BALL ISLAND
Final report:
Client-server game architecture

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Software

Advantage

01.

Language support

Unity support C#.
With C# .NET library

02.

Editor

Developer can drag and drop, change the position of each
Objects in the Game directly on the Editor

03.

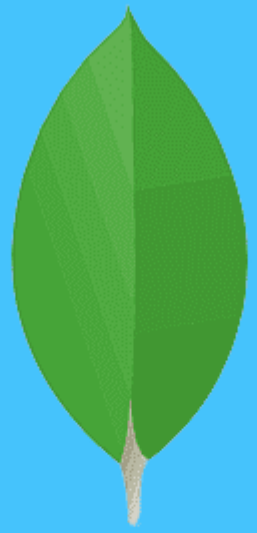
Multi-Platform

The game developed can run on most OS as Desktop or Mobile or Web.

04.

Free☺

Advantage



mongoDB

01.

NoSQL

02.

Bson structure object

Binary type of Json

=> Storage more data than JSON

03.

Cloud Database

04.

Free☺

Overview

Compete with other player

Pick ability object on map and push another player to ocean

Reach to the top of the rank

Top 5 player that have the most point will honored on leaderboard

01.

Idea

Inspired by Snake, Bounce from Nokia

02.

Game Element

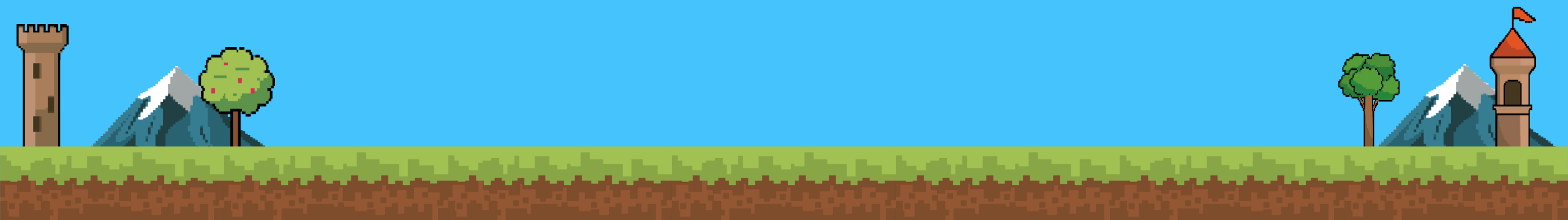
03.

Gameplay

04.

Network Develop & Database

Idea → Game Asset → Gameplay → Network Develop & Database



Overview

User Interface

Log in & Register Interface

Welcome back

User account

Password

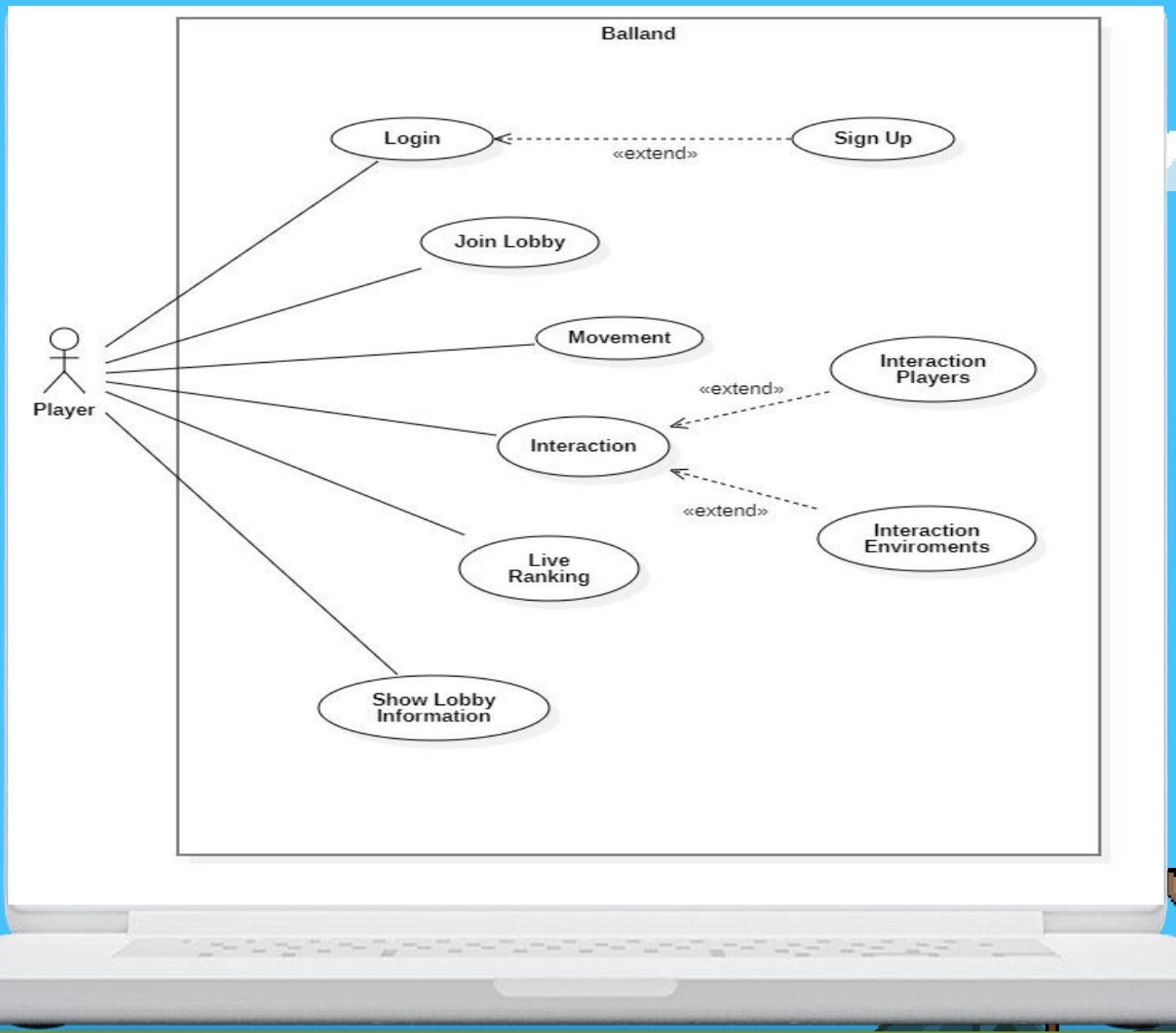
Sign In

Create a new account

Join Server & Server Available Interface

Map

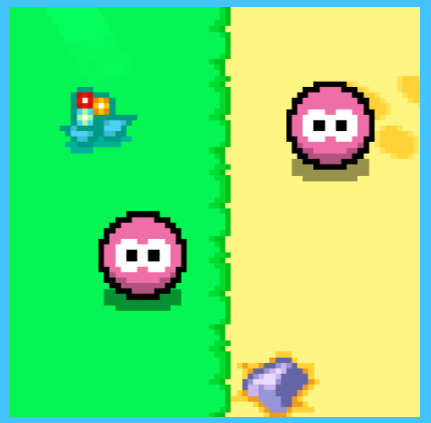
Game Use Case



Overview

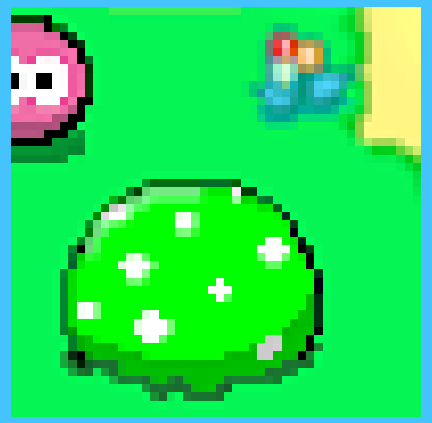
Game Element

Game Element



Player/Enemy

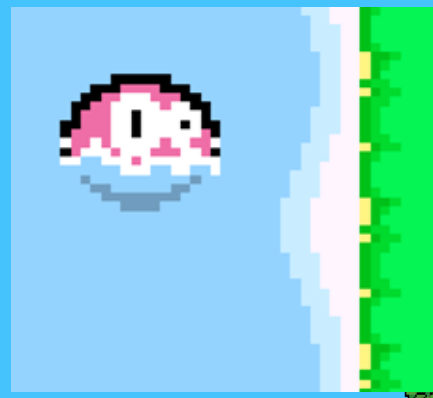
Ability Object



Bouncing Murshroom

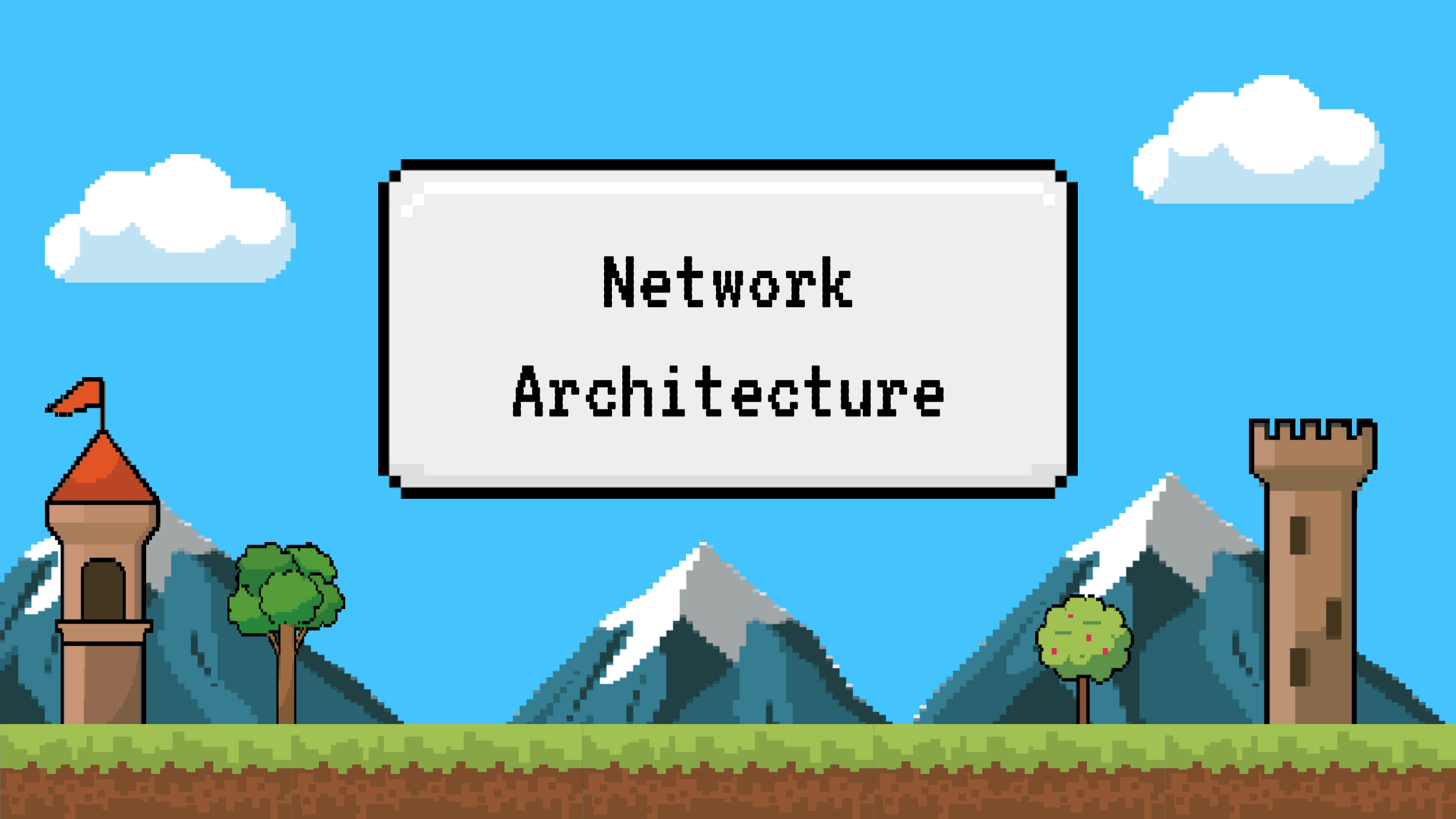
Hide on bush

Bot Enemy

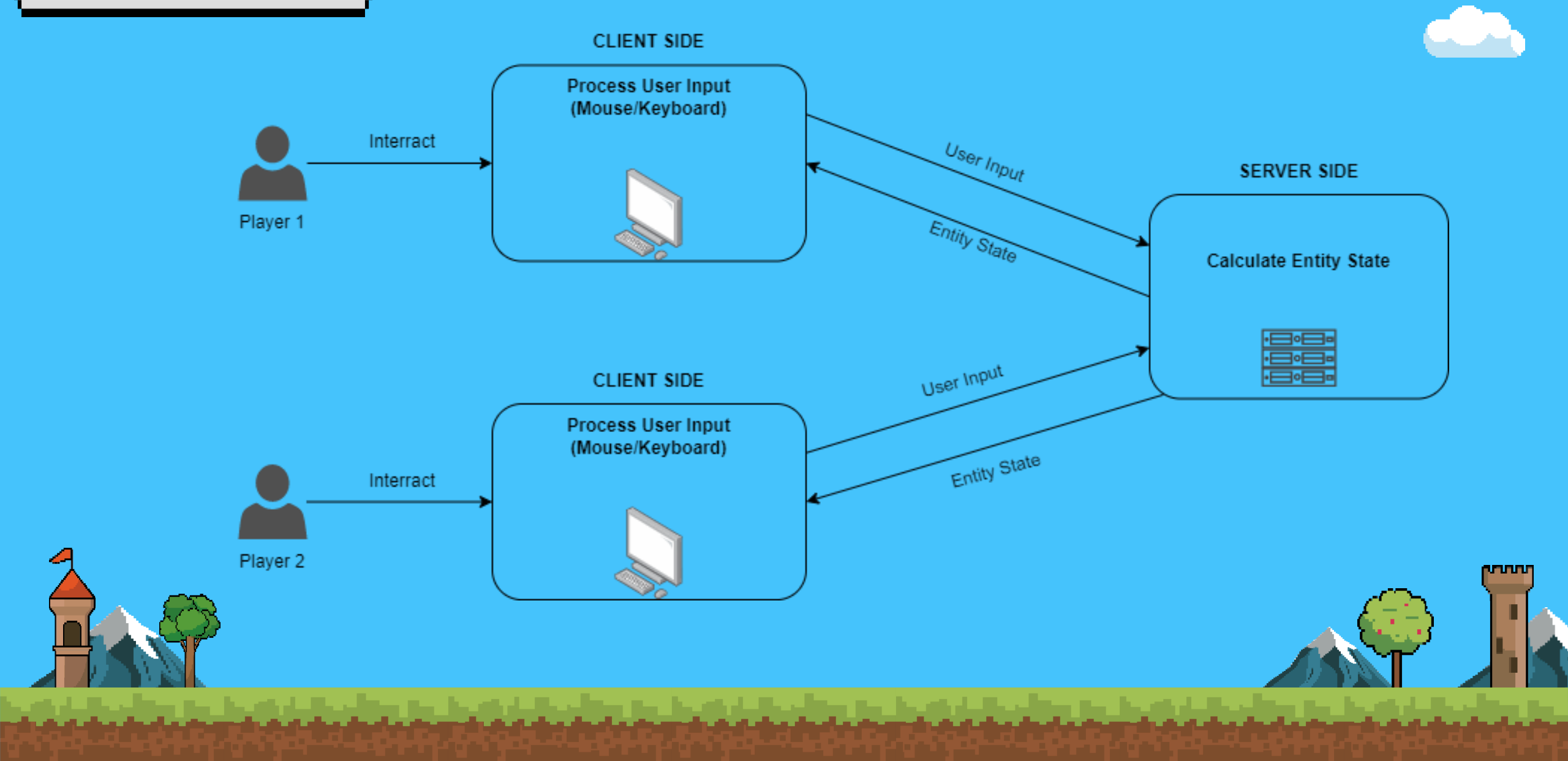


Drown

Network Architecture

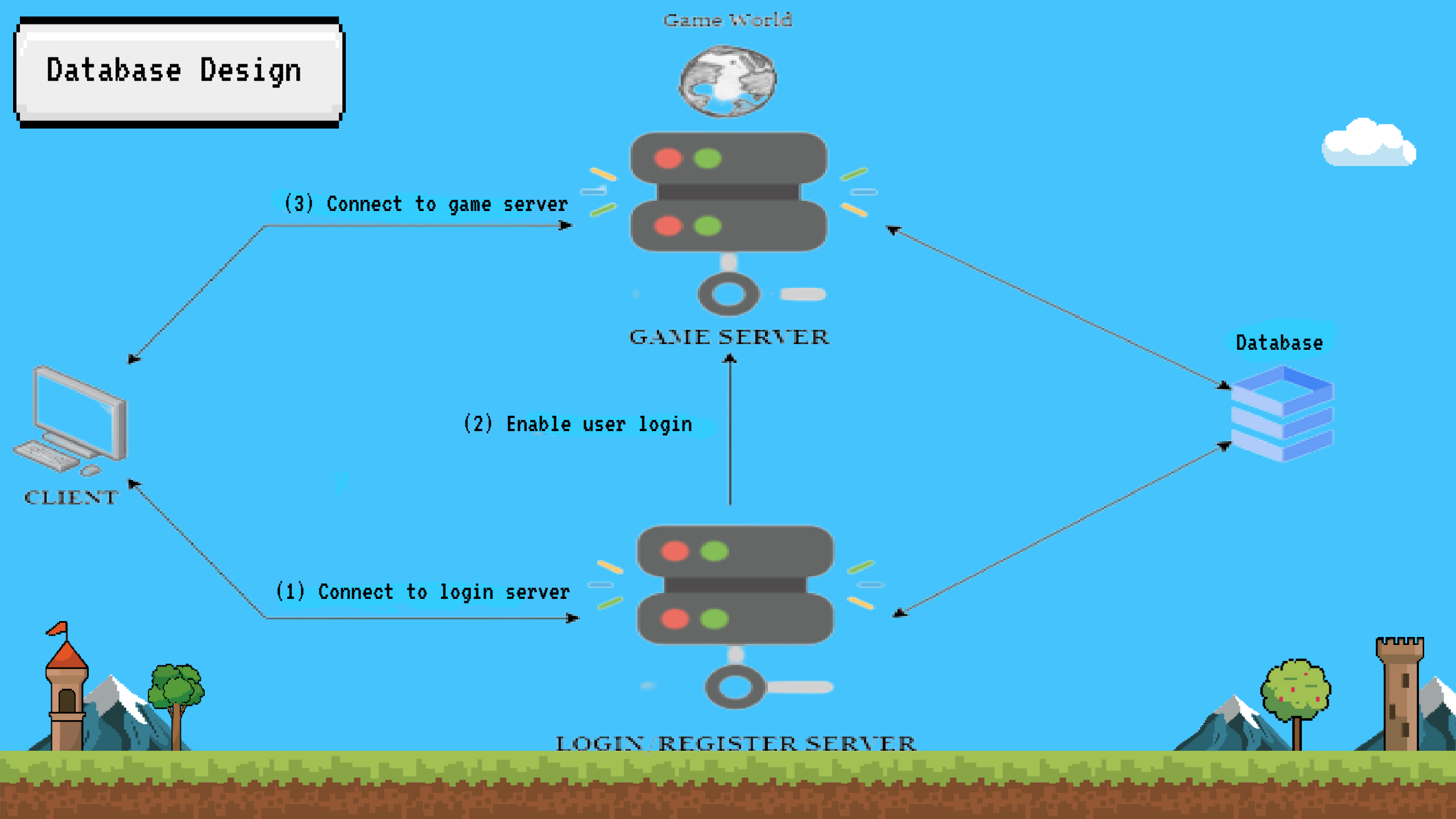


Client – Server Communicate



Database & Storage

Database Design



Database &
Storage
User Account

_id: ObjectId('646f1bcd3dbacf2aacd75d4e')
username: "kaimink"
password: "57484F150FF9D26EA0549E31CF2F5C1767E351BDACA9B554BB530089A1031808"
salt: "5/25/2023 3:26:53 PM"
isOnline: "false"
Point: 2
Death: 6
- KaiMink

Database &
Storage
Server Management

_id: ObjectId('646c74c6cca217246c849516')
IP: "26.191.34.211"
port: "7777"
status: "offline"
- Duukie

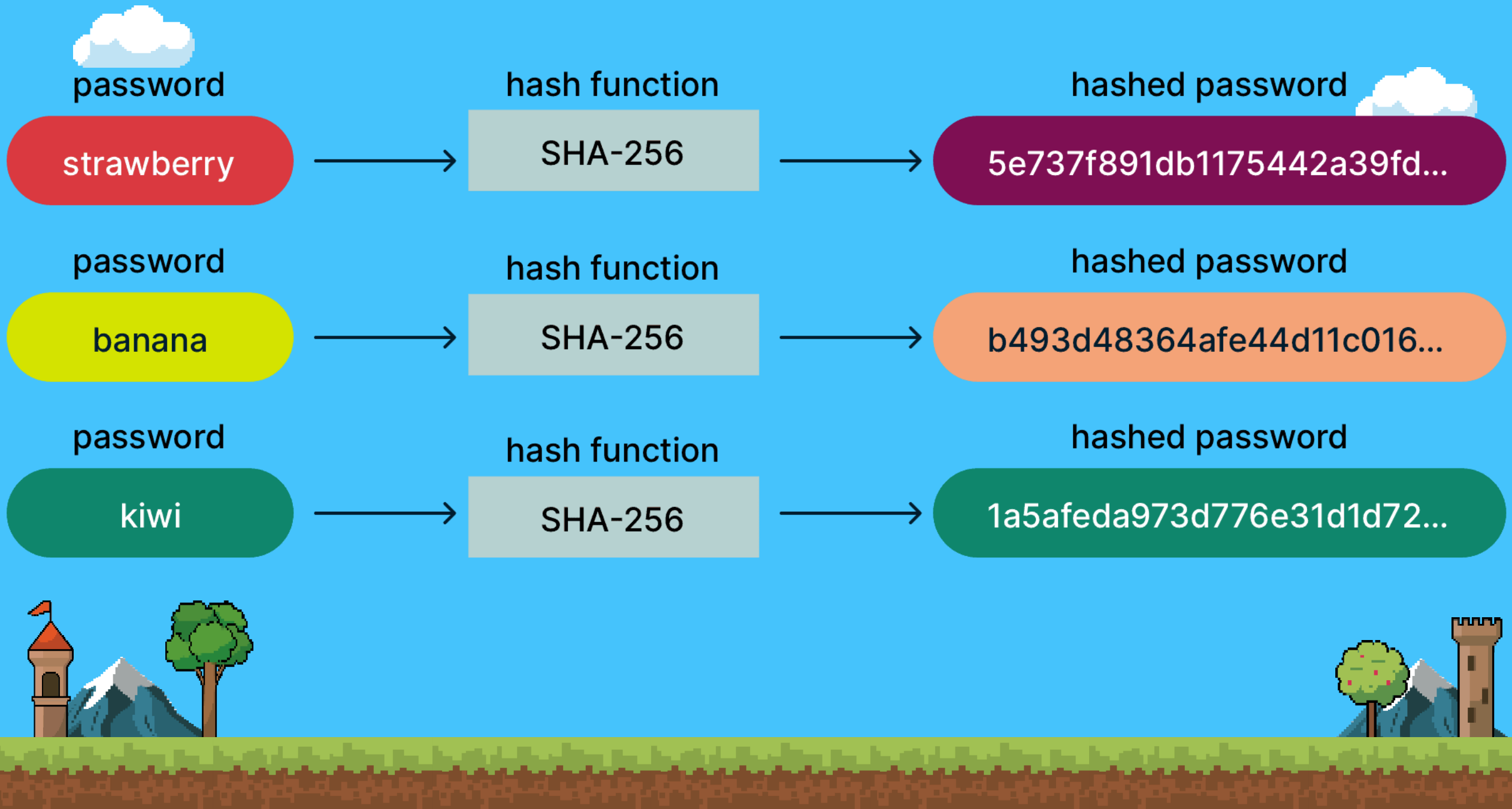
Database &
Storage
Security

“

```
_id: ObjectId('646f1bcd3dbacf2aacd75d4e')
username: "kaimink"
password: "57484F150FF9D26EA0549E31CF2F5C1767E351BDACA9B554BB530089A1031808"
salt: "5/25/2023 3:26:53 PM"
isOnline: "false"
Point: 2
Death: 6
```

”

- Aku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strawberry
hash function
SHA-256
hashed password
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password
banana
hash function
SHA-256
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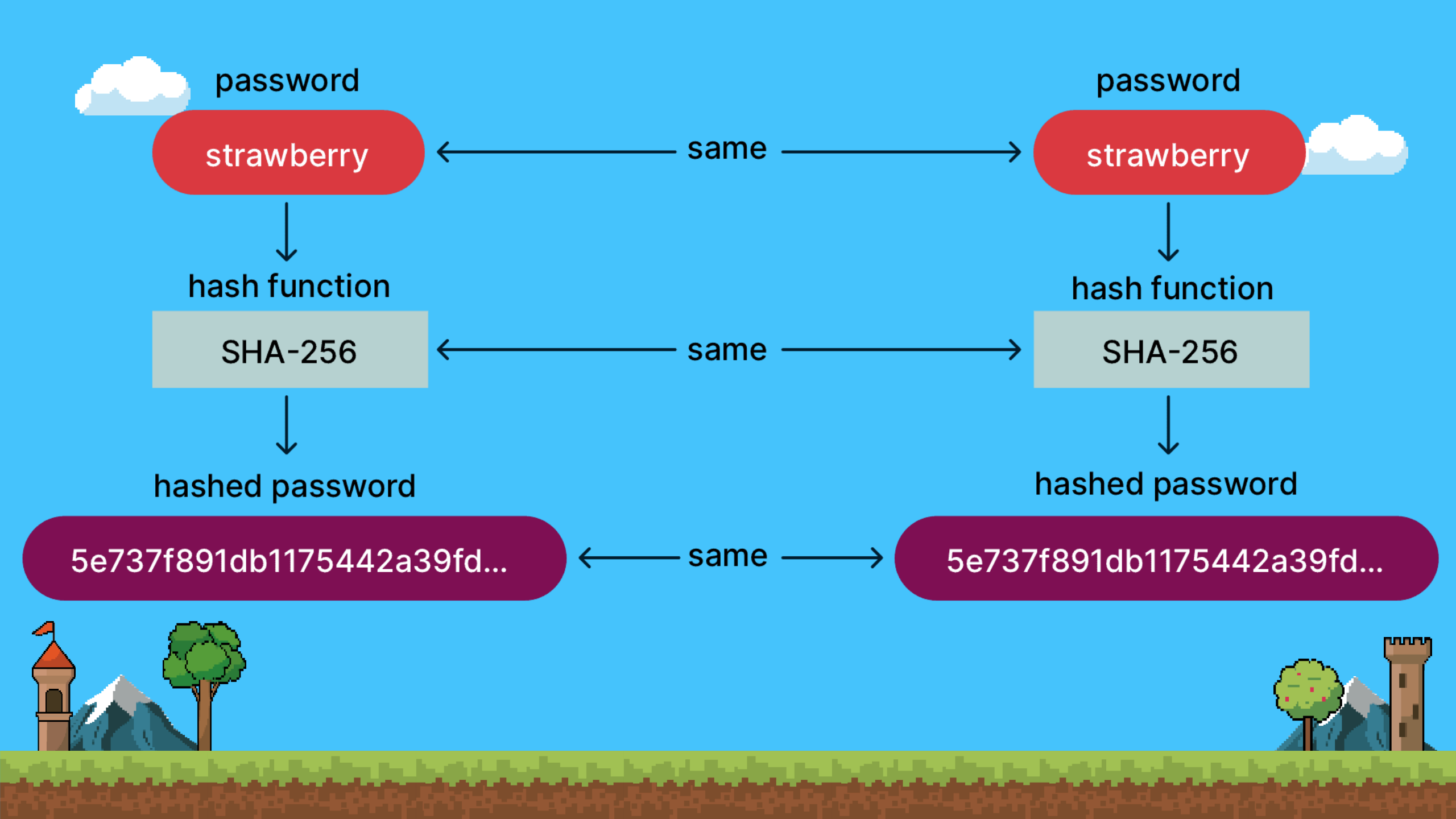
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strawberry
same
password
strawberry
hash function
SHA-256
same
hash function
SHA-256
hashed password
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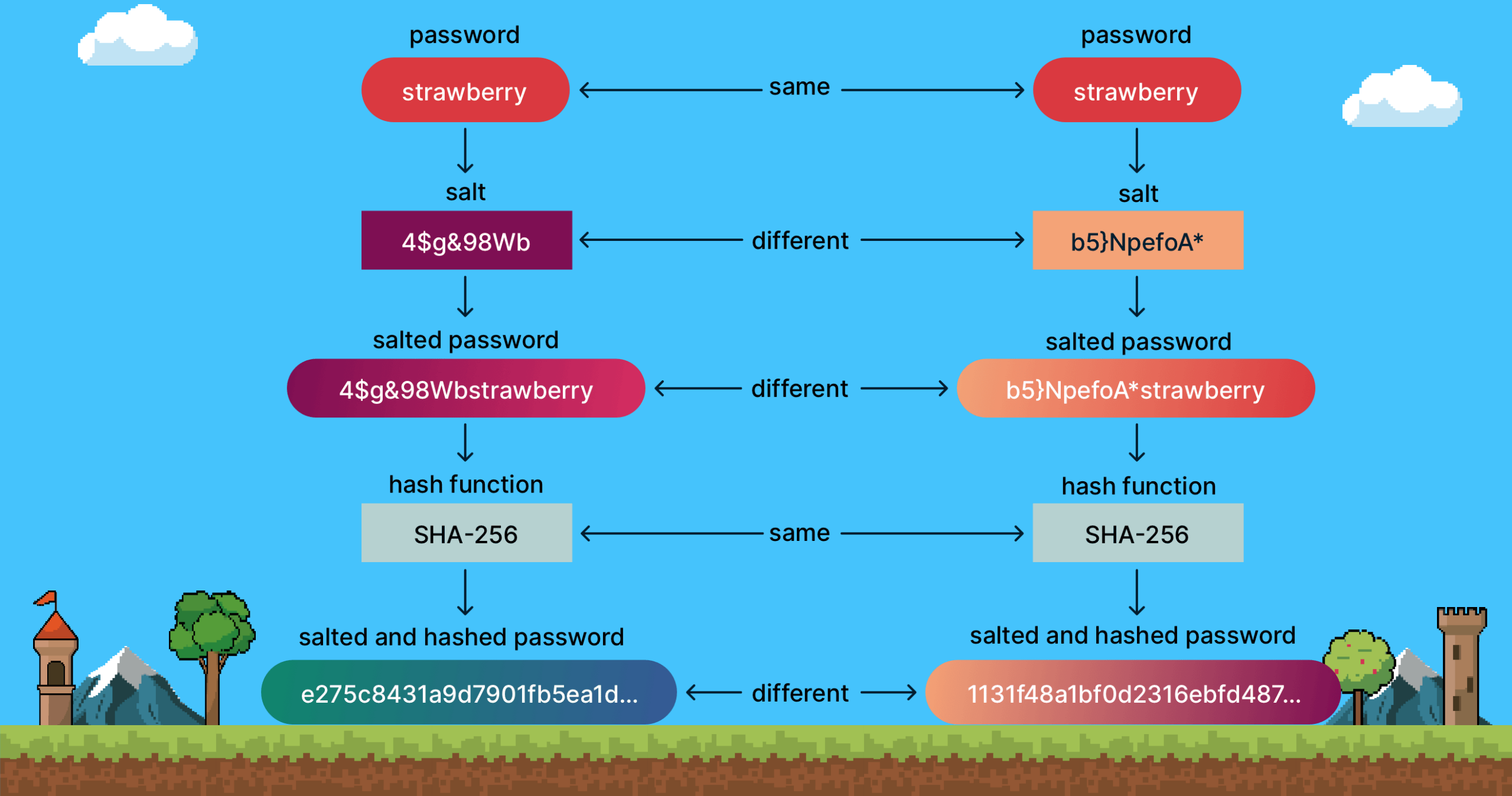
same
hashed password
5e737f891db1175442a39fd...


password
strawberry
same
password
strawberry
salt
4$g&98Wb
different
salt
b5}NpefoA*
salted password
4$g&98Wbstrawberry
different
salted password
b5}NpefoA*strawberry
hash function
SHA-256
same
hash function
SHA-256
salted and hashed password
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different
salted and hashed password
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Thanks!