

EIA2-Endabgabe „Firework“

Gemeinsame Arbeit von Yannik König und Jonas Atzenhofer

Struktur

1. Planung
 - Überlegung Vorgehen
 - Funktionsübersicht
2. Anfangskonzeption
 - Use-Case-Diagramm
 - UI-Scribble
 - Klassendiagramm
 - Datenstruktur
3. Aktivitätsdiagramme
 - Grundüberlegungen an der Tafel
 - Ausarbeitung jeder Funktion
 - Ausarbeitung Methoden der Klassen

Ideen / Notizen

Anwendungsverlauf

→ App / Anwendungsstart

 → Load existing rockets (falls vorhanden)

→ Display Menu

 → Option 1: Create Rocket

- ↳ Input Parameter (size, color, pattern, etc)
- ↳ Save Rocket to Database
- ↳ Return to Menu

 → Option 2: Edit existing Rockets

 → load Rockets from Database

 → Modify Rocket Parameters

 → Save Modified Rocket to Database

 → Return to Menu

 → Option 3: Launch Fireworks

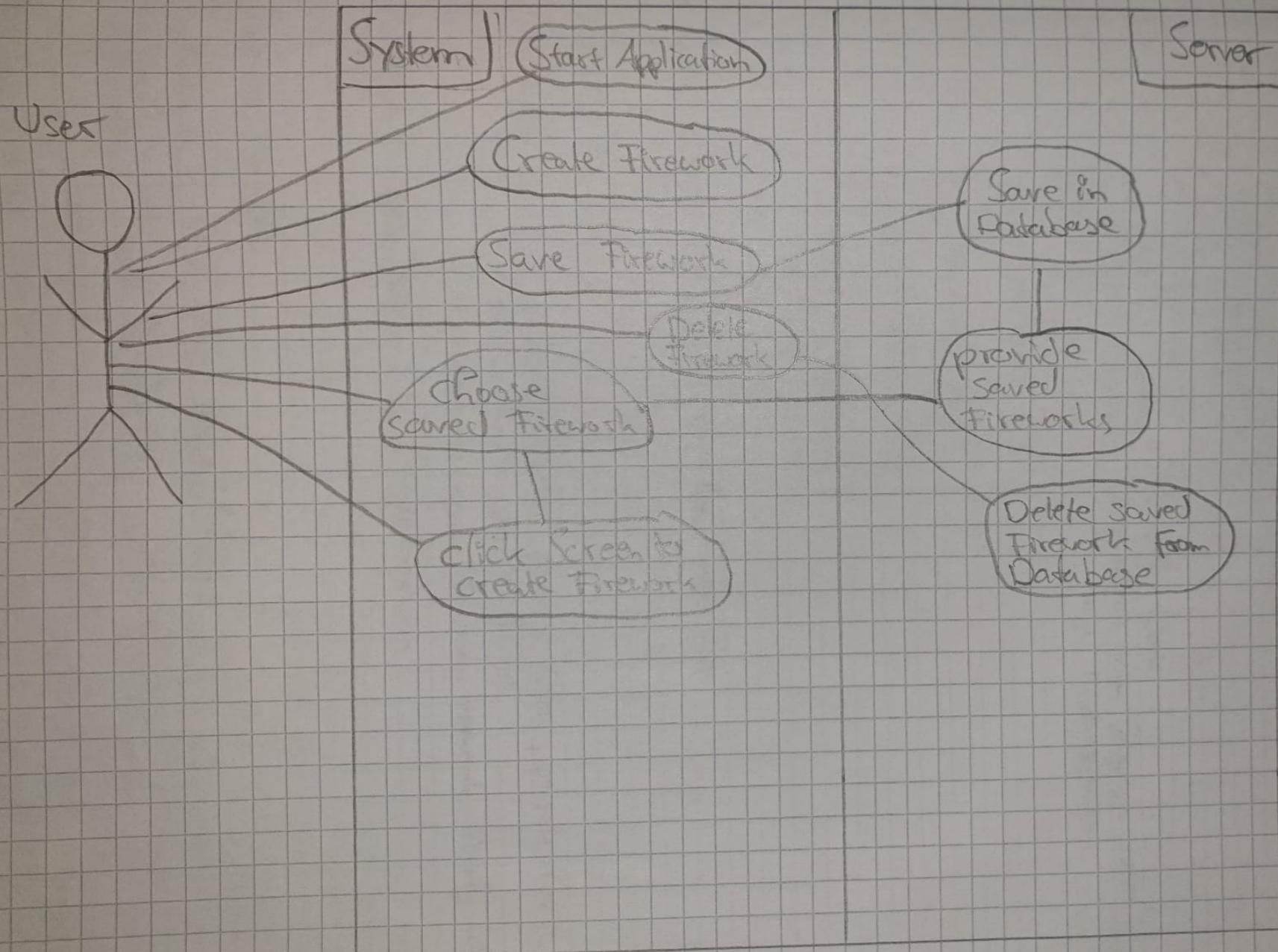
 → load Rockets from Database

 → Display Fireworks (interactively)

 → Return to Menu

⇒ Exit App

Use-Case- Diagramm



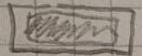
EiA 2 - Endabgabe

UI - Scribble

div id="Create"

Create Framework

Farbe:



<input type="color" id="color">

div id="Canvas"

Radius

Slider zur Einstellung des Radius

Partikel

Slider zur Einstellung der Partikel-Anzahl

Time

Zeit der sichtbaren Animation

Input-Feld zur Nameneingabe

Name

Submit Button der die gespeicherten Werte an den Server schickt.

Save

Delete

Delete Button wenn man die kreierte Partikel löschen will

click Event

div id="Save"

Saved Projects

- Saved 1

- Saved 2

- Saved 3

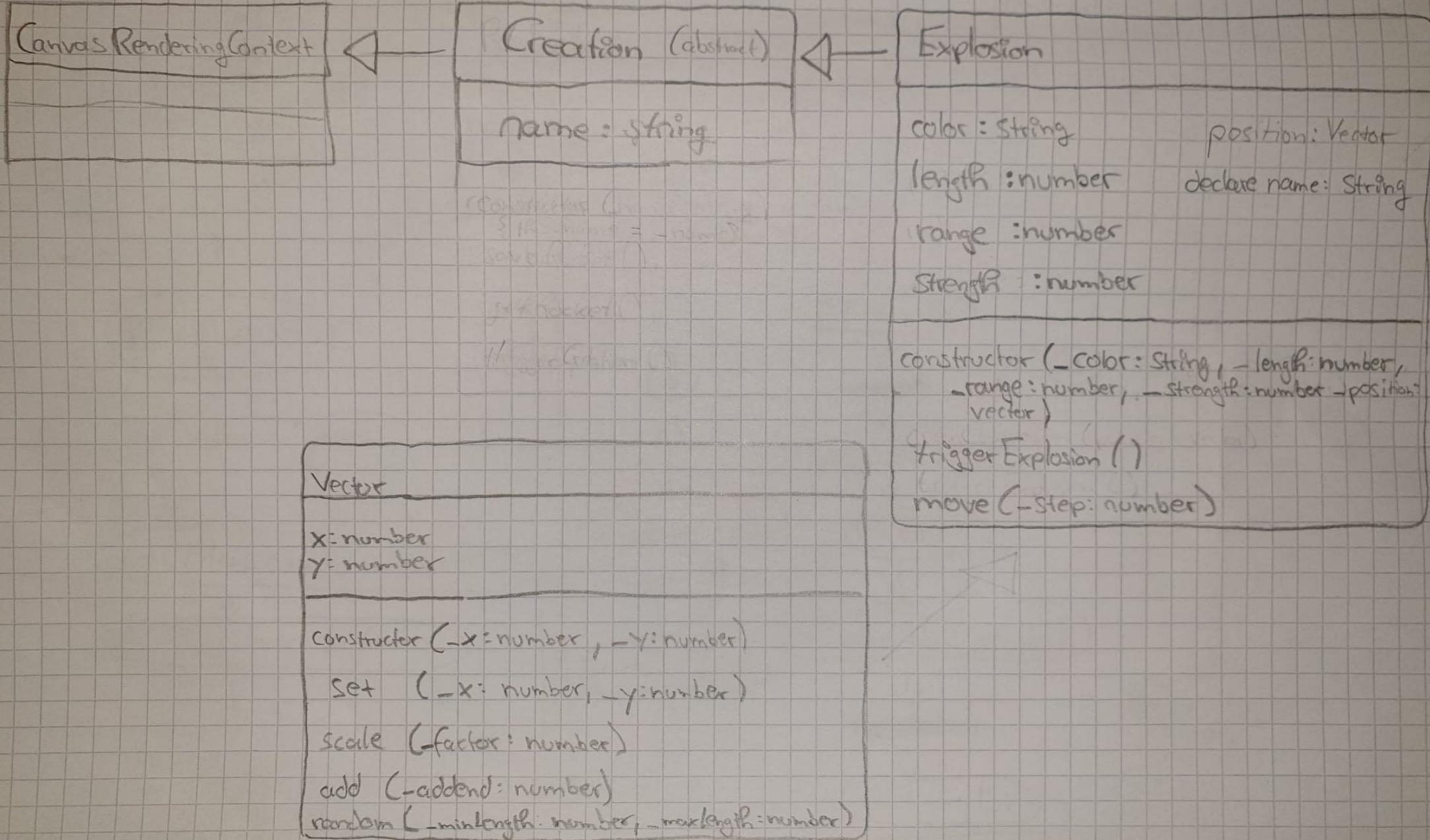
- Saved 4

UI
Pd="list"

Ref auf die Datenbank gespeicherten Partikeltypen (auswählbar)

(Bei Auswahl wird man wieder auf das linke Menü mit voreingestellten Werten gelöst)

Klassendiagramm



Firework

DataStructure

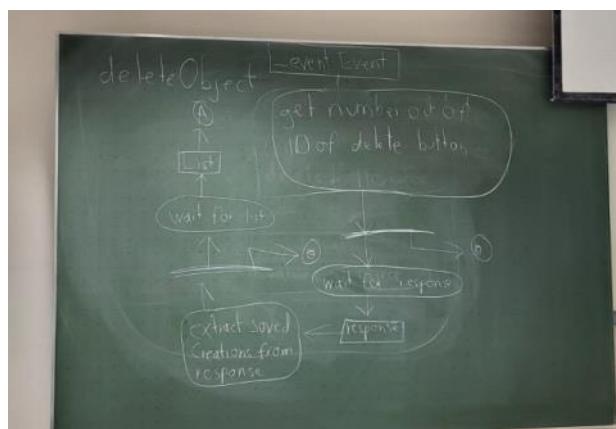
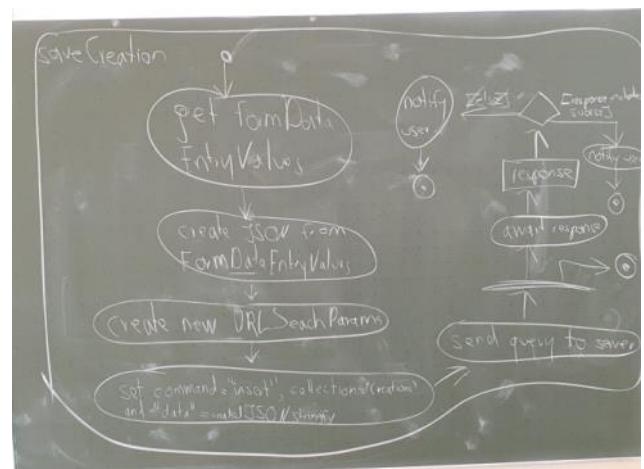
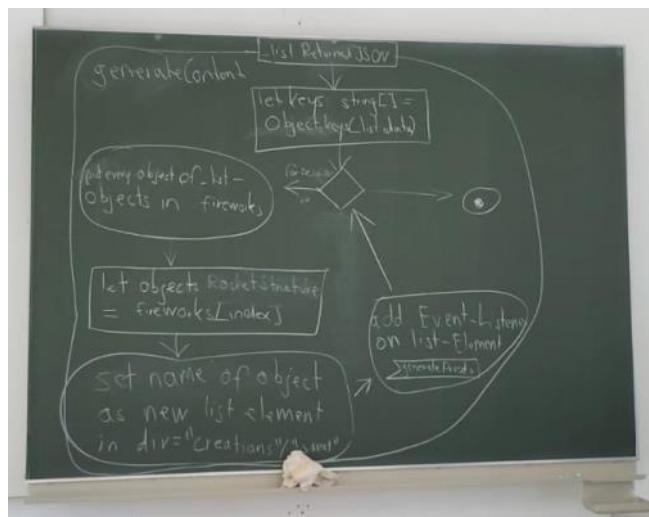
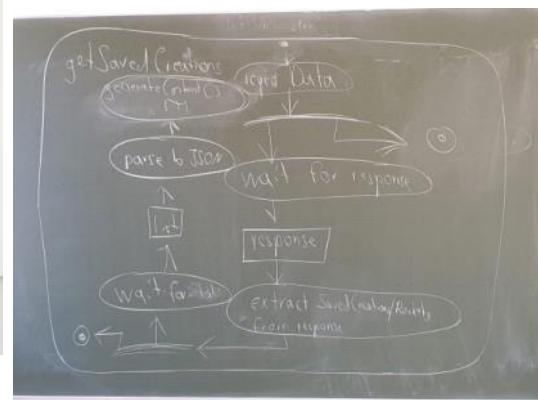
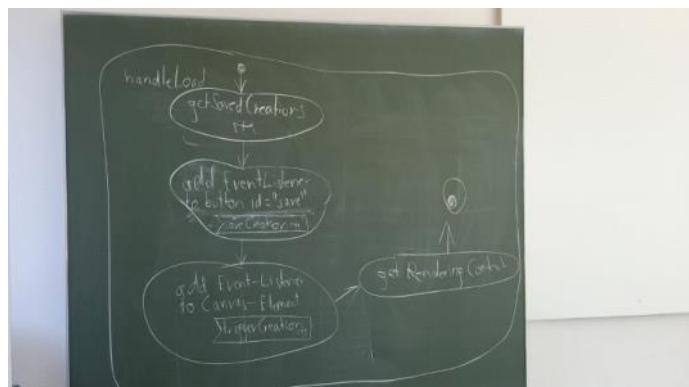
color: string	length: number	range: number	strength: number	name: string
RGB-Value	length	range	size	name

↓
one creation

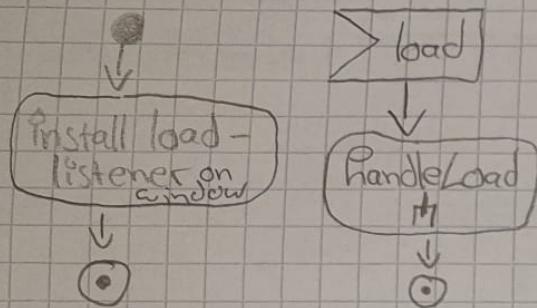
↓
data

Endabgabe EiA2-TafelBilder (Anfangs-Konzeption)

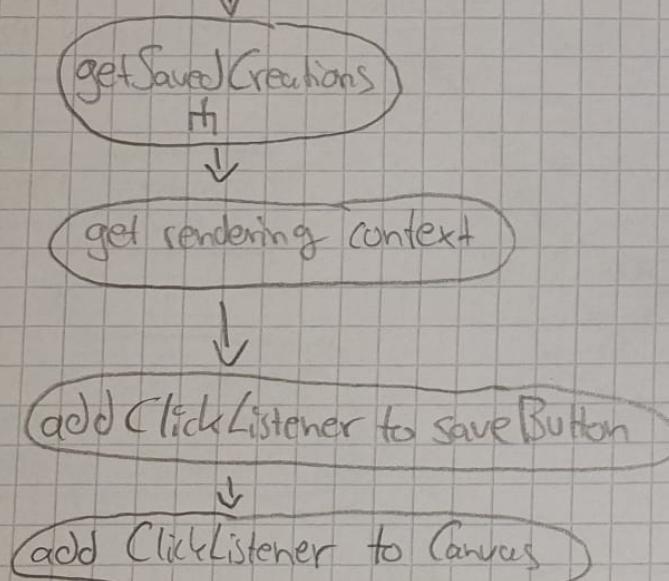
Sonntag, 12. Februar 2023 20:37



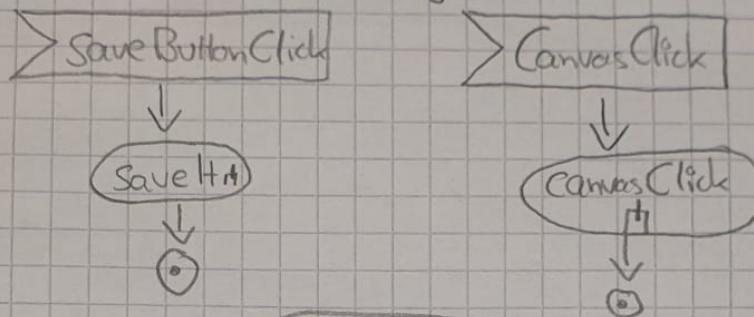
Hauptprogramm > Fireworks



HandleLoad



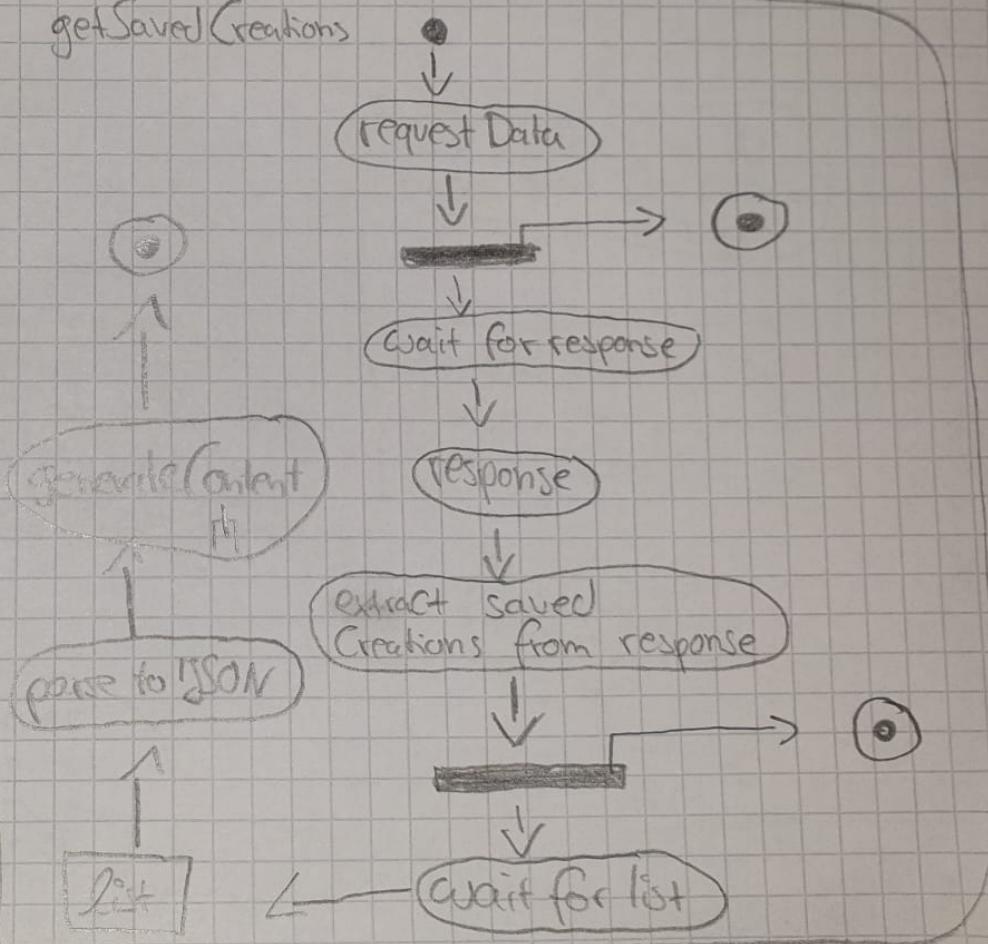
Activity Diagram



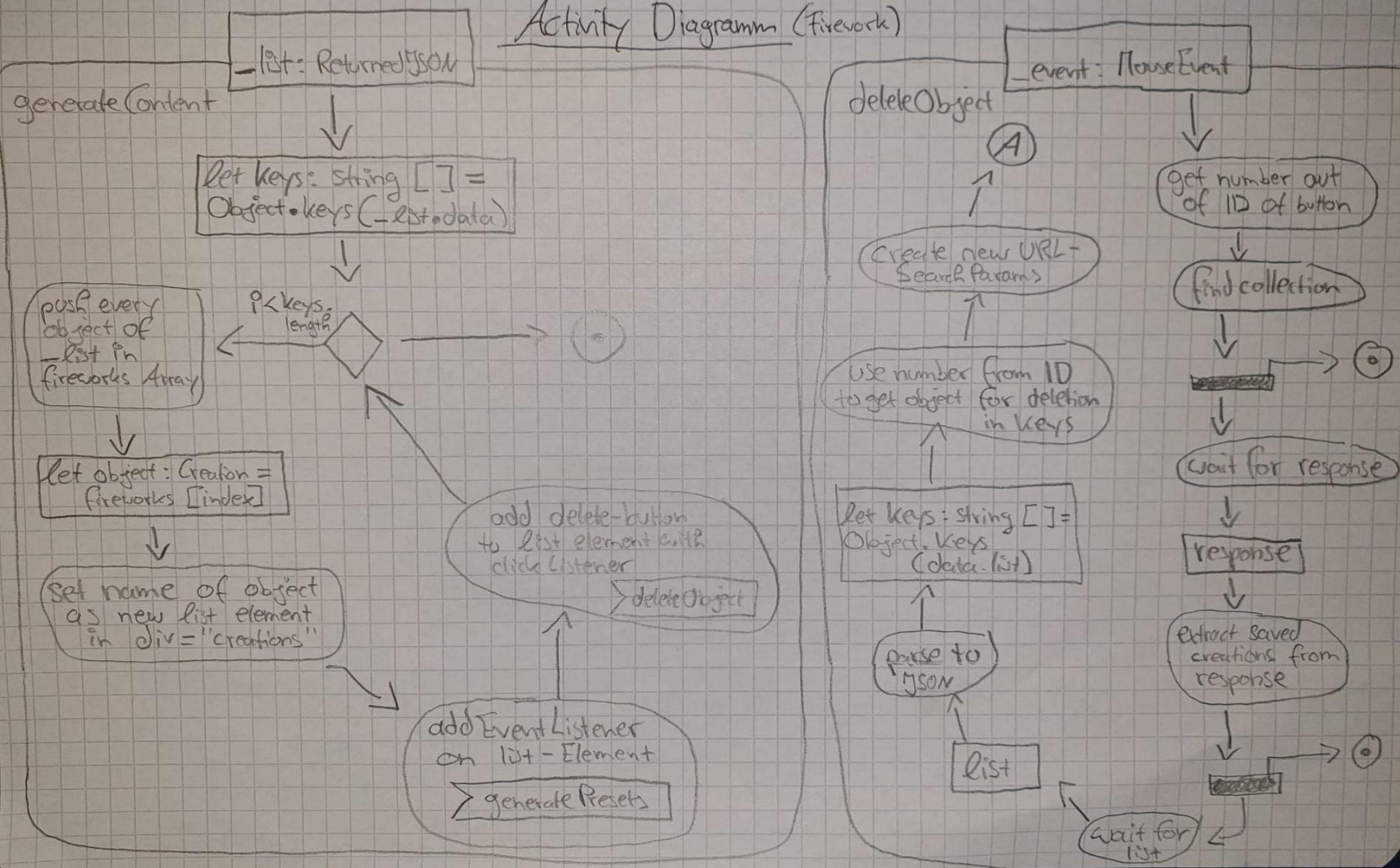
```
let crc2: CanvasRenderingContext2D  
const url = "https://webuser.hs-furtwangen.de/~atenhof/Database/index.php"
```

```
let fireworks: Creation[]  
let particles: Explosion[]
```

getSavedCreations



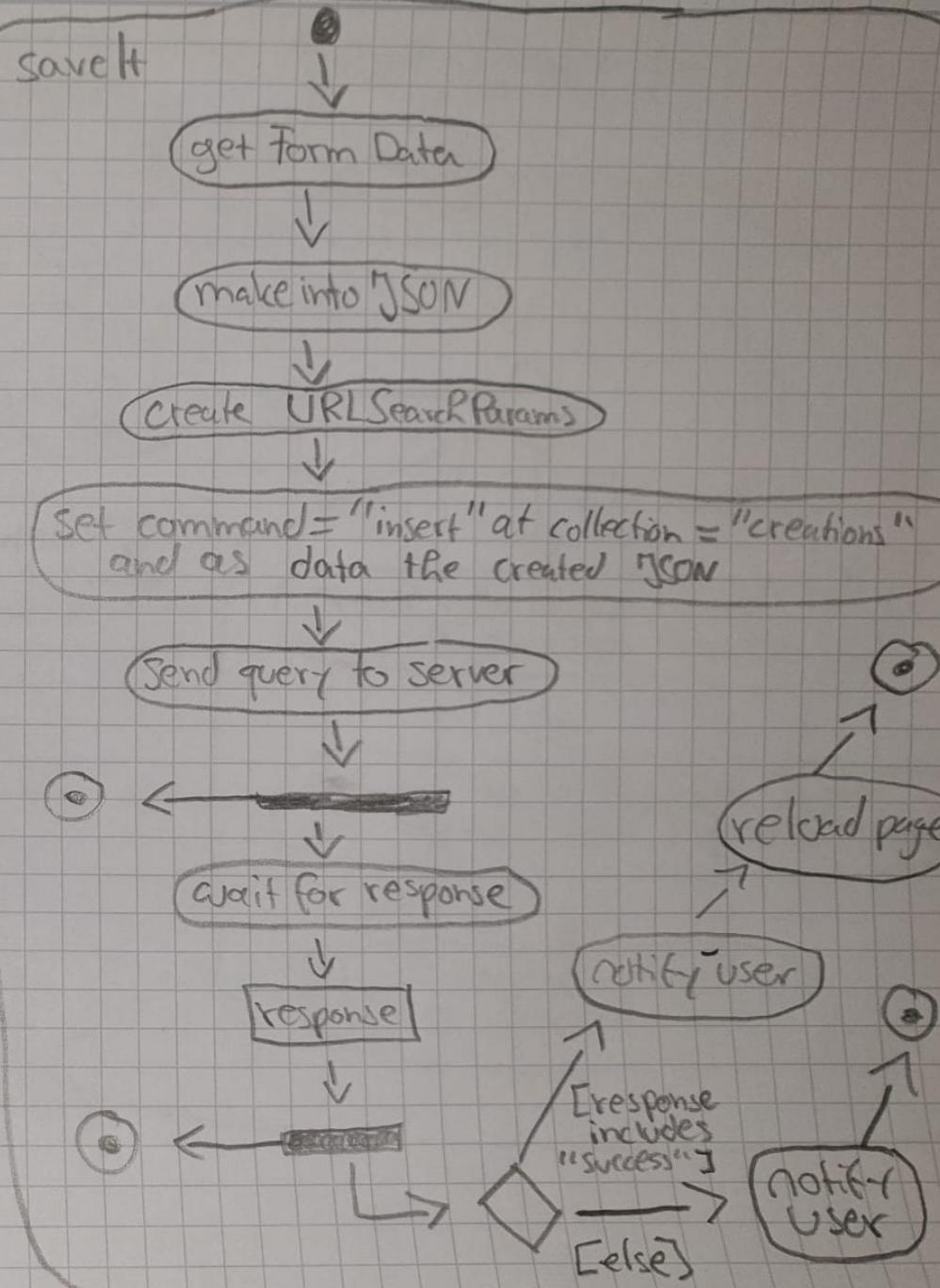
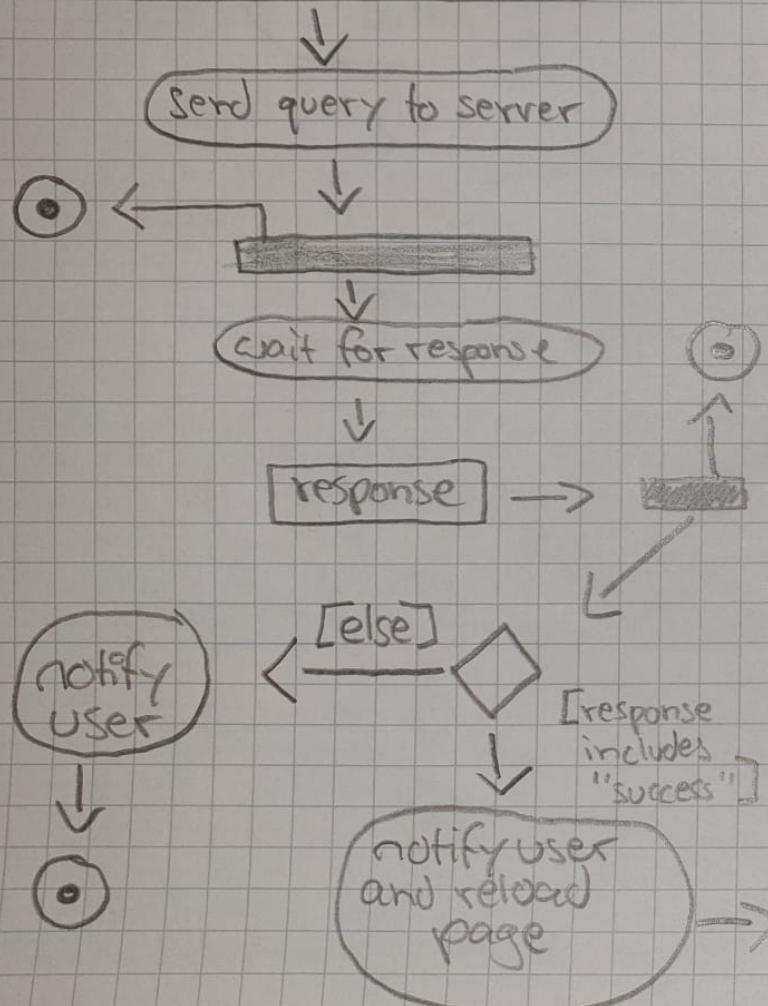
Activity Diagramm (Firework)



Activity Diagramm (Firework)

A →

Set command = "delete",
 Collection = "creations" and
 id = the id from the object
 On the right position in Keys



Activity Diagram (Firework)

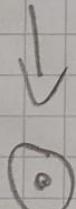
generatePresets

-event: MouseEvent

Check if target
isn't the delete-
button

get id of clicked
element and search
for objects in fireworks

Set values of Color, length,
range, strength and the
name as the
values of the input



CanvasClick

StartTime = now

update
 Δt

Σ

-event: MouseEvent

get presets from Form Data

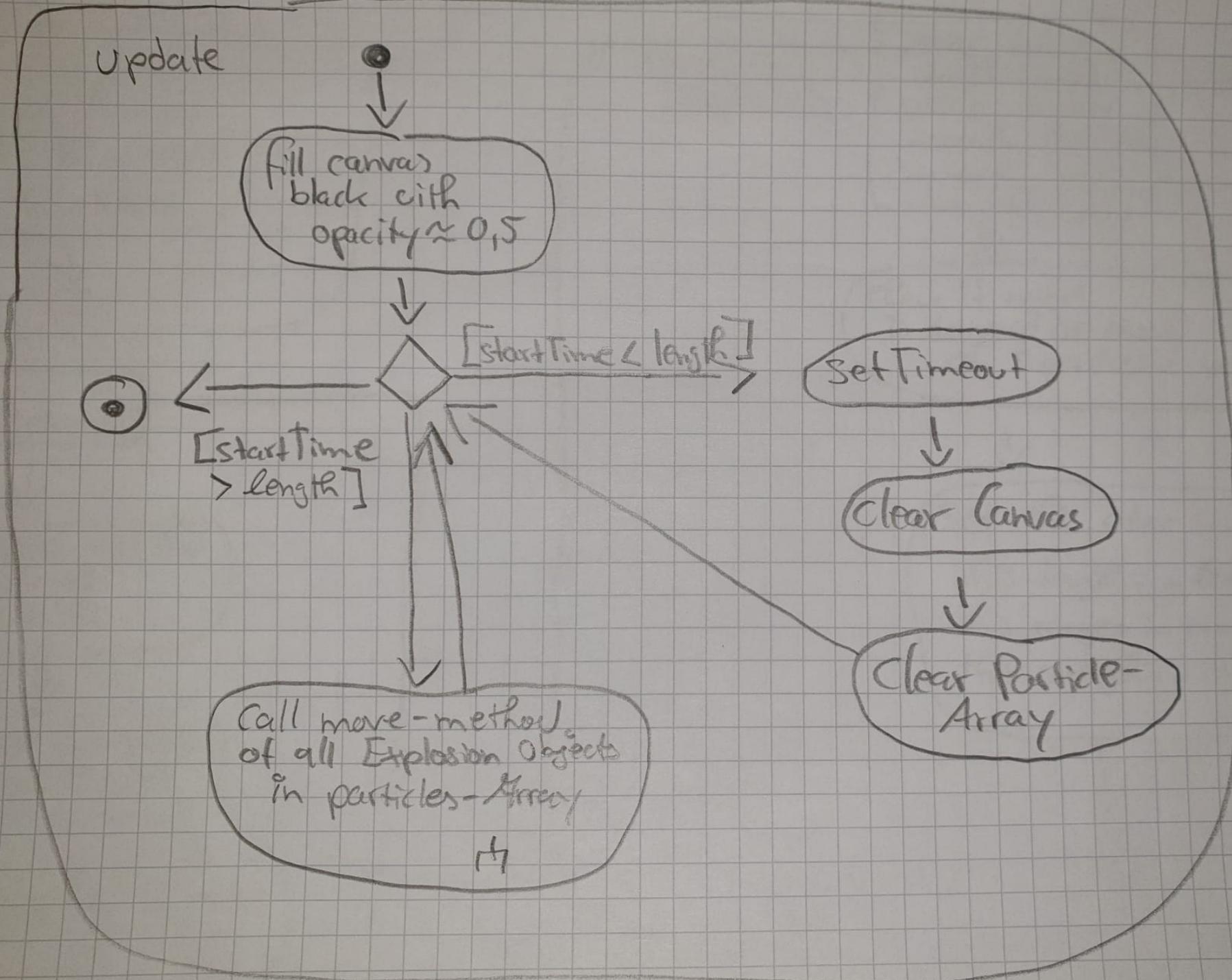
[$i < \text{strength}$]

Create new Explosion Object
with data from Form Data

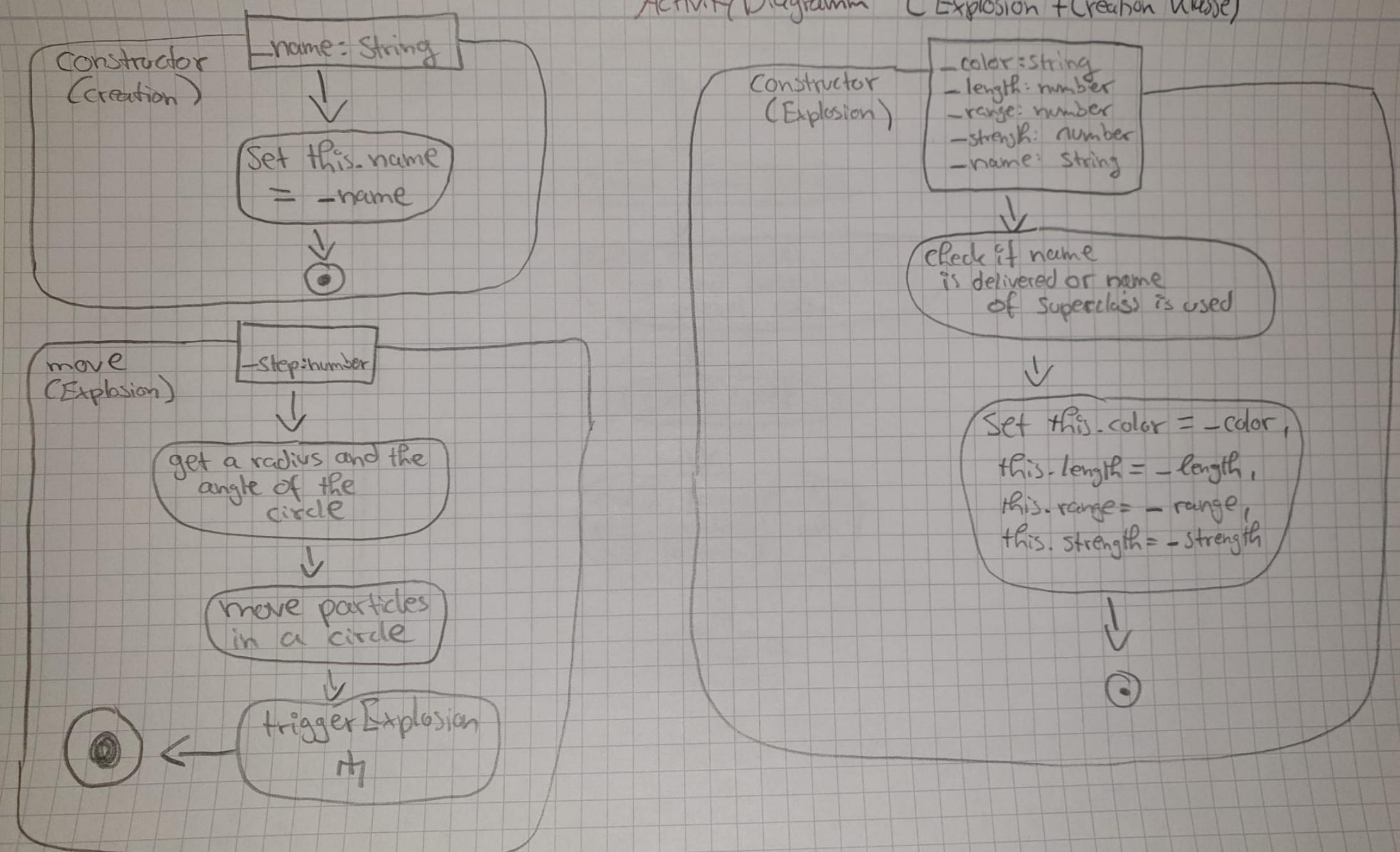
Set position of Explosion Object
as Vector-Object to position clicked

push explosion-object
in particles Array

Activity Diagram (Firework)



Activity Diagramm (Explosion + Creation Klasse)



Activity Diagramm (Creation / Explosion)

