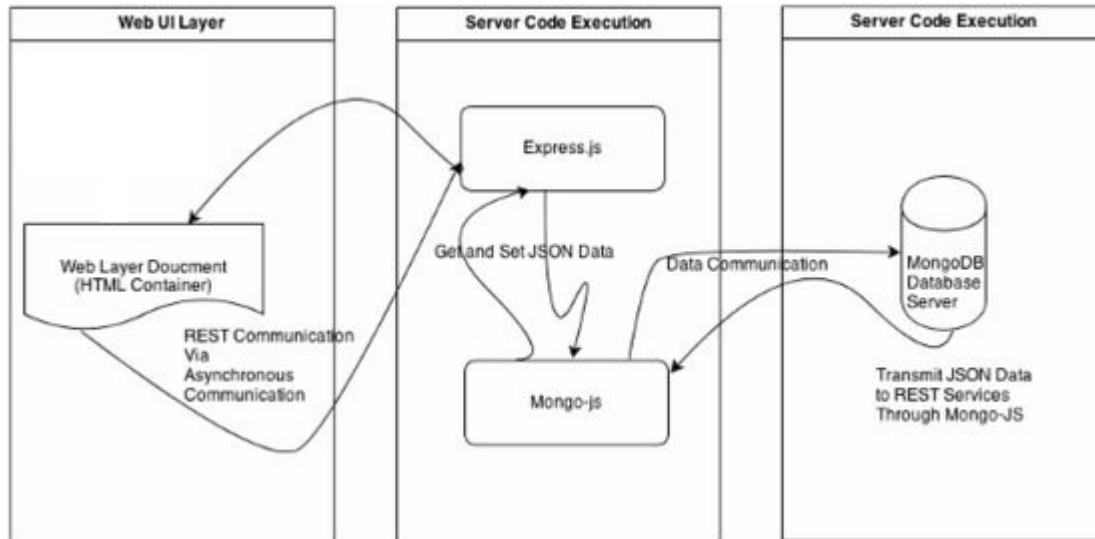
**Web application with Nodejs and
MongoDB**

Goals to be achieved:

- Image retrieval by tags and miscellanea information.
- Retrieved images and metadata information display.
- Order displays by most liked, most commented...

System Architecture

- Server: Nodejs
- Client: JS, HTML/Jade
- DB: MongoDB (No-SQL, JSON store)



MongoDB

MongoDB (from humongous) is a free and open-source cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with schemas. MongoDB is developed by MongoDB Inc. and published under a combination of the GNU Affero General Public License and the Apache License.



DATABASE STRUCTURE: Images

InstaFotos 0.002 sec.		
Key	Value	Type
> (42) ObjectId("58c46535ae0e4b04a486dea9")	{ 15 fields }	Object
▼ (43) ObjectId("58c46535ae0e4b04a486deaa")	{ 15 fields }	Object
_id	ObjectId("58c46535ae0e4b04a486deaa")	ObjectId
created_time	1430250718	String
▼ images	{ 3 fields }	Object
> thumbnail	{ 3 fields }	Object
> low_resolution	{ 3 fields }	Object
▼ standard_resolution	{ 3 fields }	Object
width	640	Int32
url	https://scontent.cdninstagram.com/hphotos-xfaf/t51.2885-15/e1...	String
height	640	Int32
▼ comments	{ 2 fields }	Object
▼ data	[1 element]	Array
▼ [0]	{ 4 fields }	Object
created_time	1430251477	String
▼ from	{ 4 fields }	Object
full_name	Matilda	String
profile_picture	https://igcdn-photos-a-a.akamaihd.net/hphotos-ak-xfaf/t51.288...	String
id	23647442	String
username	matilda_beltran	String
text	♥♥♥	String
id	973342399392709703	String
count	1	Int32
> users_in_photo	[0 elements]	Array
link	https://instagram.com/p/2B-_ejoP4F/	String

DATABASE STRUCTURE: Users

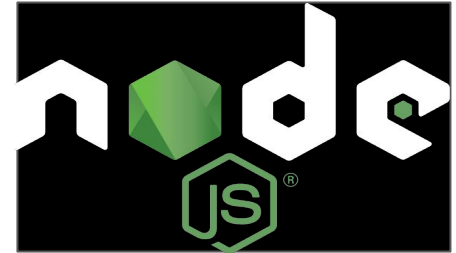
```
db.getCollection('InstaUsers').find({})
```

InstaUsers 0.003 sec.			0	50				
Key	Value	Type						
id	757213464750933975_218167000	String						
likes	{ 2 fields }	Object						
images	{ 3 fields }	Object						
thumbnail	{ 3 fields }	Object						
low_resolution	{ 3 fields }	Object						
standard_resolution	{ 3 fields }	Object						
height	640	Int32						
width	640	Int32						
url	http://scontent-a.cdninstagram.com/hphotos-xap1/t51.2885-15/...	String						
created_time	1404486900	String						
users_in_photo	[0 elements]	Array						
user	{ 6 fields }	Object						
id	218167000	String						
profile_picture	https://igcdn-photos-h-a.akamaihd.net/hphotos-ak-xap1/108086...	String						
username	chrisipeach	String						
bio		String						
website		String						
full_name	chrisipeach	String						
attribution	null	Null						
comments	{ 2 fields }	Object						
count	2	Int32						
data	[2 elements]	Array						
[0]	{ 4 fields }	Object						
id	757220613354898716	String						
text	#justsaying somebody is looking hot 🤔 #dropitlikeitshot	String						
from	{ 4 fields }	Object						
created_time	1404487753	String						
[1]	{ 4 fields }	Object						

Node JS and Express (I)

Node.js® is a JavaScript runtime built on [Chrome's V8 JavaScript engine](#). Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js' package ecosystem, [npm](#), is the largest ecosystem of open source libraries in the world.

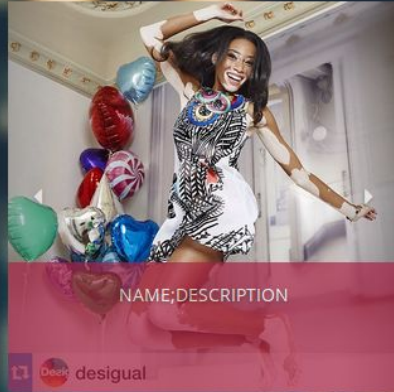
As an asynchronous event driven JavaScript runtime, Node is designed to build scalable network applications.



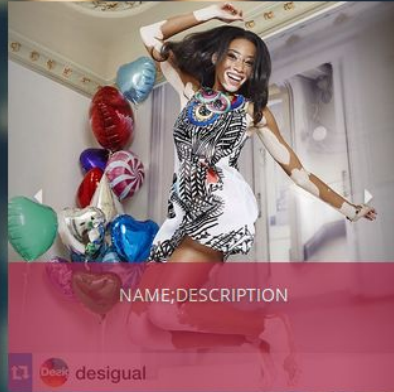
Node JS and Express (II)

Express is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications.

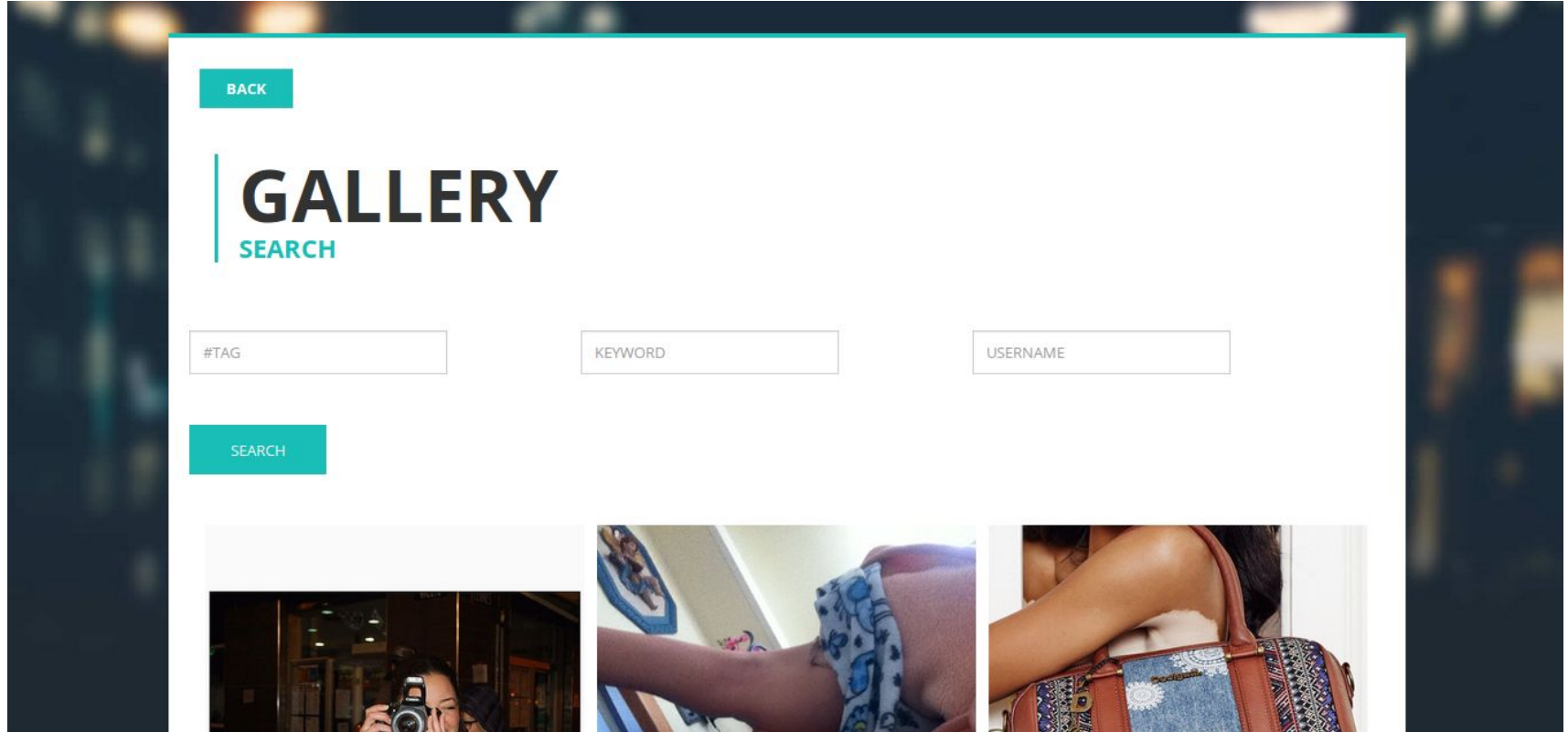
Web application functionalities (I):



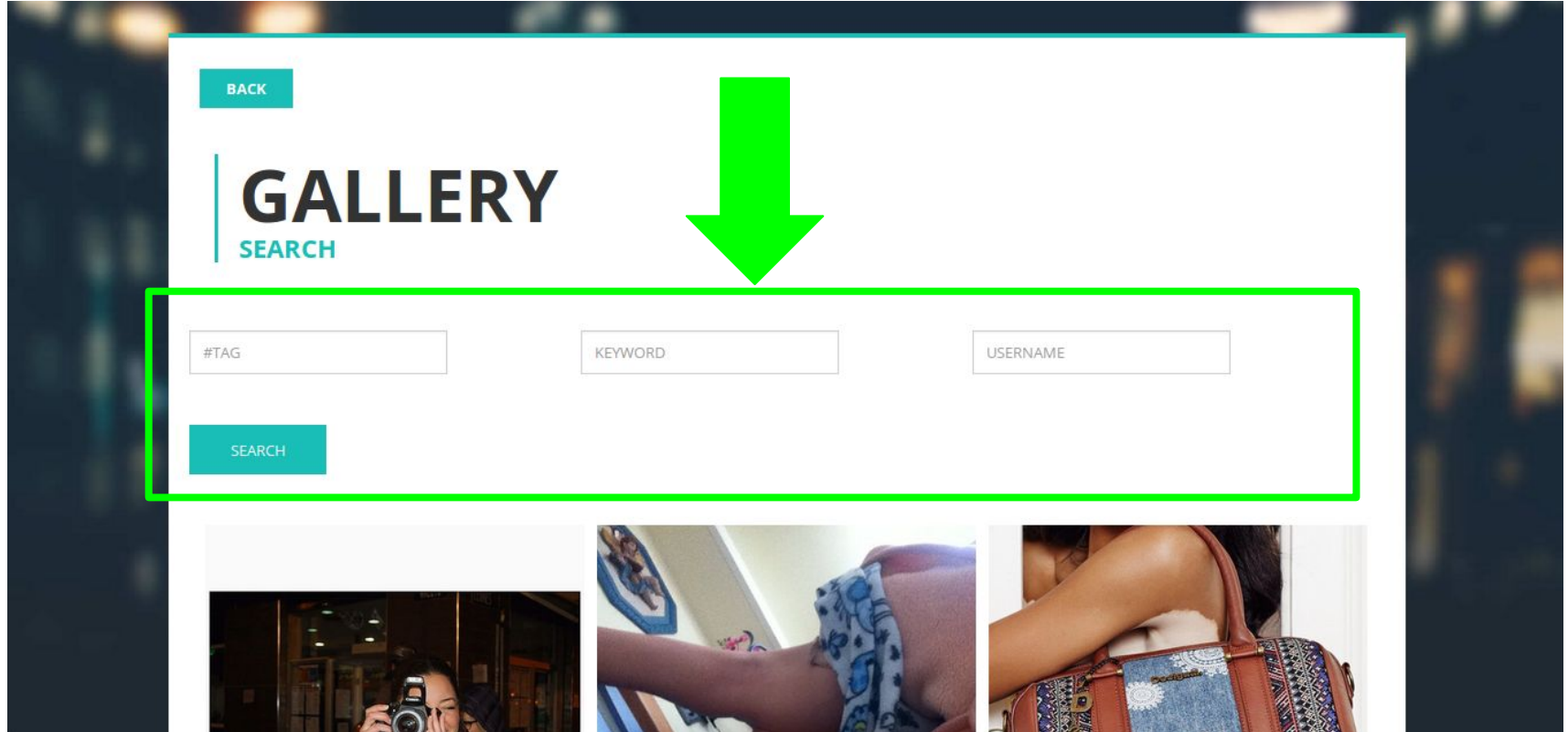
Web application functionalities (II):



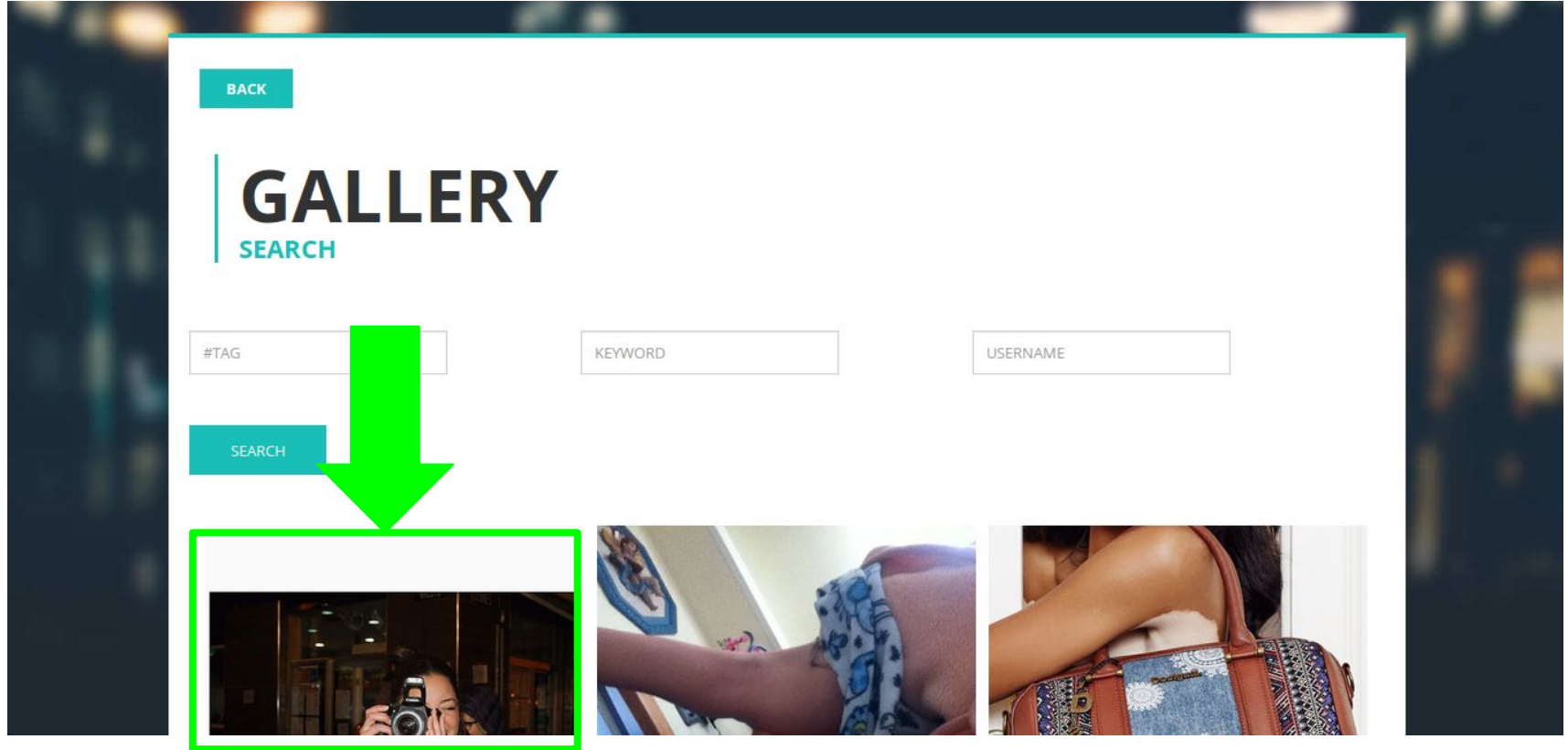
Web Application functionalities (III)



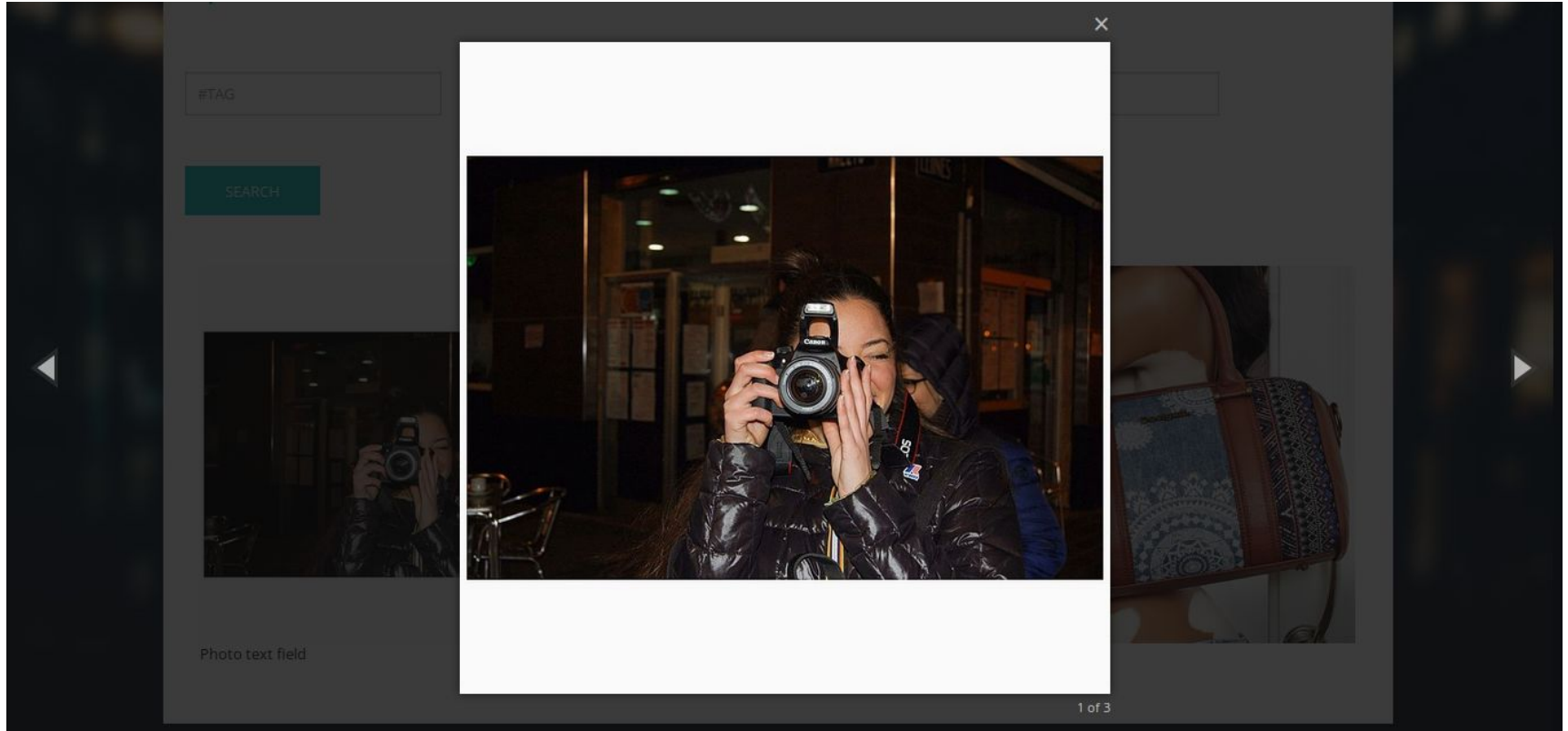
Web Application functionalities (IV)



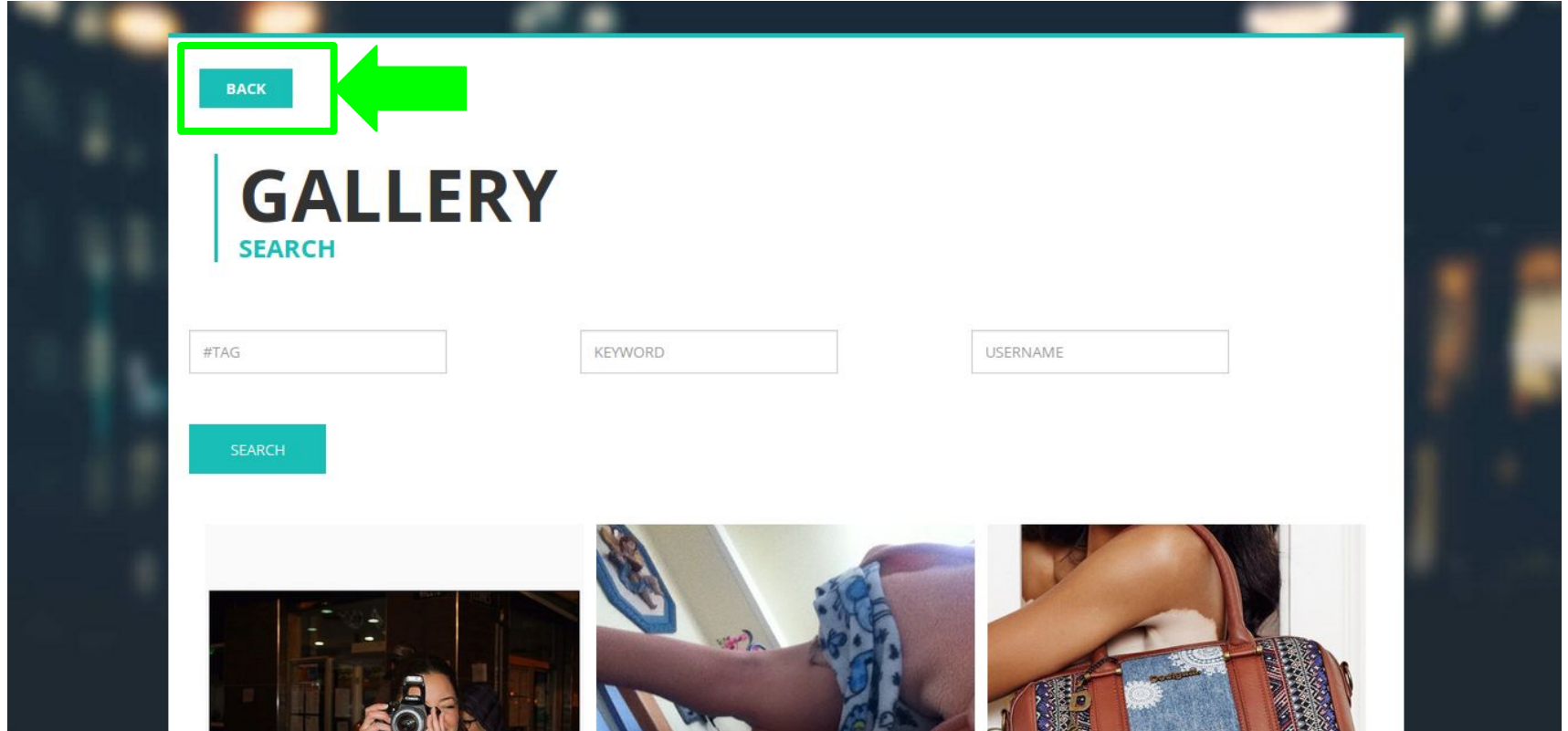
Web Application functionalities (V)



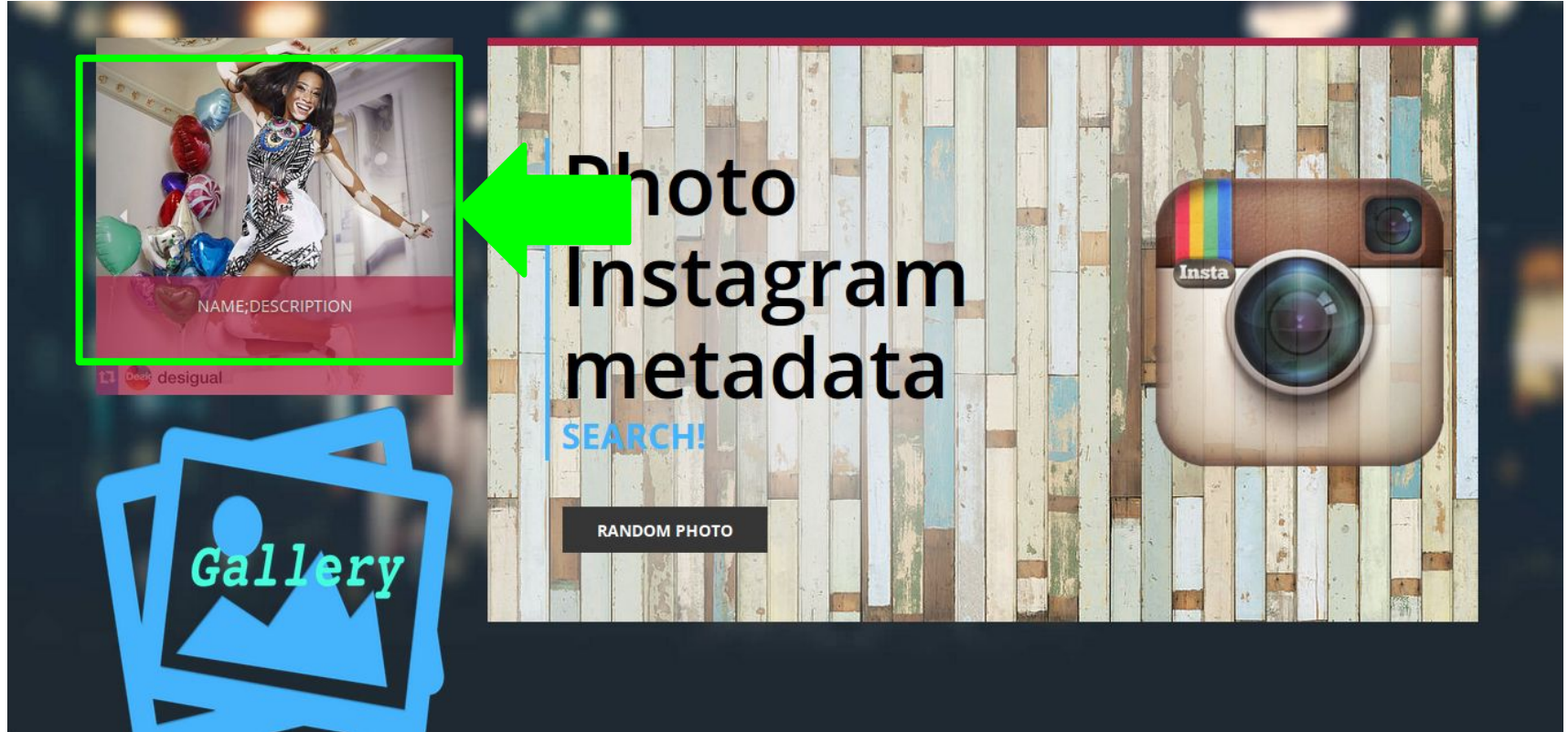
Web Application functionalities (VI)



Web Application functionalities (VII)



Web application functionalities (VIII):



Web application functionalities (IX):

