PoliSAM

Polimi Study Area Manager Application

POLITECNICO
MILANO 1863

SCHOOL OF
INDUSTRIAL AND INFORMATION
ENGINEERING

TEAM:

- Jean Pierre Sleiman: 872156
- Marcelo Noriega: 876290
- Shobhit Yadav: 877404

PROFESSOR:

- Matteo G. Rossi

Agenda

1. Feasibility Analysis
2. Requirements Analysis and Specifications
3. Design
4. Testing
5. Demonstration
6. Conclusions

Feasibility Analysis

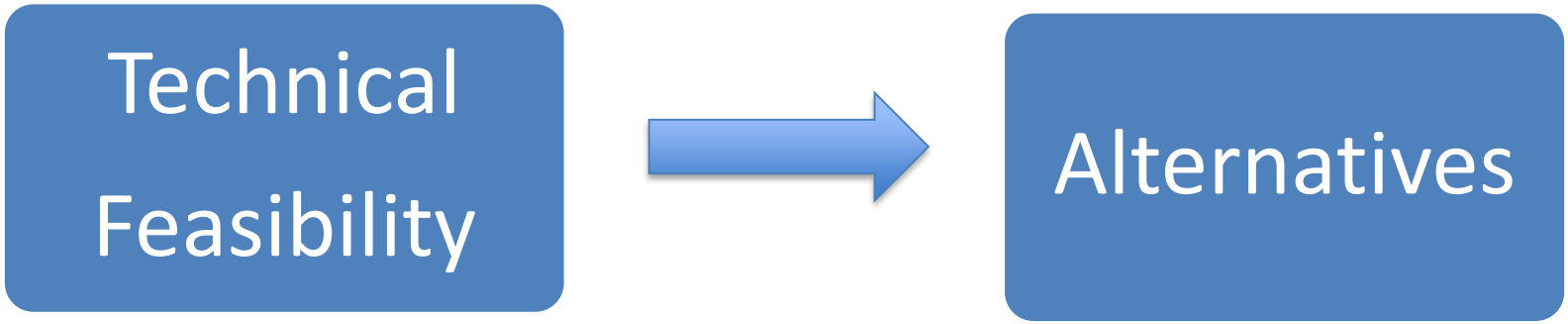
Feasibility Analysis

Problem Description → Overview PoliSAM

- Reliability
- Robustness

- Maintainability
- Portability

Feasibility Analysis

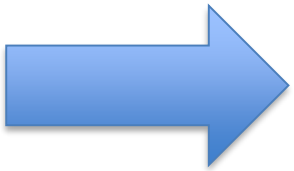


- HTML / CSS / Javascript / for Front – End
- Java / Python / for Back – End
- Mean – Stack
- Visual Programming Environments

Requirements Analysis and Specifications

Requirements Analysis and Specifications

Domain Analysis 5 W´s



Requirements

- Who?
- Why?
- What?
- Where?
- When?

- Real Time data
- Leonardo and Bovisa Campuses
- 3 Types of student areas
- Only for Polimi students

Requirements Analysis and Specifications

Specifications

- Login credentials
- Duplication of credentials

- Reset option
- User´s location

- Remember passwords
- Displays username and logout

- Chat room for teams
- Contraints for study areas

- List of study areas
- Filtering process

- Capacity - Occupancy
- Check out status

Requirements Analysis and Specifications

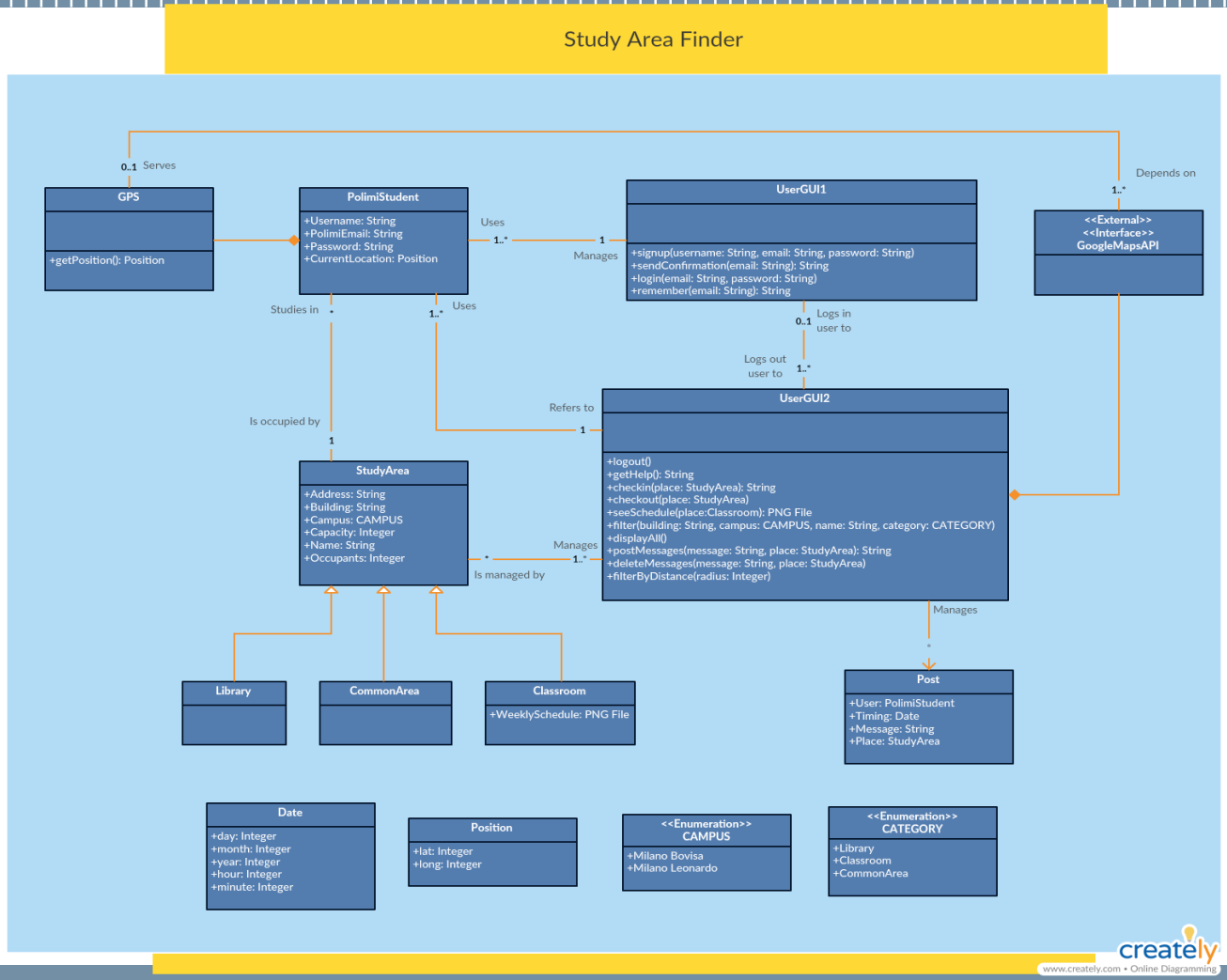
Assumptions

Selection Criteria

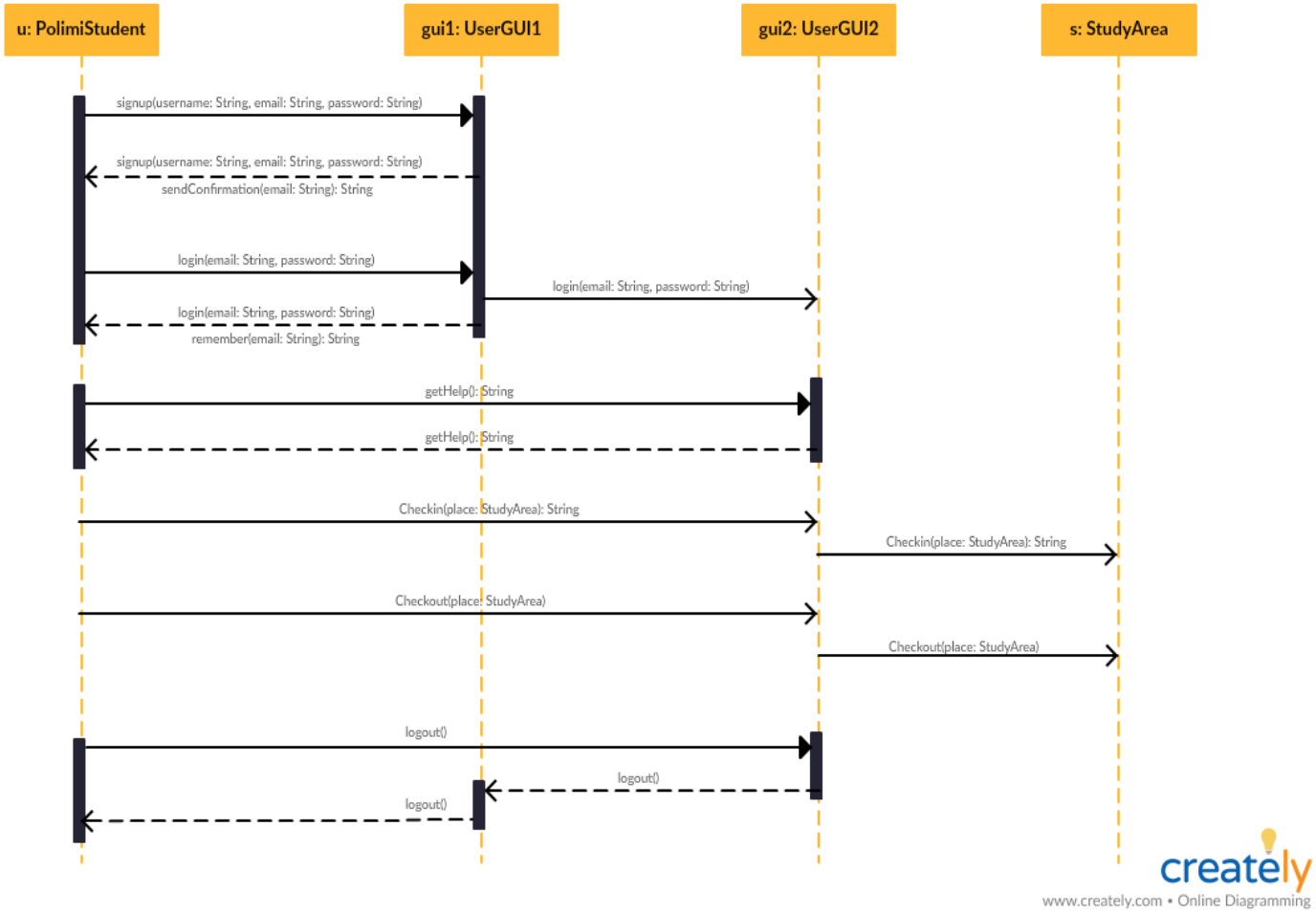
Why a Visual Programming Environment?

WHY BUBBLE?

Requirements Analysis and Specifications



Requirements Analysis and Specifications



Software Design Document

Design Goals

Scalability

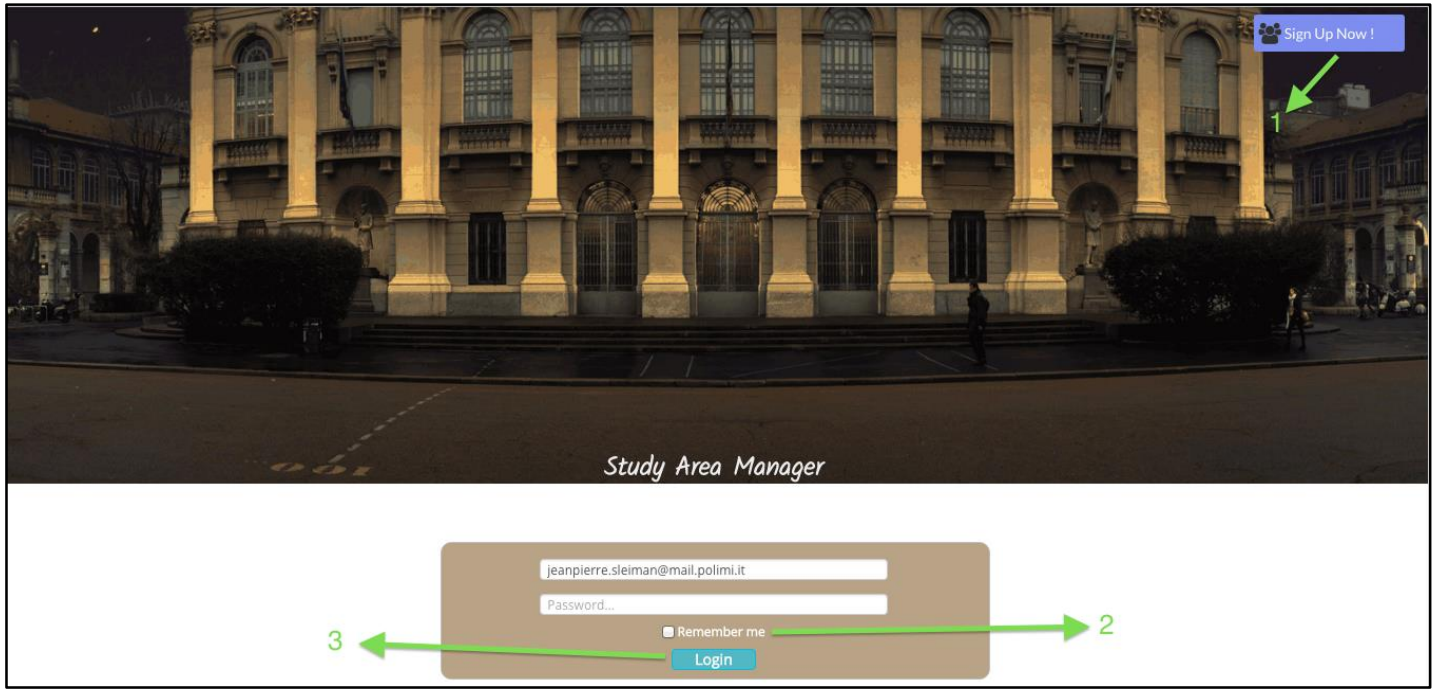
Efficient Implementation

Usability

Cross-Device Compatibility

General High-Level Architecture

User GUI 1



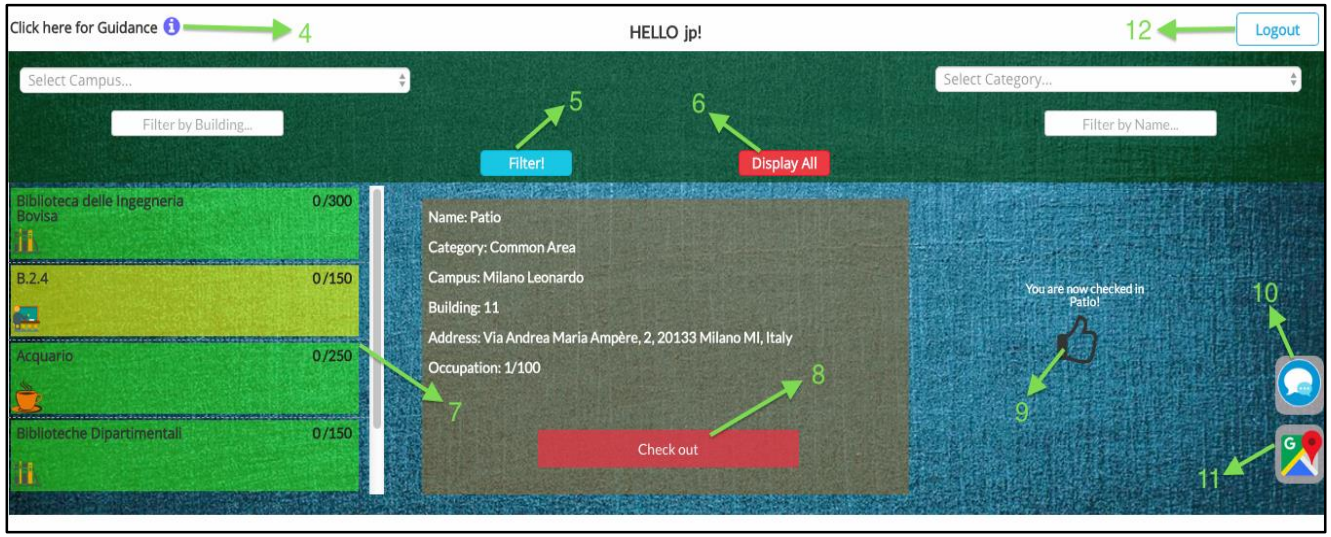
Sign Up

Remember User Email

Login

General High-Level Architecture

User GUI 2

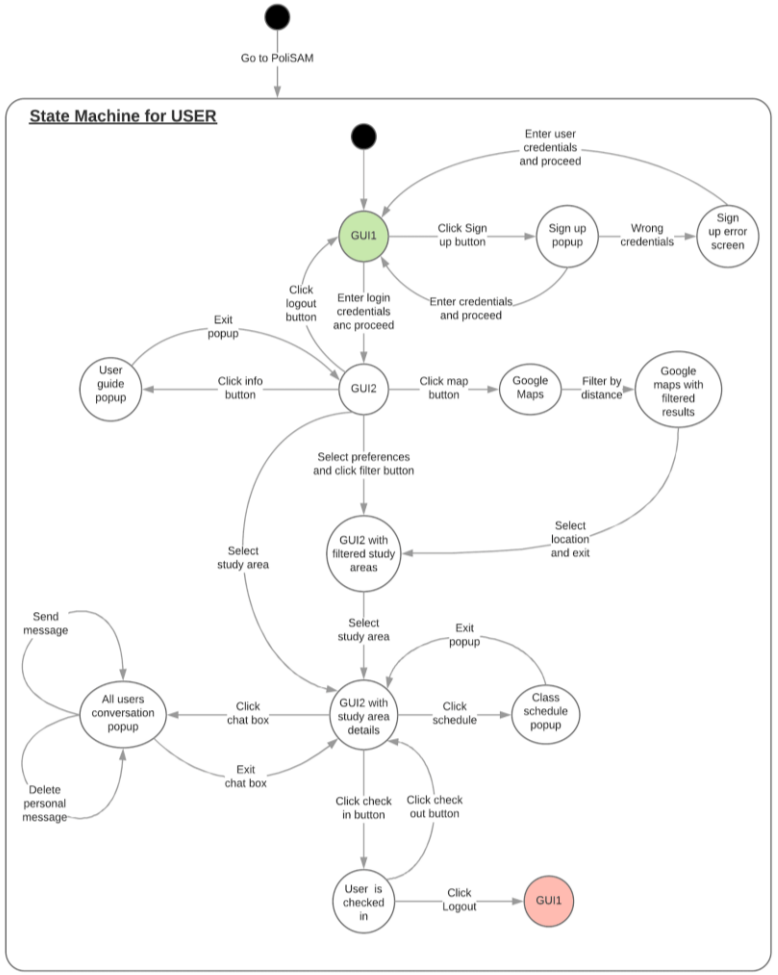


- Assistance
- Filter
- Display All
- Select Option
- Check-in / Check-out
- Display Check-in Option
- Messaging
- Interactive Map

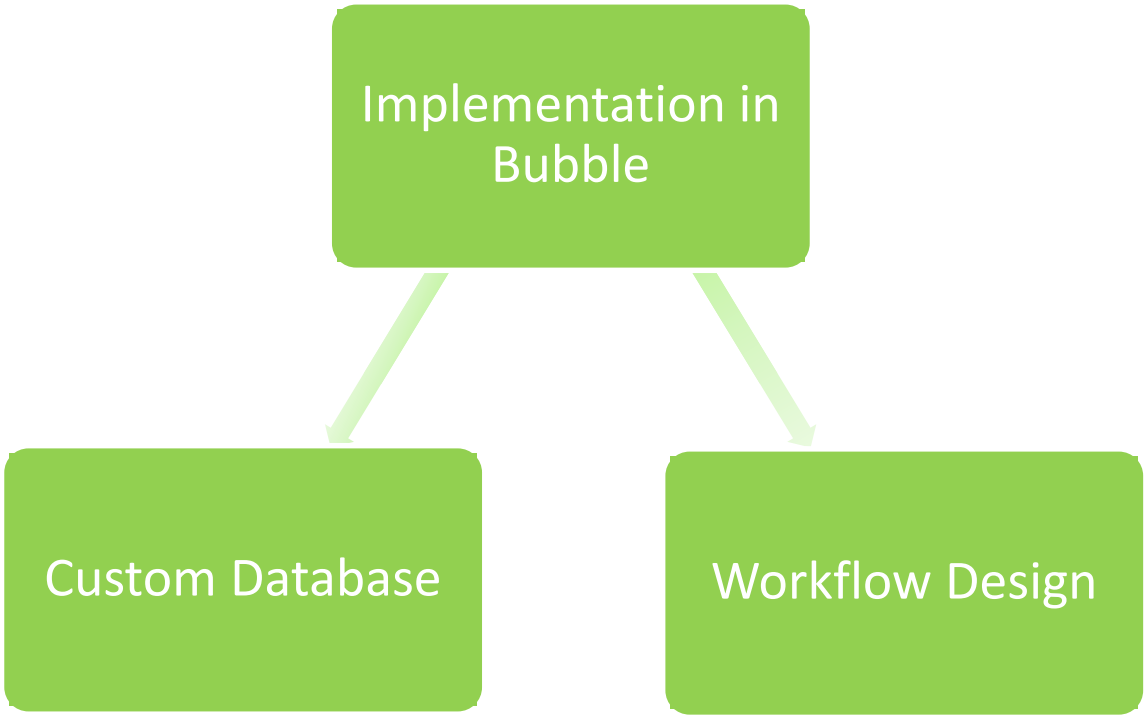
General High-Level Architecture

Integrating all functionalities together

Full system behavior modeled with an FSM



Low-Level Implementation



Custom Database

TYPE: User

Fields for type User (show deleted fields)

Type name	User
Checked in	yes / no
Place	Study Area
Username	text
email	text

TYPE: Study Area

Fields for type Study Area (show deleted fields)

Type name	Study Area
Address	geographic address
Building	text
Campus	text
Capacity	number
Category	text
Name	text
Occupants	number
Ratio	number
Schedule	image

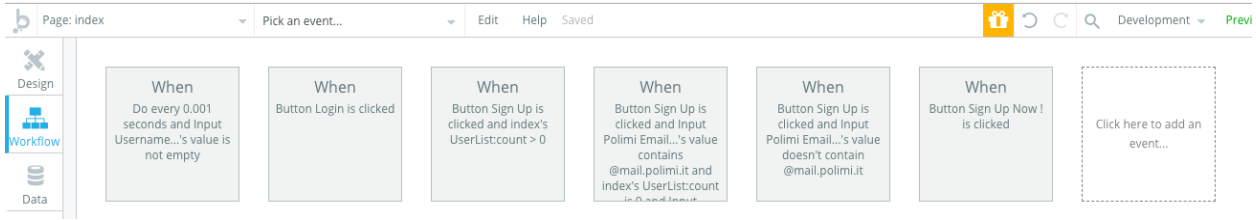
TYPE: Post

Fields for type Post

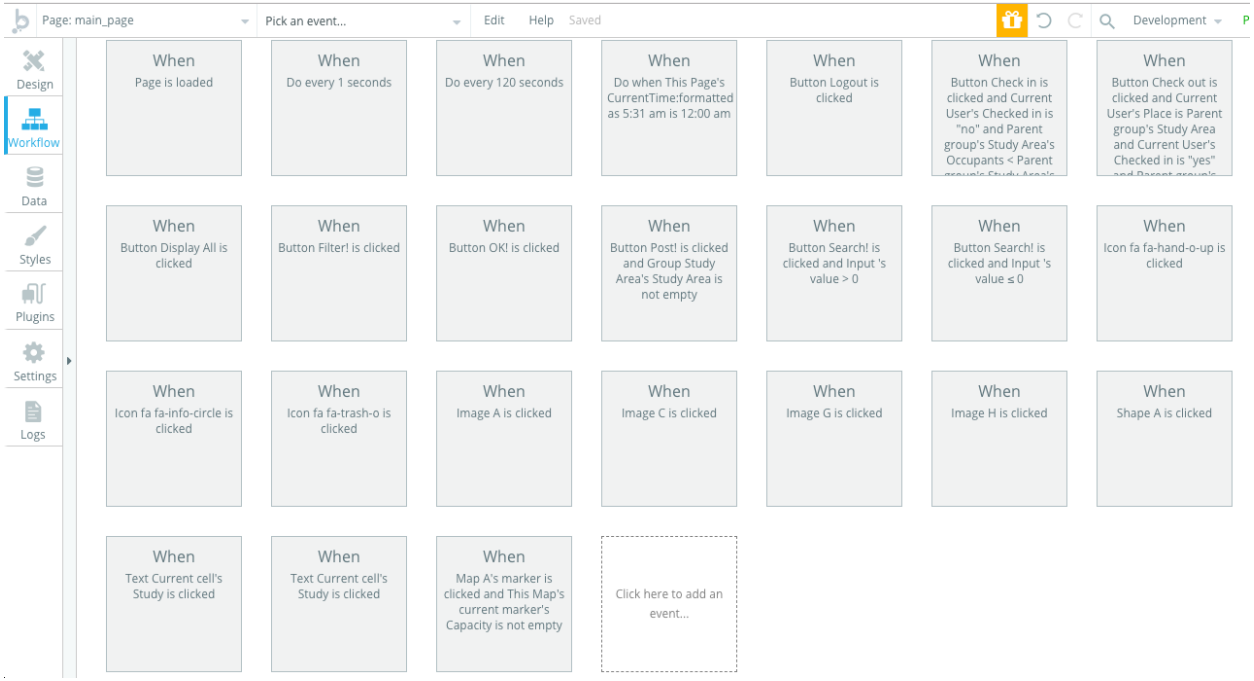
Type name	Post
Message	text
Person	User
PostPlace	Study Area
Timing	date

Workflow Design

Workflow Events for GUI 1

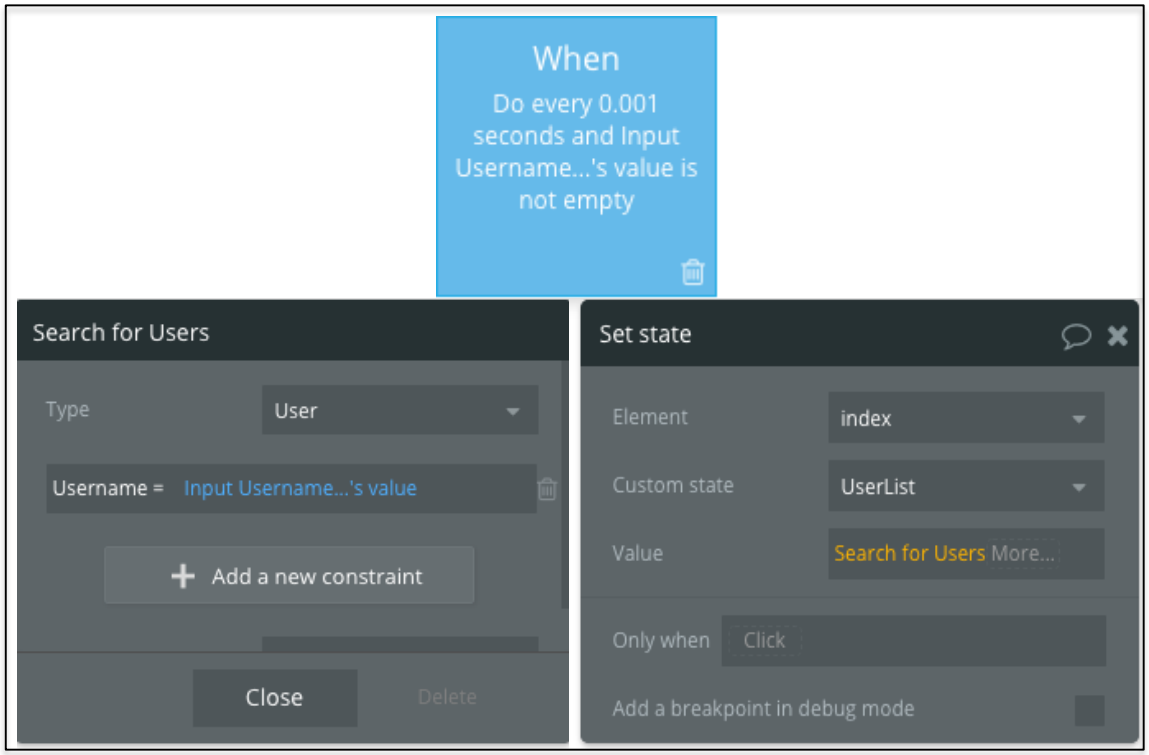


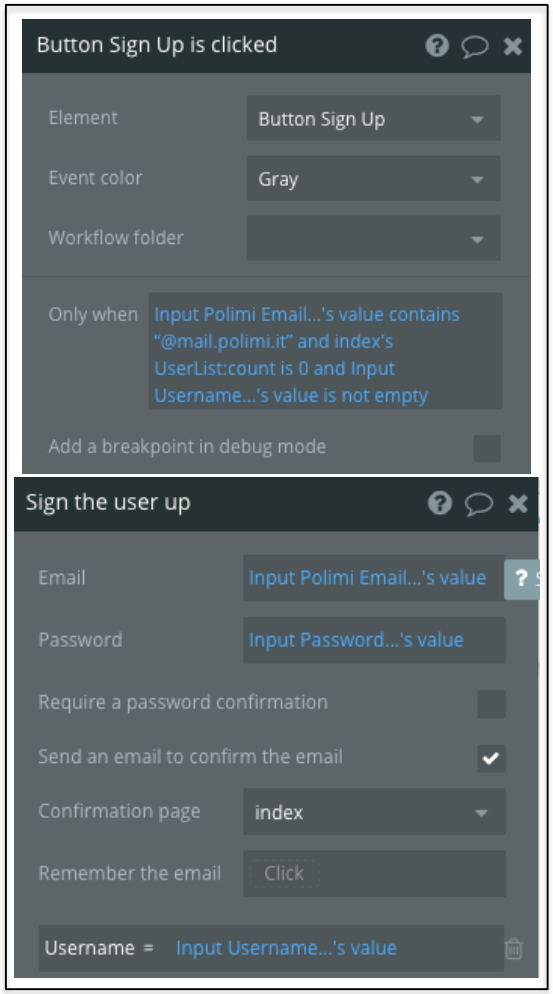
Workflow Events for GUI 2



Workflow Design

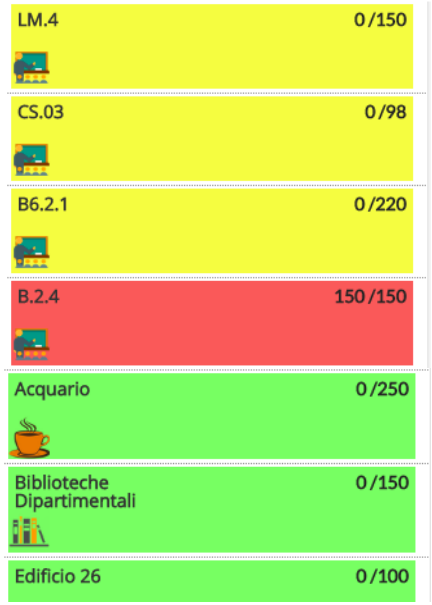
Signing Up

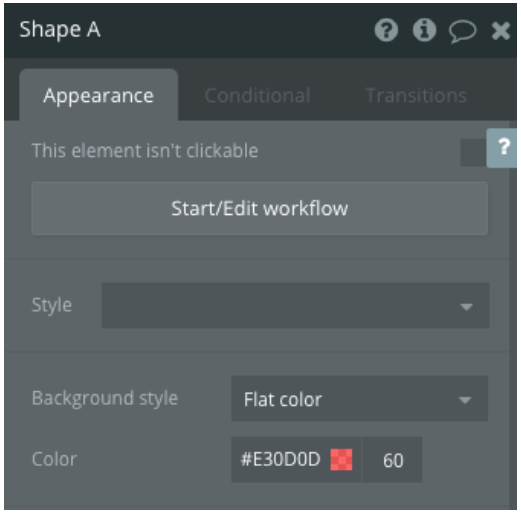


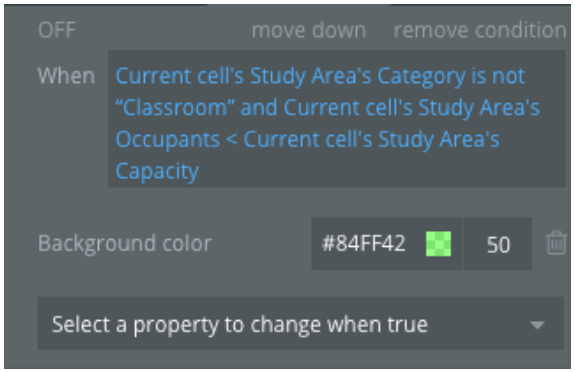


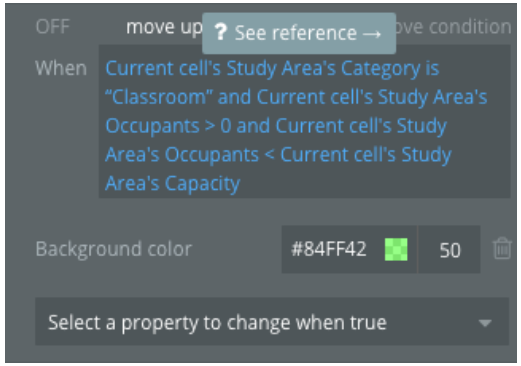
Workflow Design

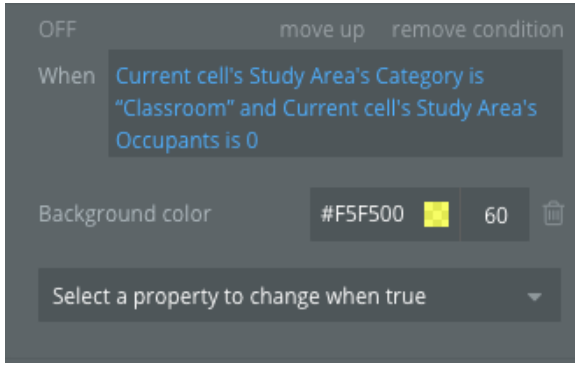
Display of Study Areas





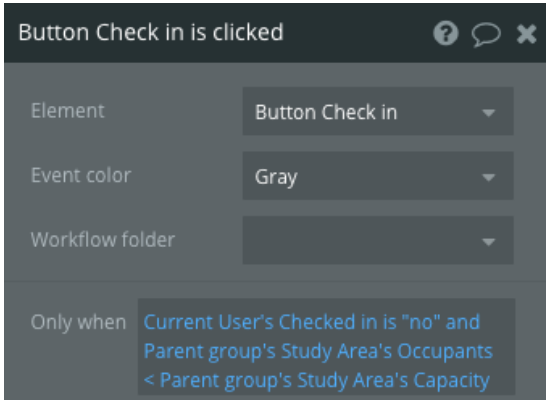


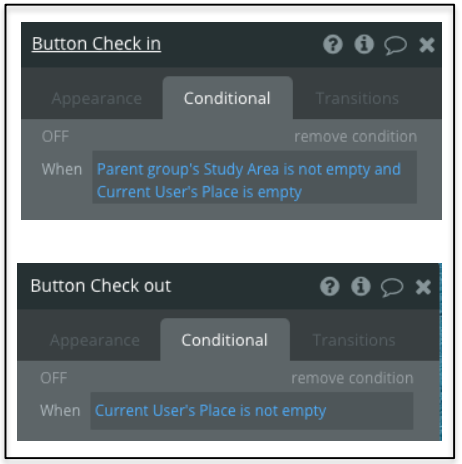


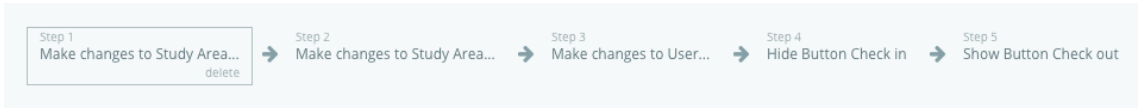


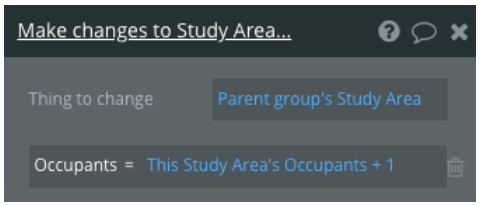
Workflow Design

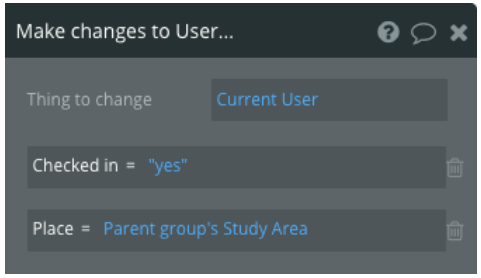
Checking-In & Checking-Out

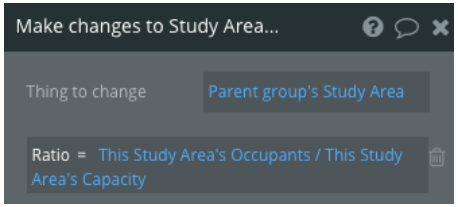












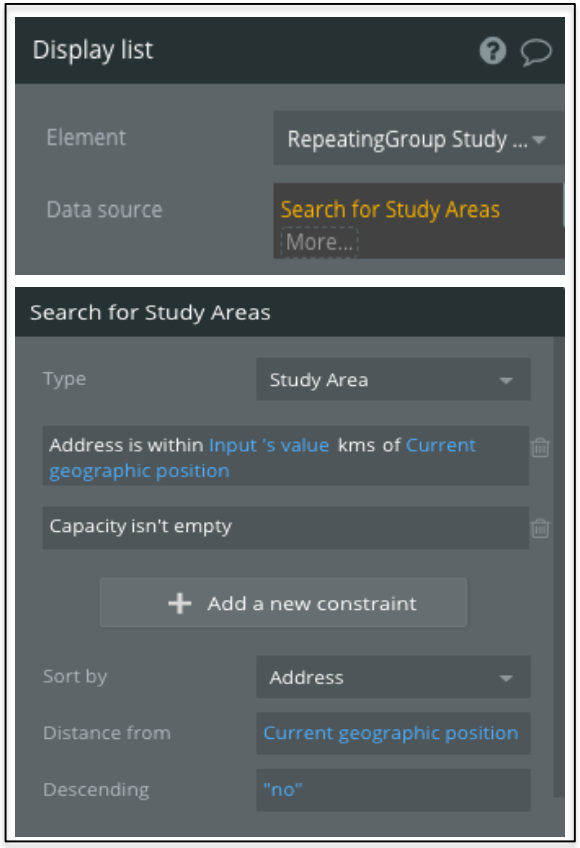
Step 1

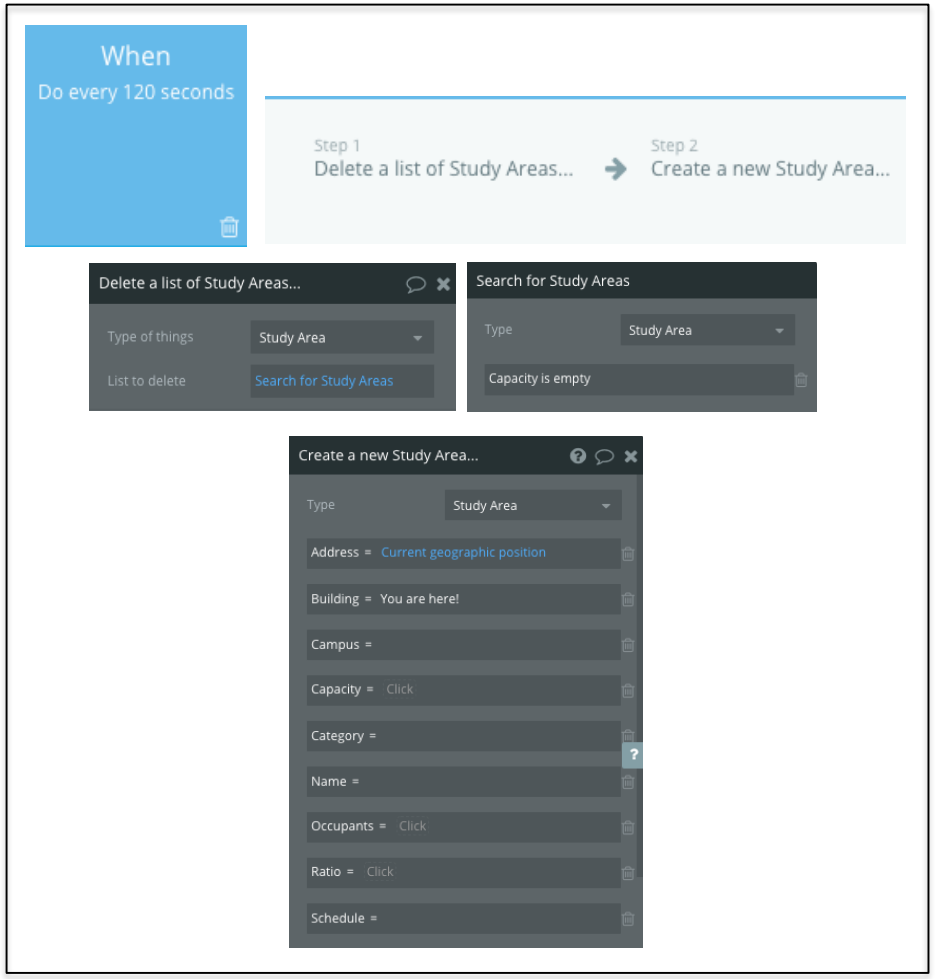
Step 2

Step 3

Workflow Design

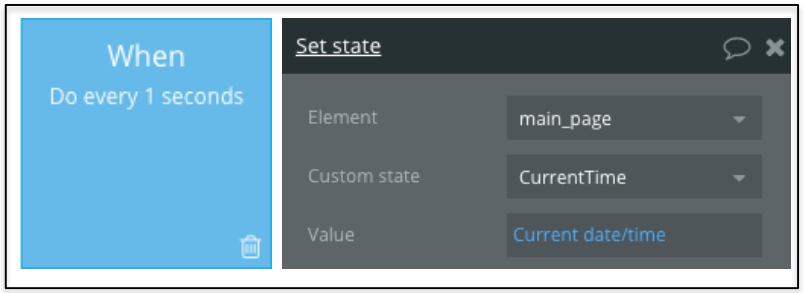
Google Maps Feature

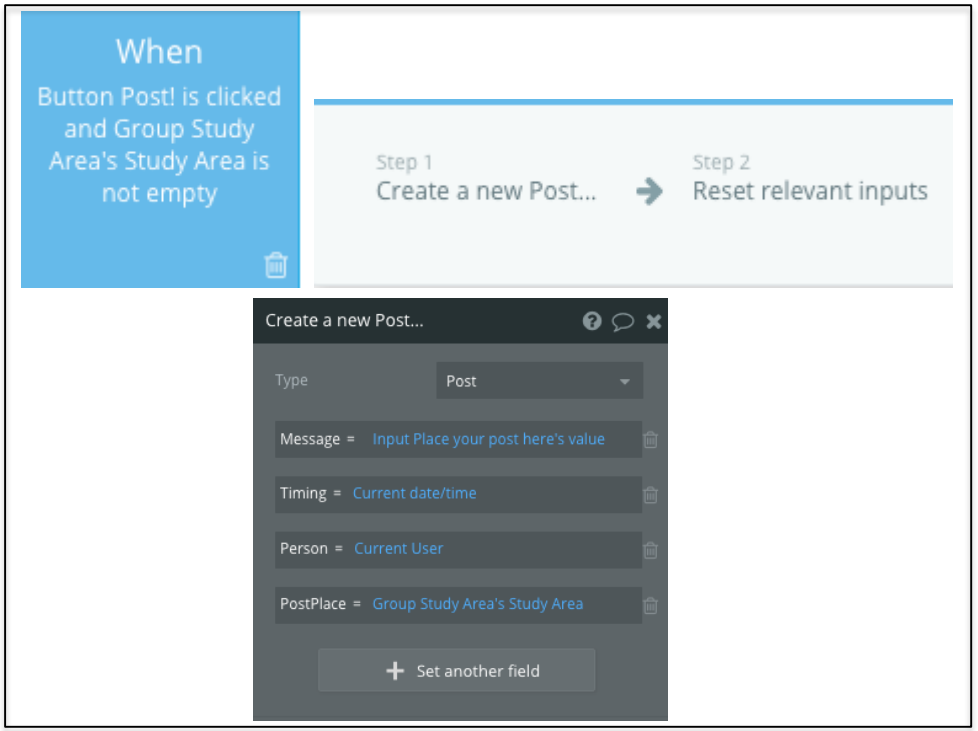


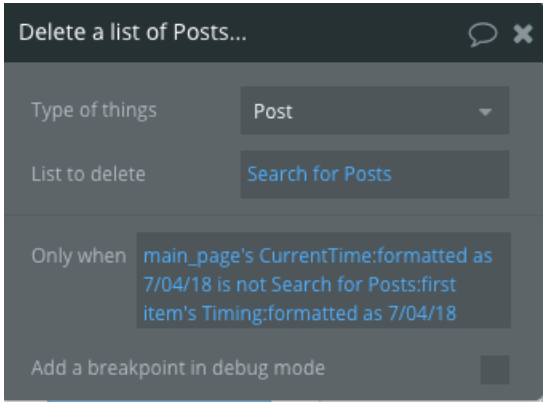


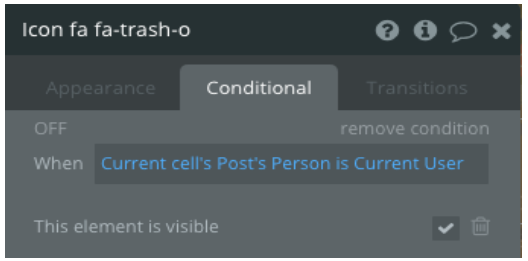
Workflow Design

Messaging Feature

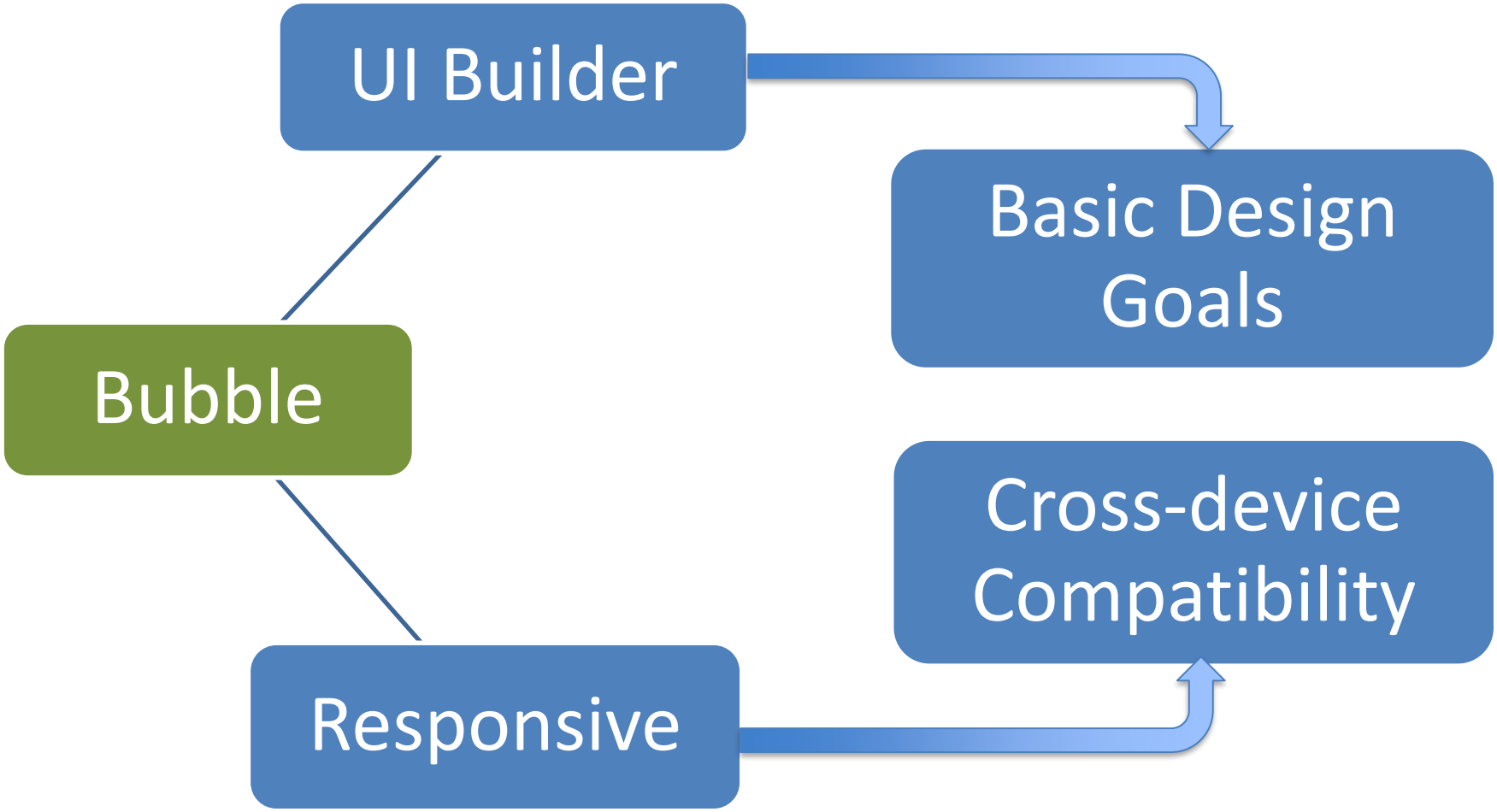




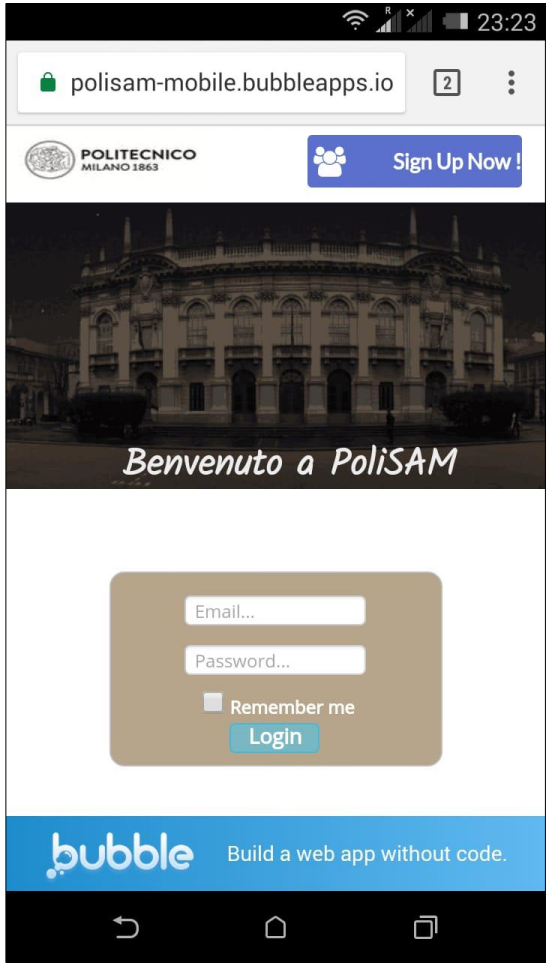




Responsive Mode of Bubble



Responsive Mode of Bubble



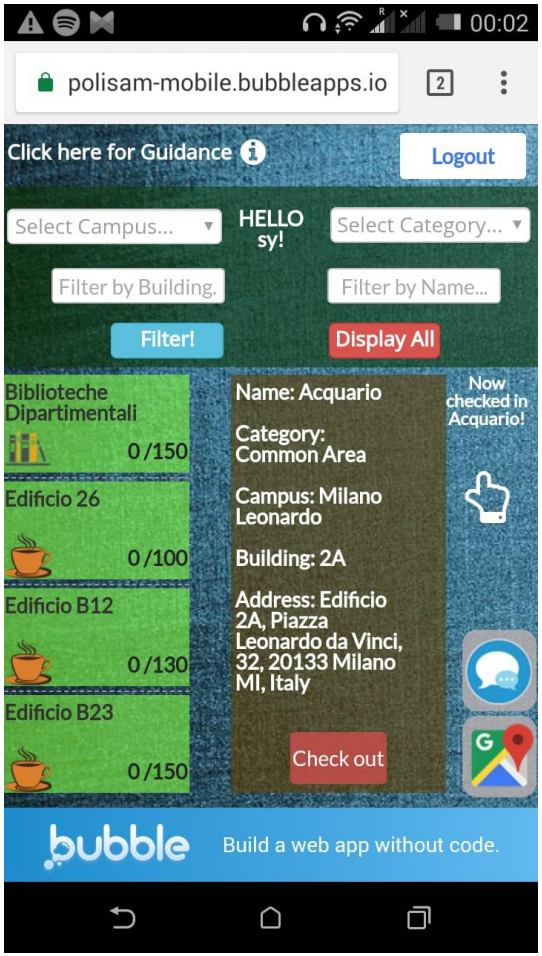
User GUI 1

Sign Up

Remember User Email

Login

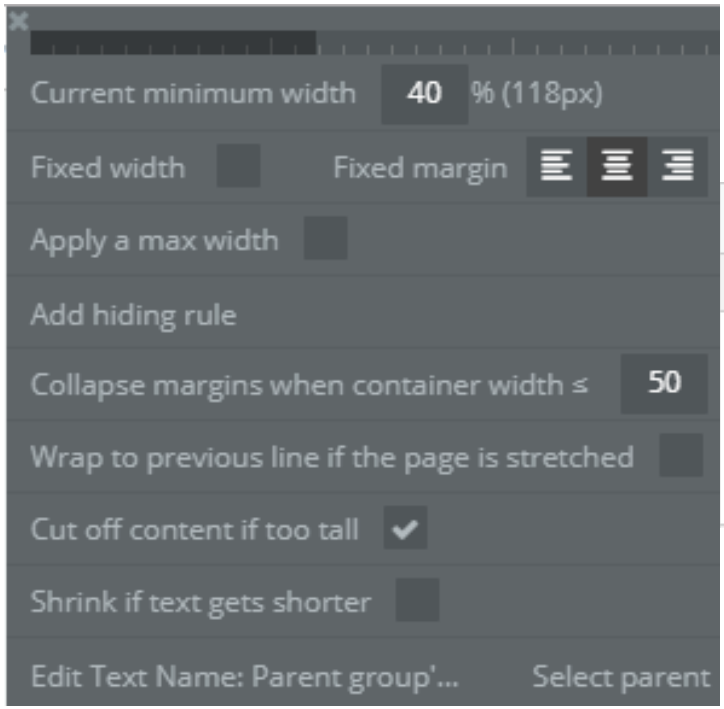
Responsive Mode of Bubble

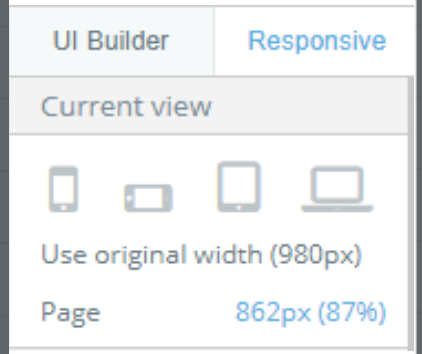


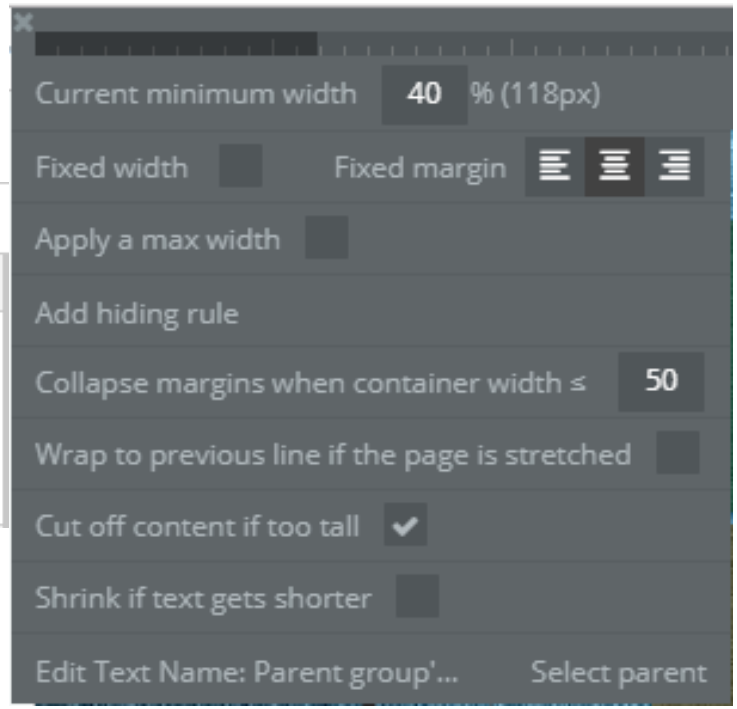
User GUI 2

- All previous features
- Adaptive Margins/Size
- Toggle Schedule button
- Floating Buttons
- Minimum / Maximum dimensions
- Cut-off text

Responsive Mode of Bubble







Cut-off content

Max/Min Dimension

Testing

Testing

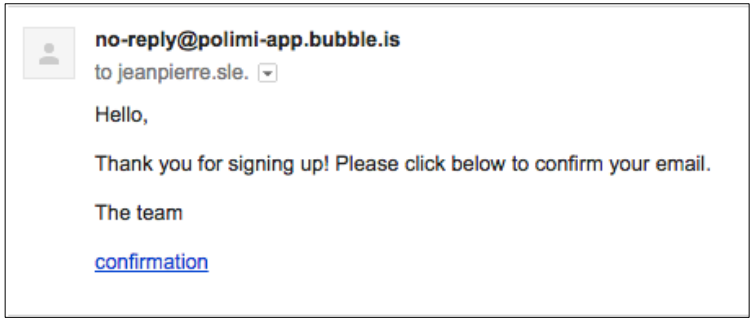
SIGNING UP

Test 1 — Authentication success

Test 2 — Signup fails (wrong email)
Username already exists

Test 3 — Already used email

Test 4 — Incomplete Credentials



Testing

LOGGING IN

Test 1

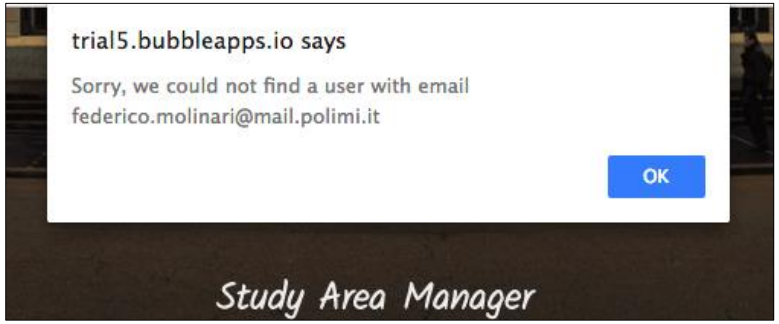
- Login succeeds

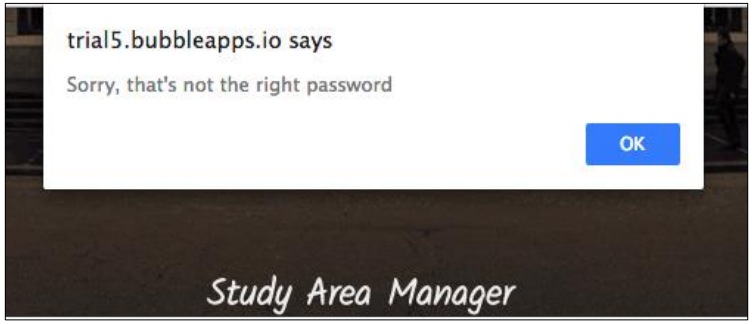
Test 2

- Non existing email is entered

Test 3

- Wrong password is entered



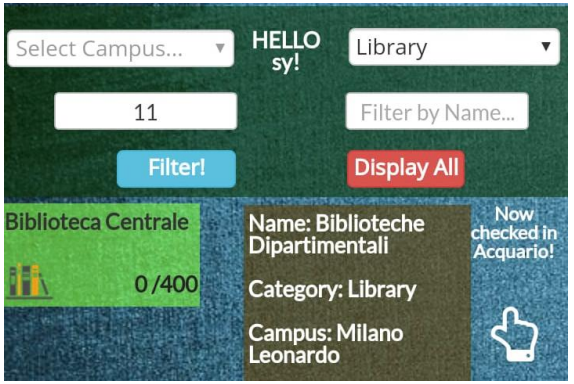


Testing

FILTERING

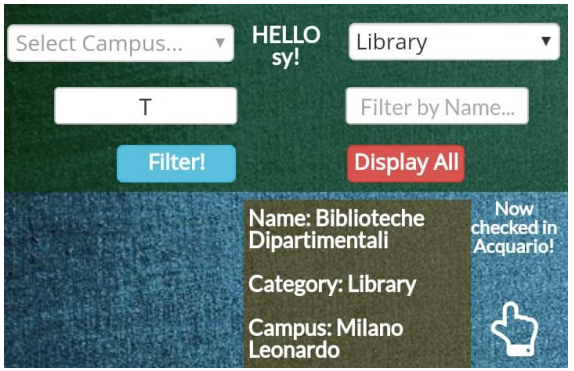
Filtering success

Test 1



Study area does not exist

Test 2



Testing

CHECK IN / CHECK OUT

Test 1

- Check in button does not appear if study area not selected

Test 2

- Normal check in

Test 3

- Check in other study areas while checked in

Test 4

- Check out fails if checked in area is not selected

Testing

CHECK IN / CHECK OUT

Test 5

- Refresh check in status is preserved

Test 6

- Normal check out

Test 7

- Check in fails if study area already full

Testing

SEARCH BY MAP

Test 1

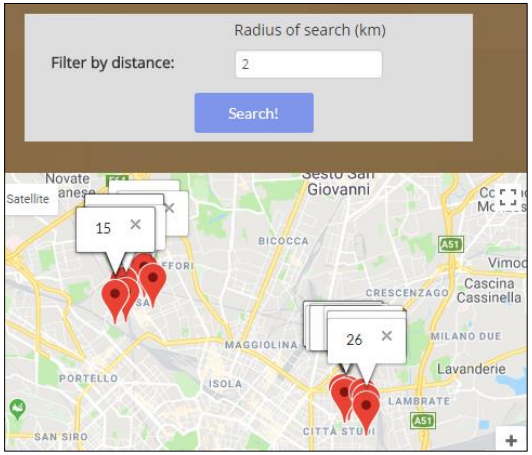
- Not enough distance

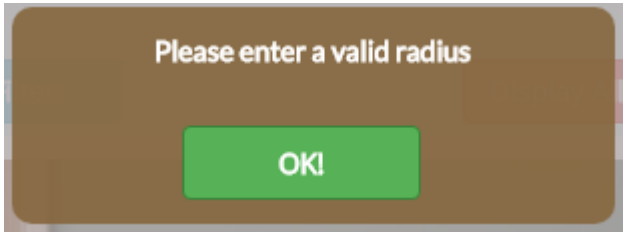
Test 2

- Normal search

Test 3

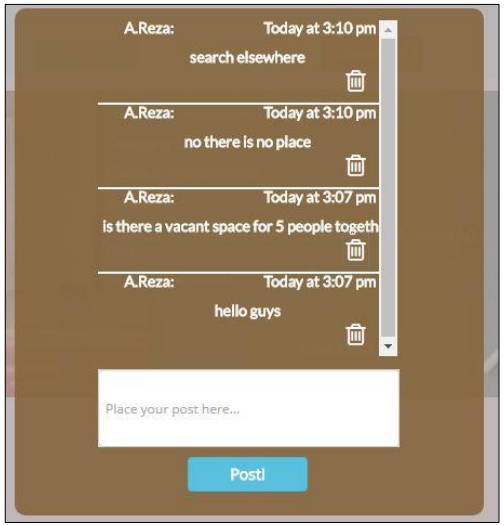
- Negative distance invalid input





Testing

CHAT BOX



Test 1 If no study area selected no chatbox

Test 2 Successful posting

Test 3 Successful deleting

Test 4 Cannot delete other user´s messages

Testing

Experimental Tests

- Alpha Test
- Beta Test

Conclusion

- Learning software development process
- Effort distribution
- Deployment
- Maintenance
- Delivery of requirements (Correctness)
- Reliability (depends on Polimi students)
- Bubble Advantages vs Disadvantages

Thank You