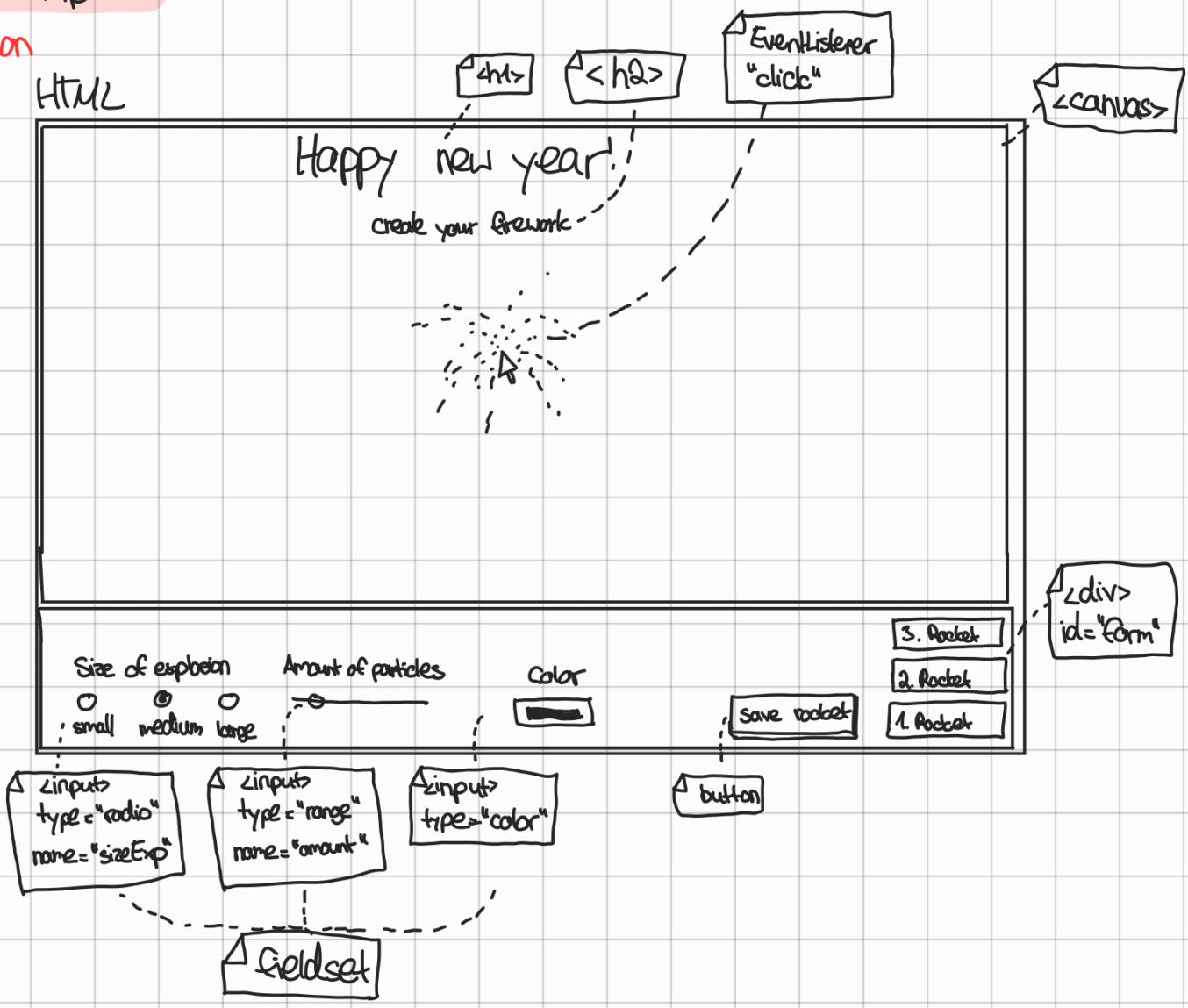
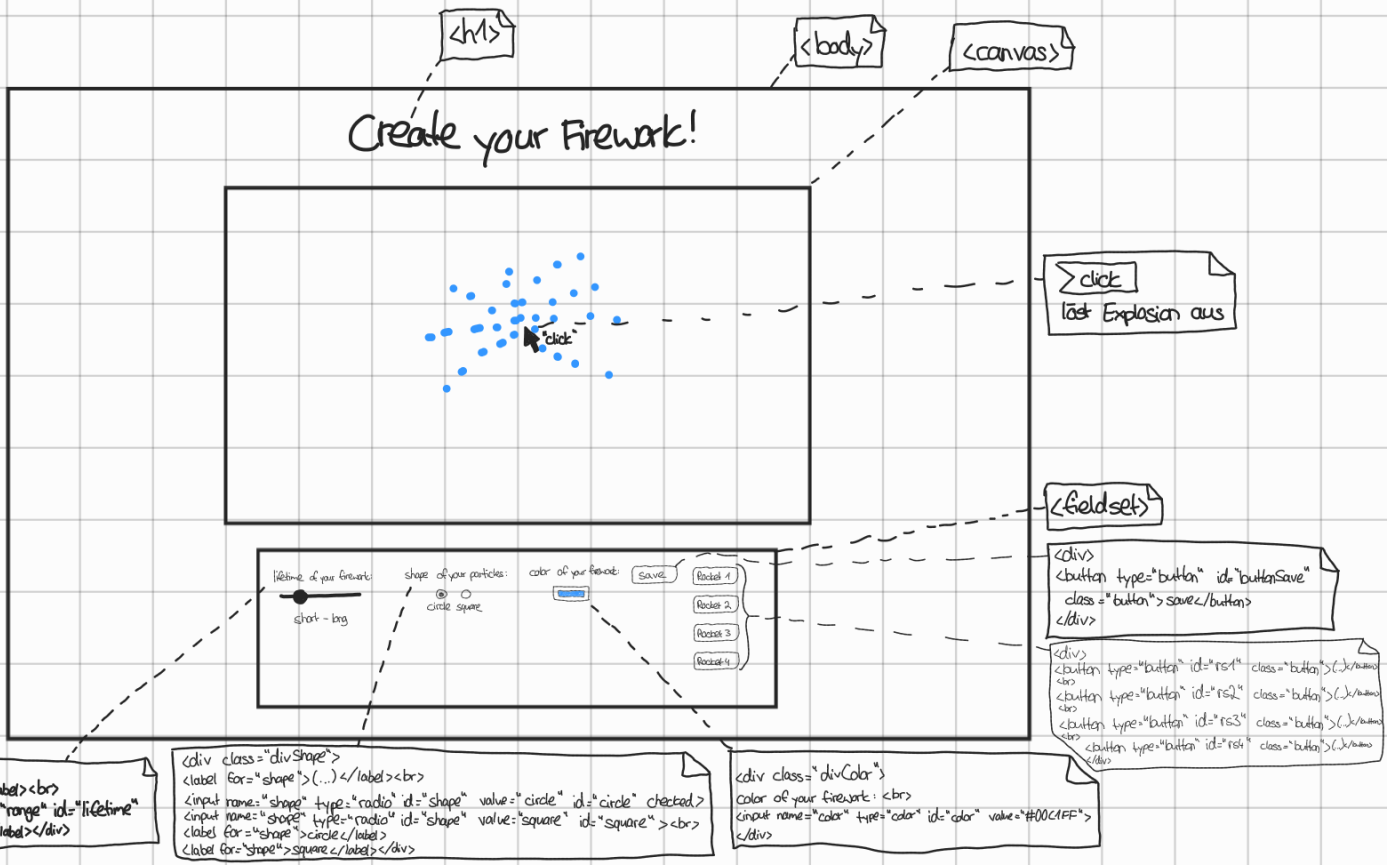
UI - Scribble

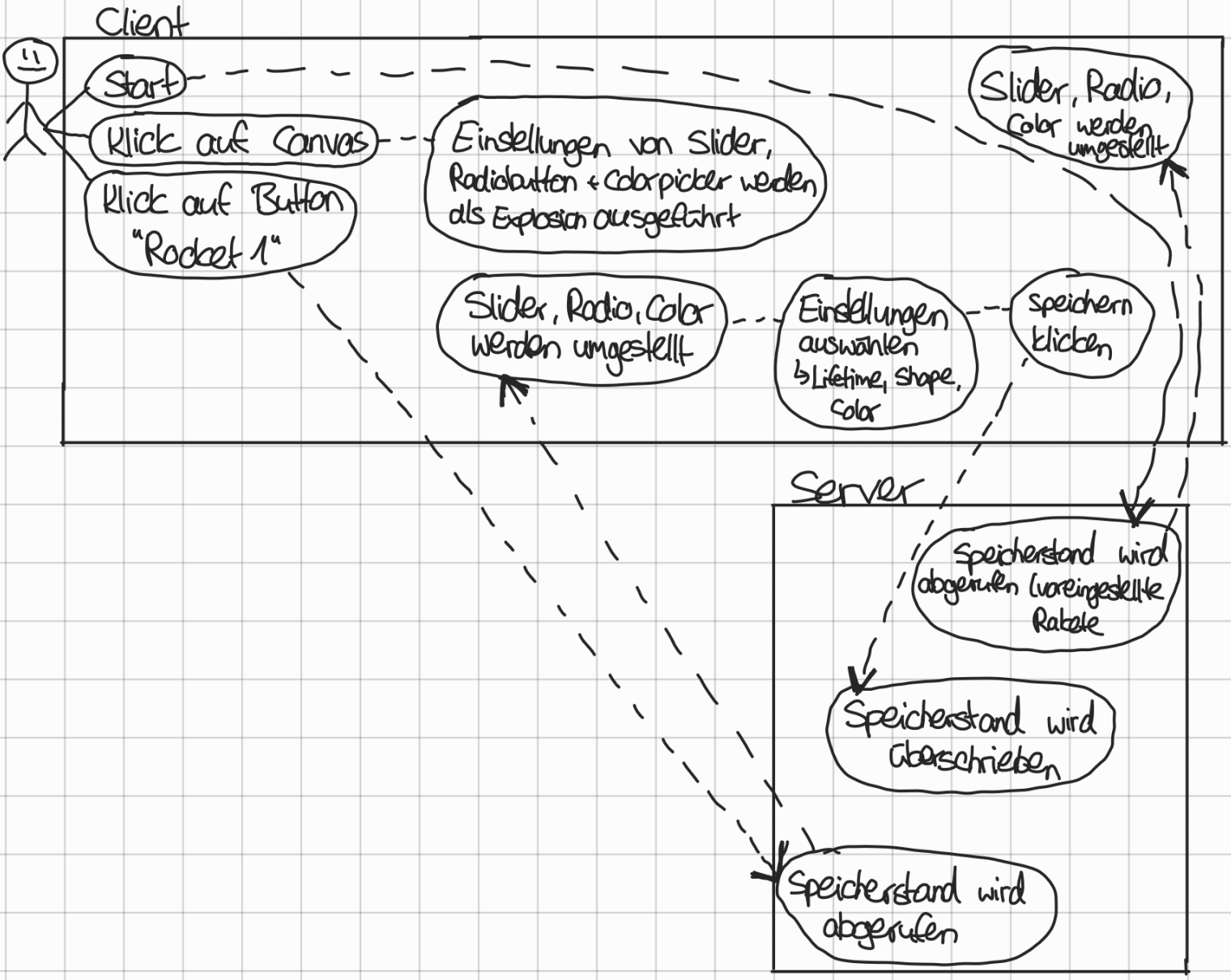
1. Version



2. Version



Use Case


Client
Start
Klick auf Canvas
Klick auf Button "Rocket 1"
Einstellungen von Slider, Radiobutton & Colorpicker werden als Explosion ausgeführt
Slider, Radio, Color werden umgestellt
Slider, Radio, Color werden umgestellt
Einstellungen auswählen
↳ Lifetime, Shape, Color
speichern klicken
Server
Speicherstand wird abgerufen (voreingestellte Rakete
Speicherstand wird überschrieben
Speicherstand wird abgerufen

Classes

Vector

x : number
y : number

constructor(_x, _y){
    this.set(_x, _y) }

set(_x, _y): void

add(_addend:Vector): void

Particle

position: Vector
amount: number
size : number
color : string
lifetime: number
shape : string
opacity : number
velocity: Vector

constructor(_color, _shape, _position, _lifetime){
    velocity = new Vector(this.velocity.x, this.velocity.y)
    position = new Vector(this.position.x, this.position.y)
    this.position = _position
    this.color = _color
    this.size = Math.random
    this.velocity = _velocity (Math.random)
    this.opacity = 1
    this.lifetime = _lifetime }

move();

Rocket

position: Vector
color: string
shape: string
lifetime: number
Particles: Particle[]

constructor(_position, _color, _shape, _lifetime){
    this.position = new Vector(this.position.x, this.position.y)
    this.color = _color
    this.shape = _shape
    this.lifetime = _lifetime }

explode()

Circle

Circle extends Particle

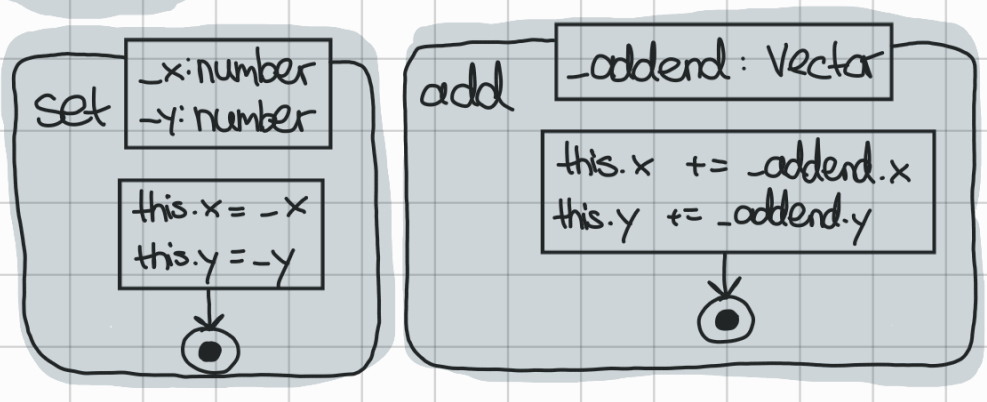
constructor(_color:string, _position:Vector, _lifetime:number)
{this.draw()}

Square

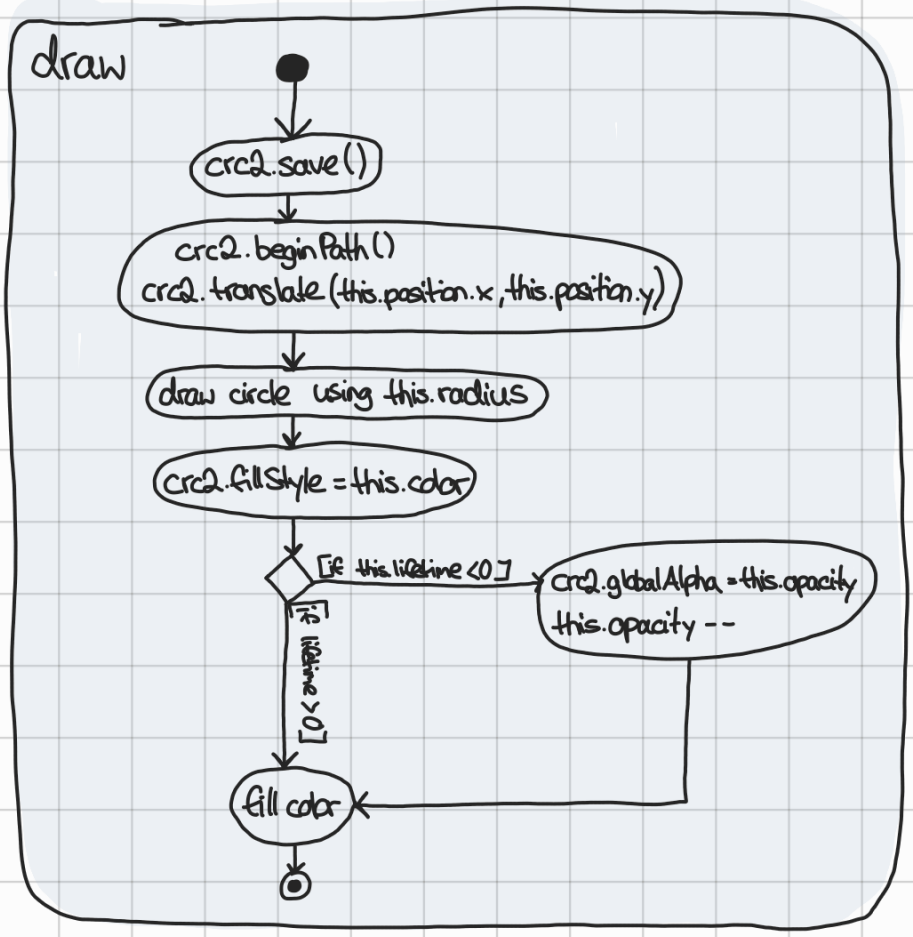
Square extends Particle

constructor(_color:string, _position:Vector, _lifetime:number)
{this.draw()}

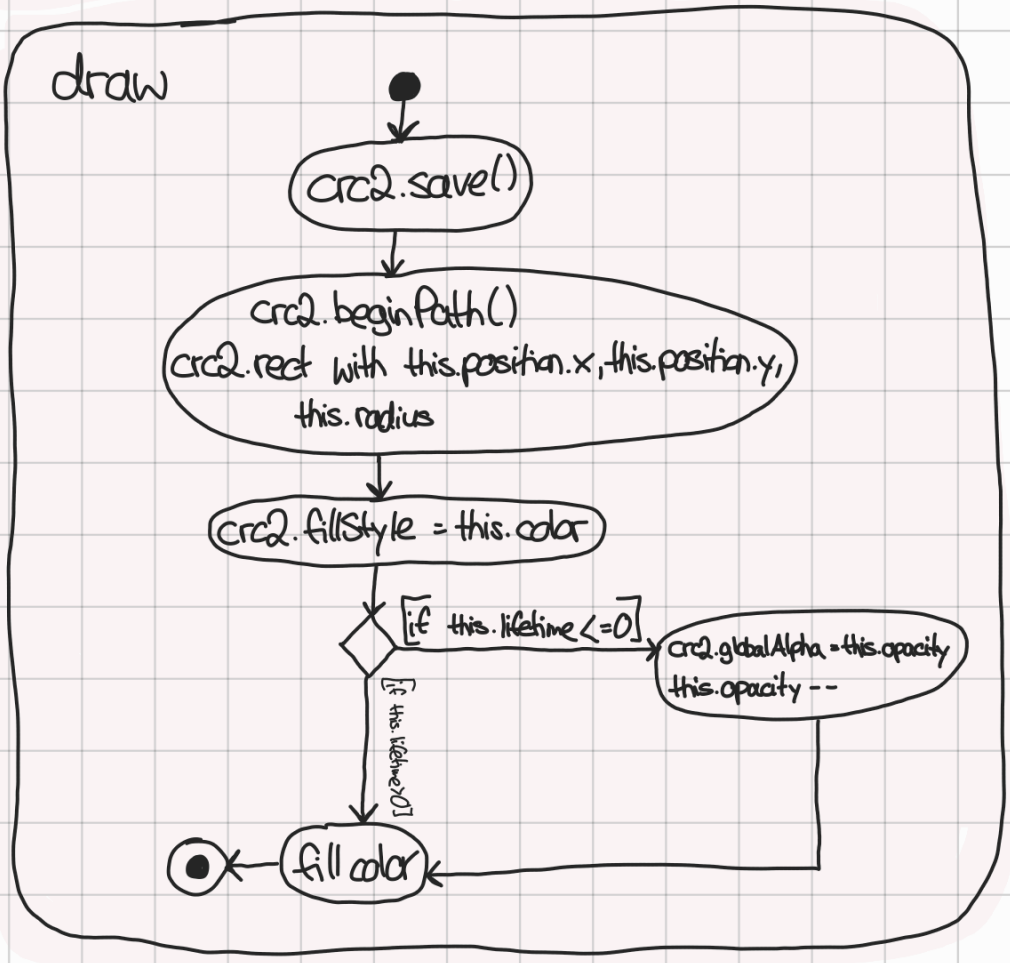
Vector



Circle

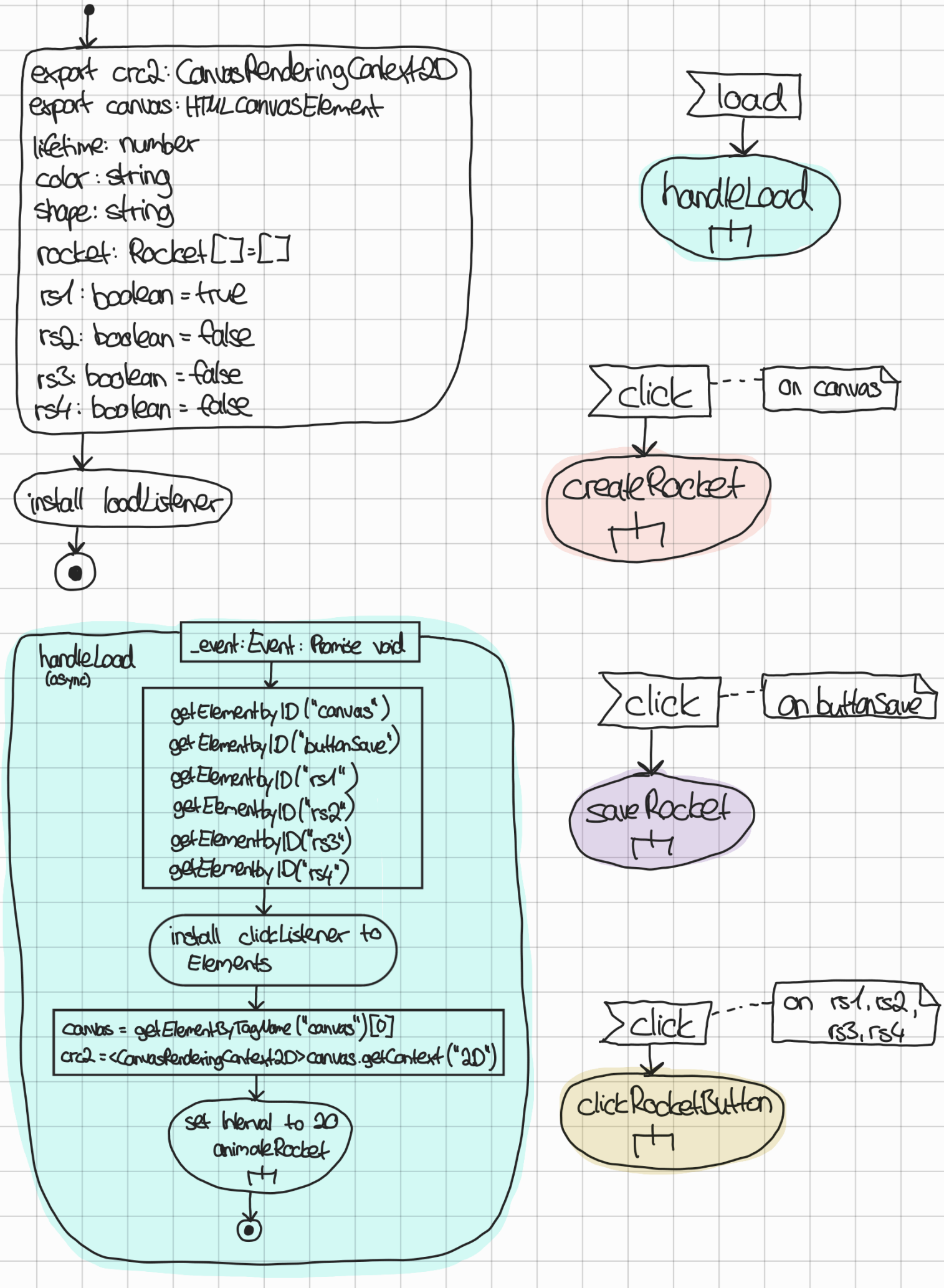


Square

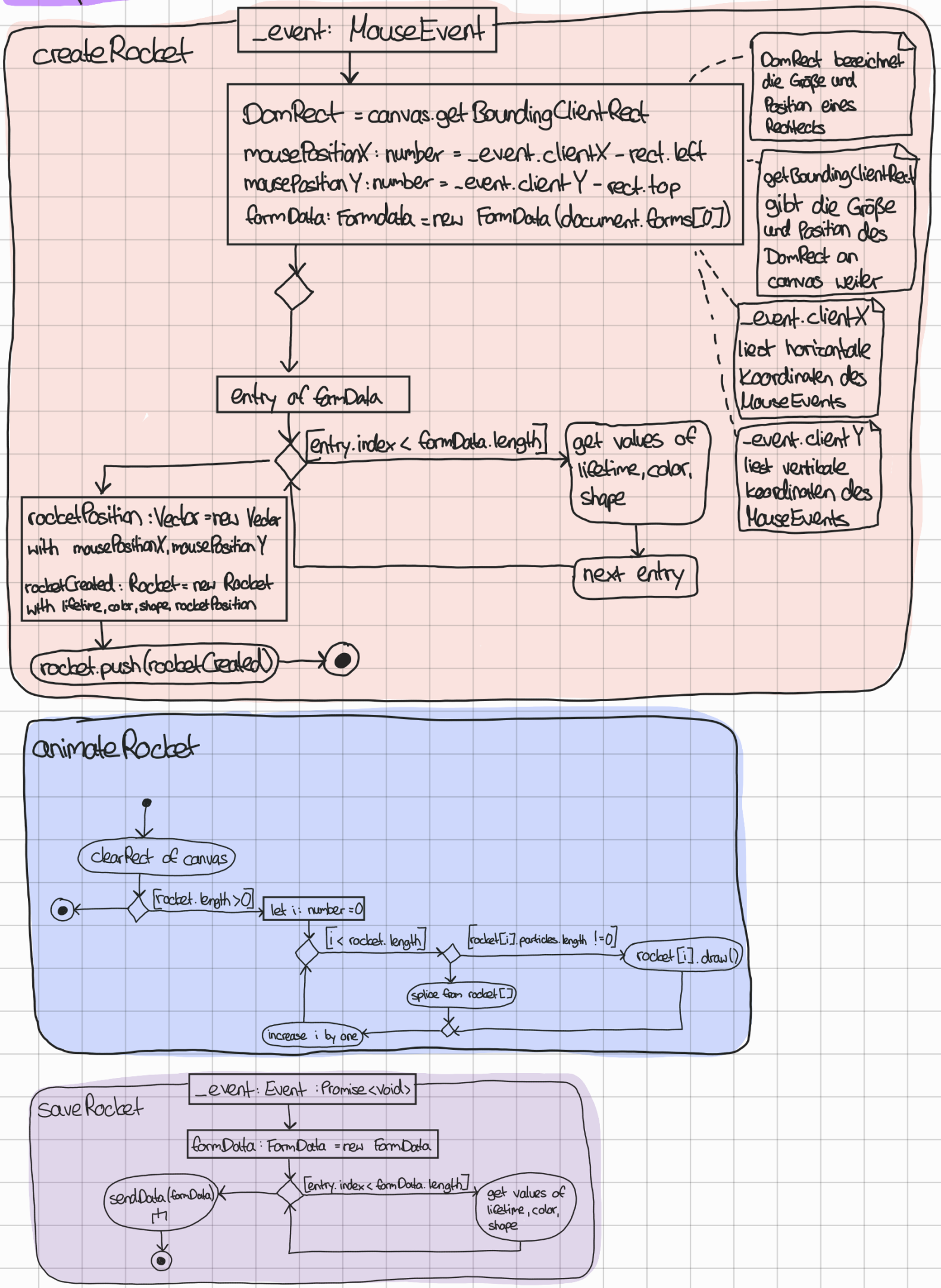


script.ts (1)

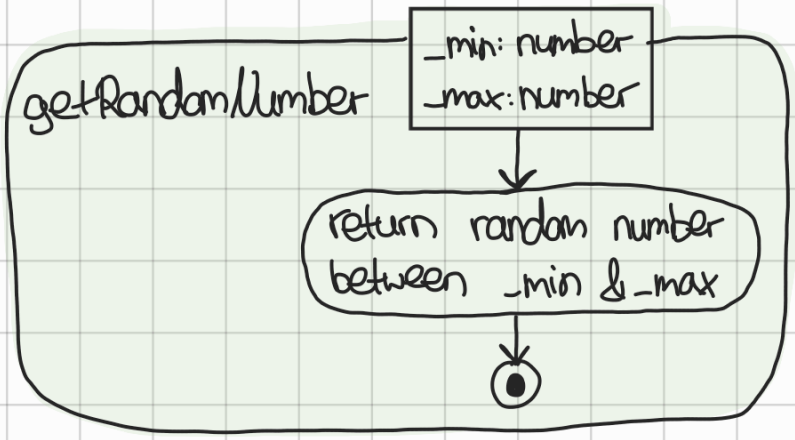
Activity Diagram

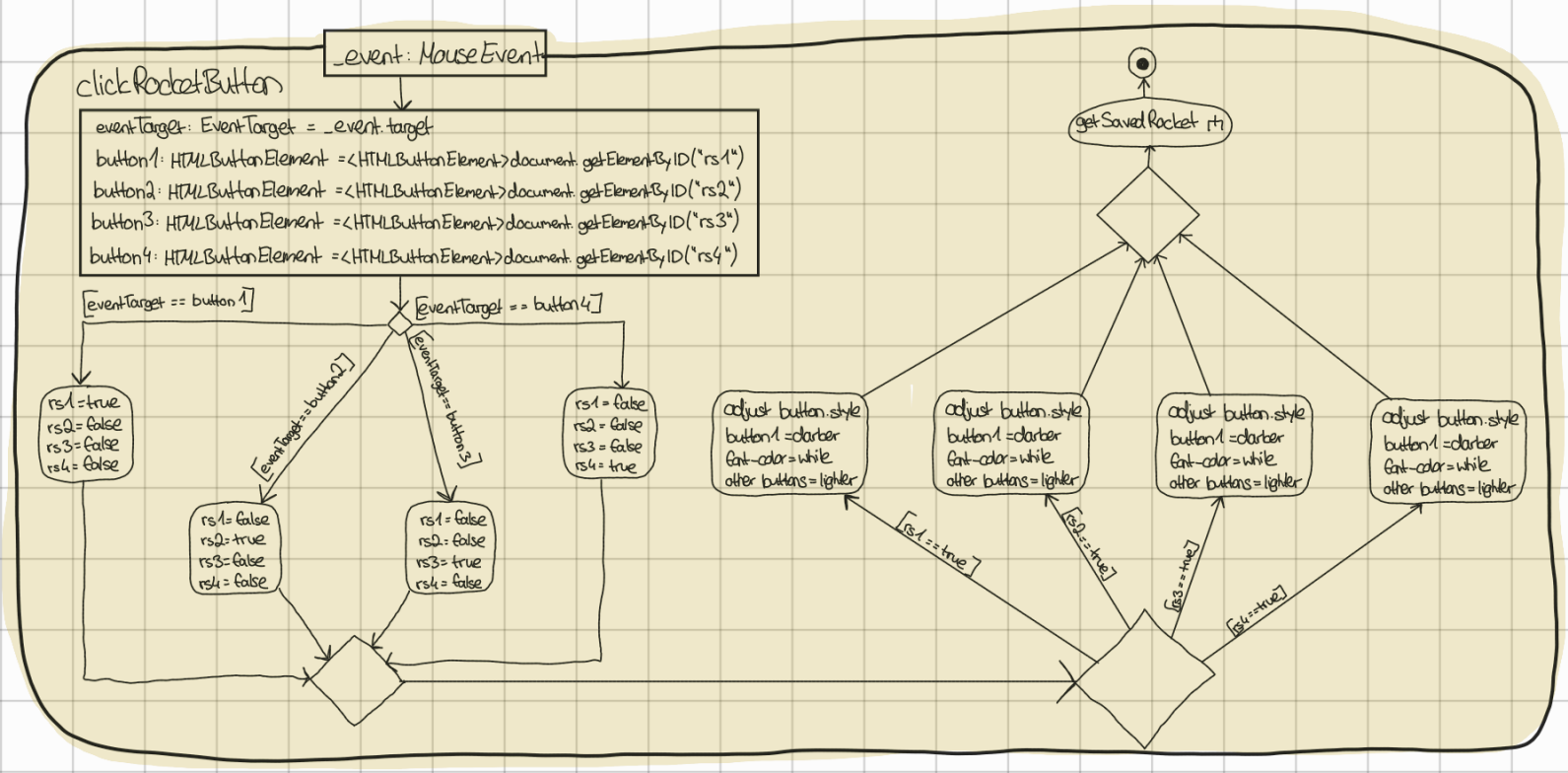


script.ts (2)

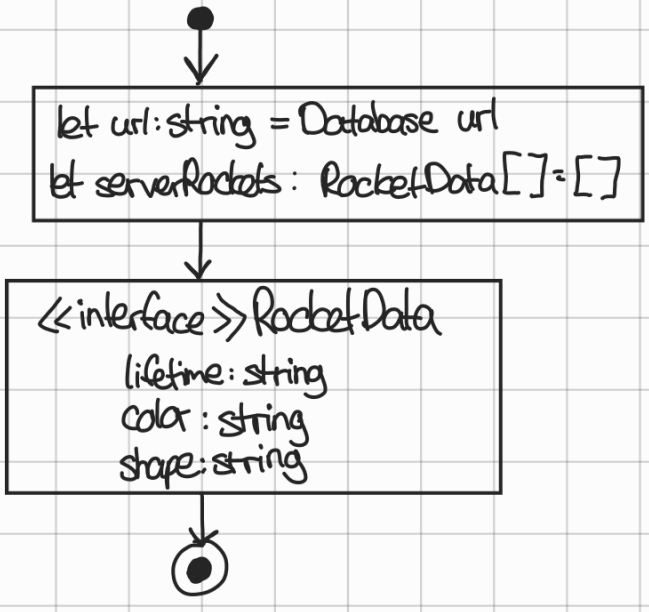

createRocket
_event: MouseEvent
DomRect = canvas.getBoundingClientRect
mousePositionX: number = _event.clientX - rect.left
mousePositionY: number = _event.clientY - rect.top
formData: Formdata = new FormData(document.forms[0])
DomRect bezeichnet die Größe und Position eines Rechtecks
getBoundingClientRect gibt die Größe und Position des DomRect an canvas weiter
_event.clientX liest horizontale Koordinaten des MouseEvents
_event.clientY liest vertikale Koordinaten des MouseEvents
entry of formData
[entry.index < formData.length]
get values of lifetime, color, shape
next entry
rocketPosition: Vector = new Vector with mousePositionX, mousePositionY
rocketCreated: Rocket = new Rocket with lifetime, color, shape, rocketPosition
rocket.push(rocketCreated)
animateRocket
clearRect of canvas
[rocket.length > 0]
let i: number = 0
[i < rocket.length]
[rocket[i].particles.length != 0]
rocket[i].draw()
splice from rocket[]
increase i by one
saveRocket
_event: Event : Promise<void>
formData: FormData = new FormData
[entry.index < formData.length]
get values of lifetime, color, shape
sendData(formData)

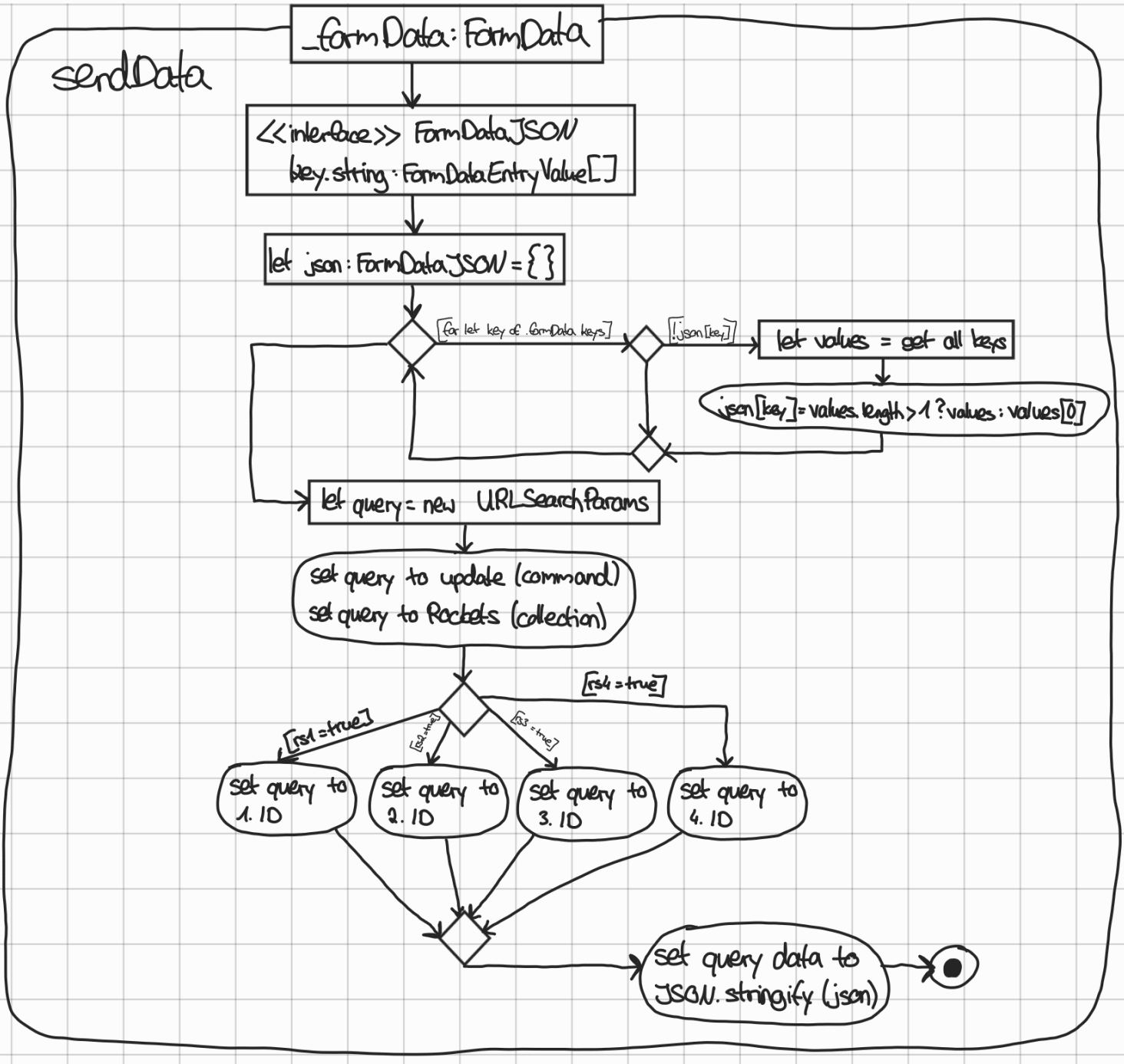
script.ts (3)

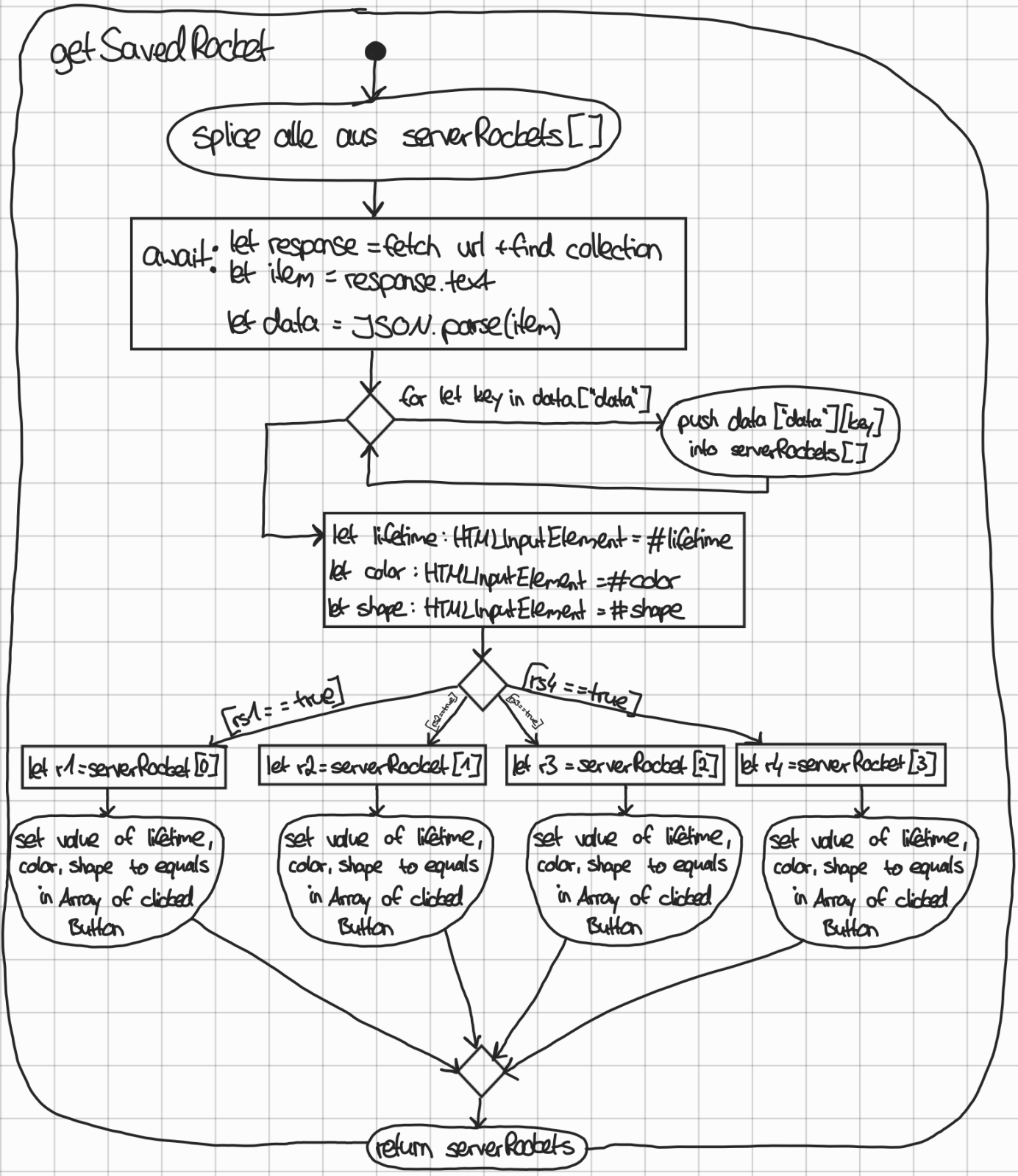




Server




sendData
_formData: FormData
<<interface>> FormDataJSON
key.string: FormDataEntryValue[]
let json: FormDataJSON = {}
[for let key of _formData.keys]
[!json[key]]
let values = get all keys
json[key] = values.length > 1 ? values : values[0]
let query = new URLSearchParams
set query to update (command)
set query to Rockets (collection)
[rs1 = true]
[rs2 = true]
[rs3 = true]
[rs4 = true]
set query to 1. ID
set query to 2. ID
set query to 3. ID
set query to 4. ID
set query data to JSON.stringify (json)


getSavedRocket
splice alle aus serverRockets[]
await: let response = fetch url + find collection
let item = response.text
let data = JSON.parse(item)
for let key in data["data"]
push data["data"][key] into serverRockets[]
let lifetime: HTMLInputElement = #lifetime
let color: HTMLInputElement = #color
let shape: HTMLInputElement = #shape
[rs1 == true]
[rs2==true]
[rs3==true]
[rs4 == true]
let r1 = serverRocket[0]
let r2 = serverRocket[1]
let r3 = serverRocket[2]
let r4 = serverRocket[3]
set value of lifetime, color, shape to equals in Array of clicked Button
set value of lifetime, color, shape to equals in Array of clicked Button
set value of lifetime, color, shape to equals in Array of clicked Button
set value of lifetime, color, shape to equals in Array of clicked Button
return serverRockets