



INTERNET OF THINGS PROJECT

CONTACT TRACING APPLICATION

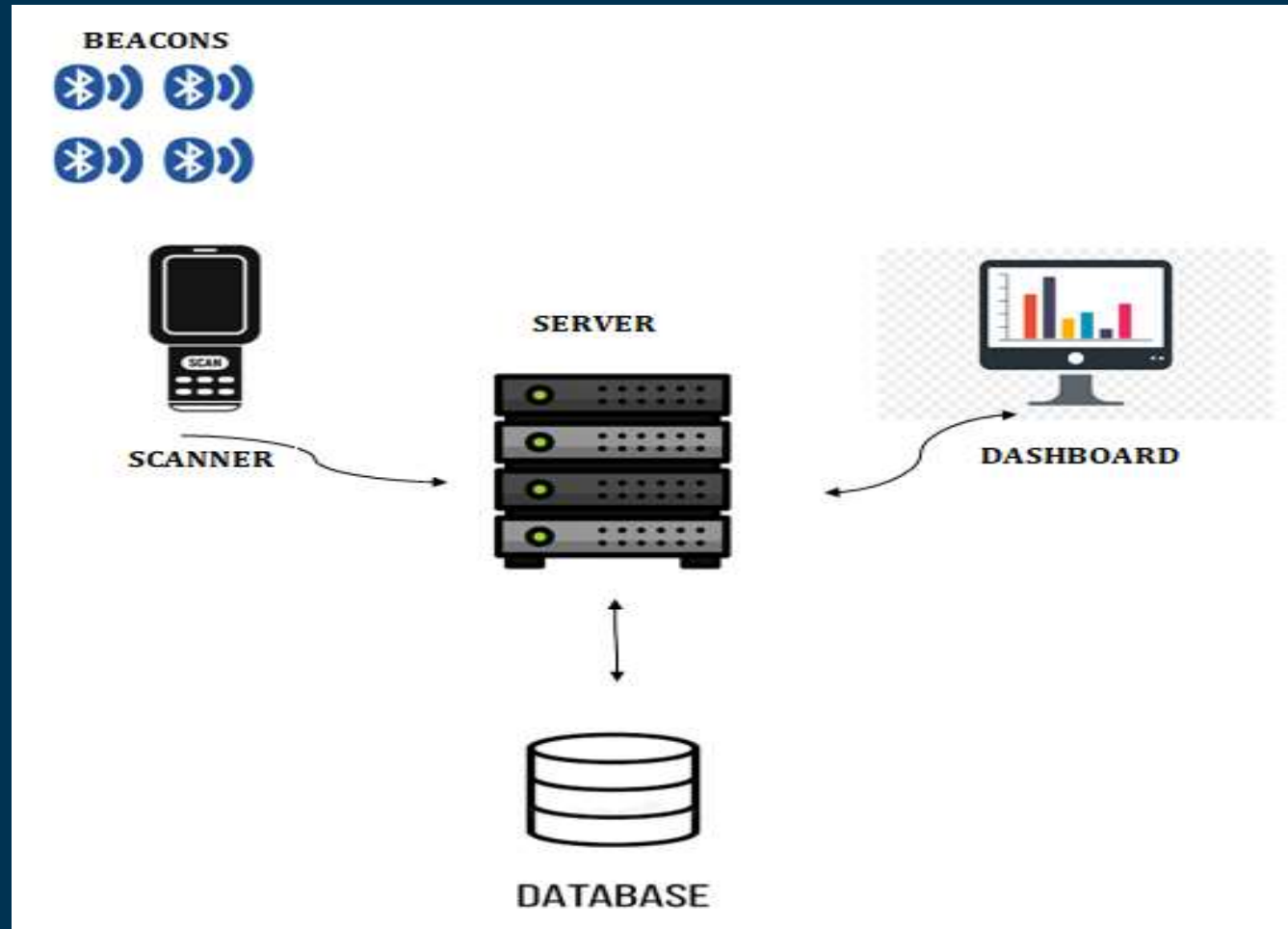
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MATRICOLA:4853961

INTRODUCTION

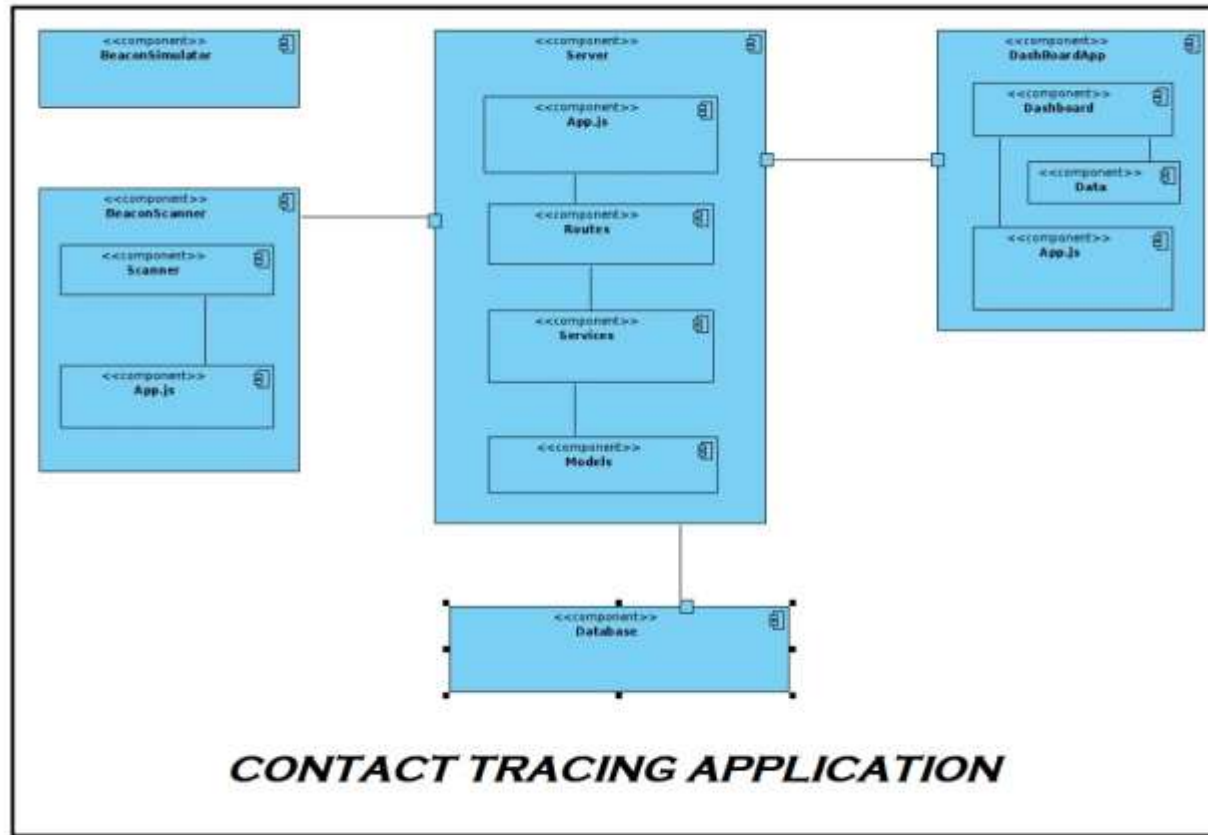
The goal of the project is to make an application that counts the number of people entering a room in building to maintain social distancing. The application consist of 5 main parts:

- Bluetooth Beacon simulator
- Scanner
- Server
- Dashboard
- Database

ARCHITECTURE



COMPONENT DIAGRAM



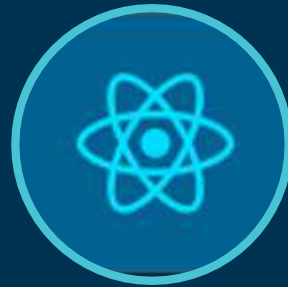
MERN



MONGODB



EXPRESS



REACT



NODE JS



LIBRARIES USED

<i>SIMULATOR</i>	<i>SCANNER</i>	<i>BACKEND-SERVER</i>	<i>DASHBOARD</i>
Noble	Node-beacon-scanner	Express	Mqtt
Bluetooth-hci-socket	Mqtt	Mongoose	Recharts
	Bluetooth-hci-socket	Mqtt	Mdbreact
		Mosca	

DASHBOARD

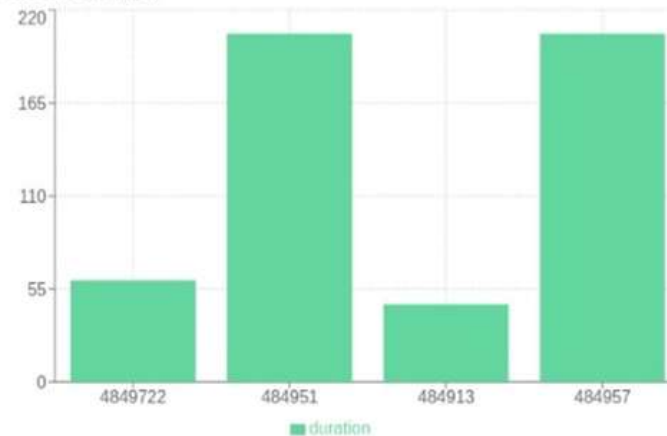
BEACON ID	STUDENT'S MATRICULA	ENTRY TIME	ROOM NUMBER
4577de14-89d3-11ec-a8a3-0242ac120002	4849236	2022-02-12T15:16:18.382Z	/101
4577de14-89d3-11ec-a8a3-0242ac120012	484915	2022-02-11T11:24:00.468Z	/102
4577de14-89d3-11ec-a8a3-0242ac120012	484917	2022-02-11T11:24:00.468Z	/102
4577de14-89d3-11ec-a8a3-0242ac120003	4849234	2022-02-12T15:16:18.383Z	/101
4577de14-89d3-11ec-a8a3-0242ac120001	4849232	2022-02-12T15:16:18.383Z	/101
4577de14-89d3-11ec-a8a3-0242ac120005	4849231	2022-02-12T15:16:18.383Z	/101
4577de14-89d3-11bf-a8a3-0242ac120010	4850672	2022-02-12T12:50:00.468Z	/102
4577de14-8ee3-11bf-a8a3-0242ac120010	4850687	2022-02-12T12:50:00.468Z	/102

Beacons Per Room

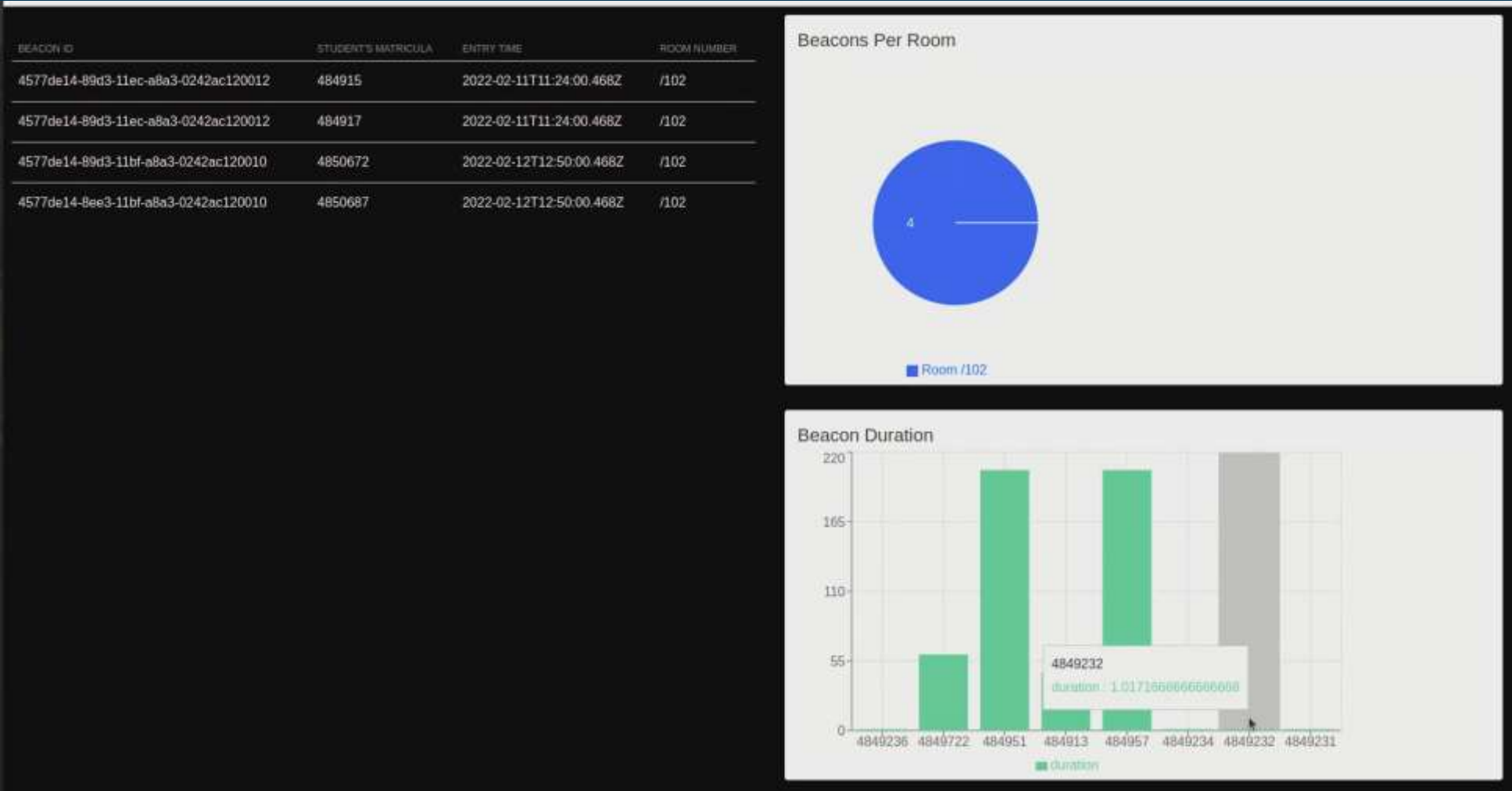


Room /101 Room /102

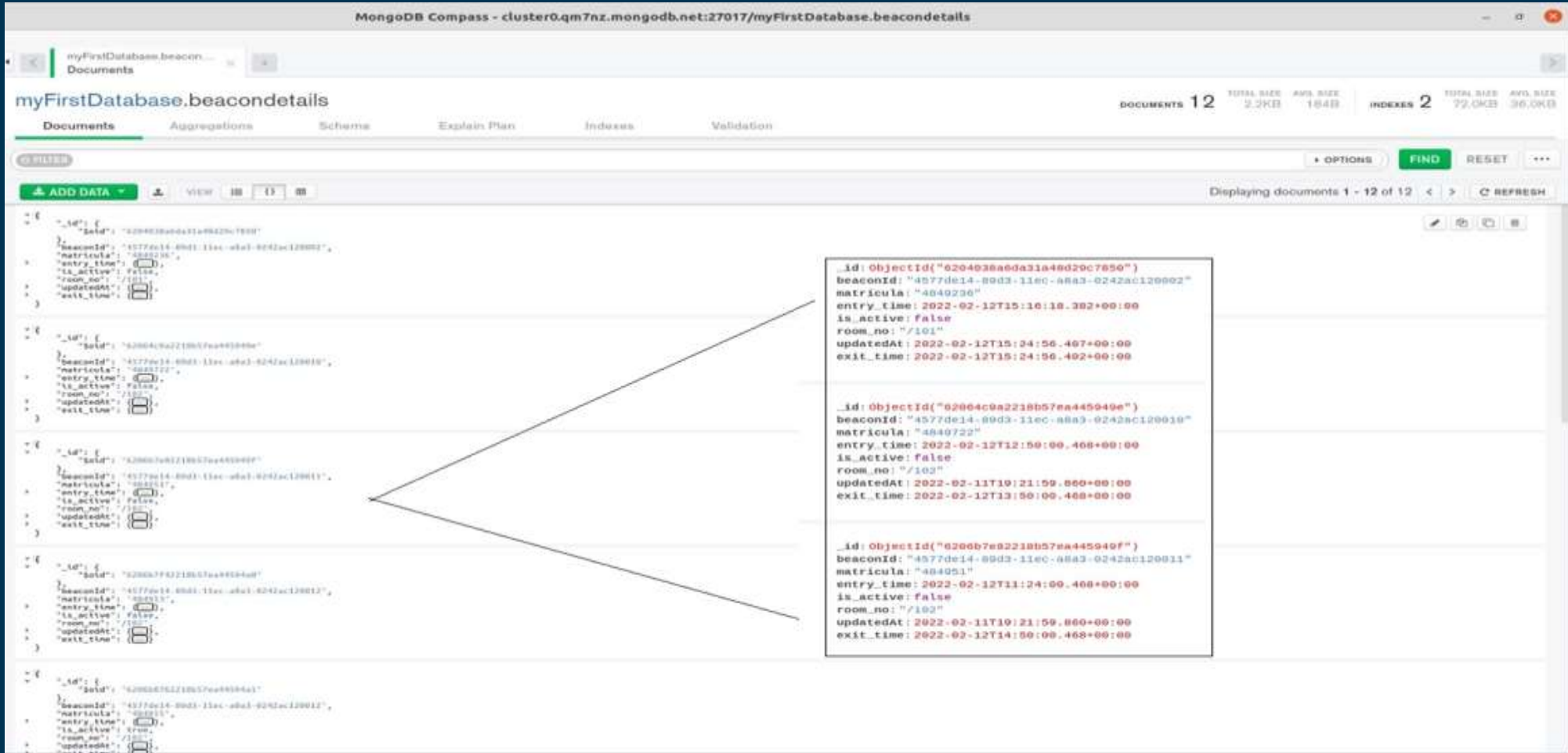
Beacon Duration



DASHBOARD



DATABASE



DEMO

LINK TO VIDEO:

https://unigeit-my.sharepoint.com/:v:/g/personal/s4853961_studenti_unige_it/Ebge4o9aw09KrHvOGs2997ABARGbhk29cbgM9qH9Uc6LMg?e=K42Zn3

FINAL THOUGHTS

- ❑ Good learning experience
- ❑ Learned about a lot of new technologies.
- ❑ Contact tracing app concept is very relevant nowadays.
- ❑ Bluetooth version compatibility was an issue that I faced.
- ❑ Version compatibility issue with certain modules.



Thank You