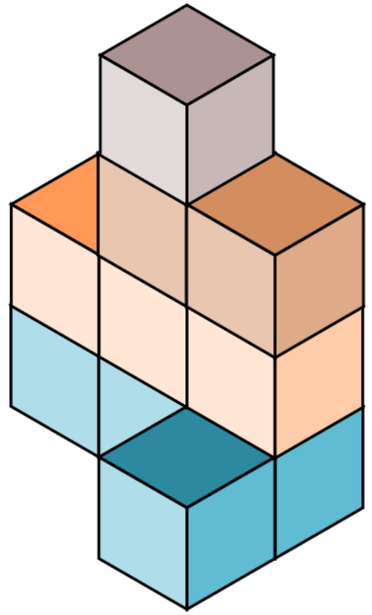
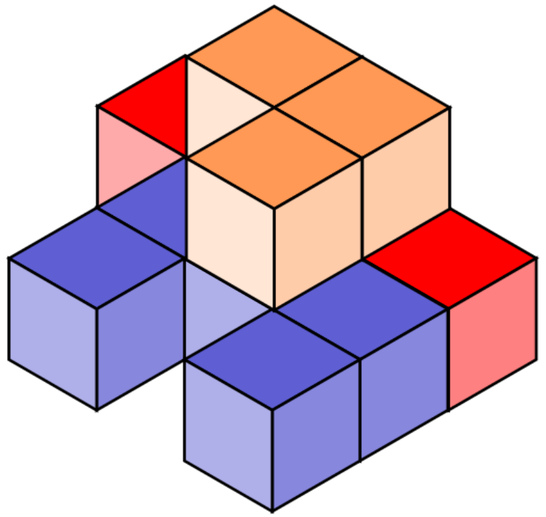
박경호

TETRIS



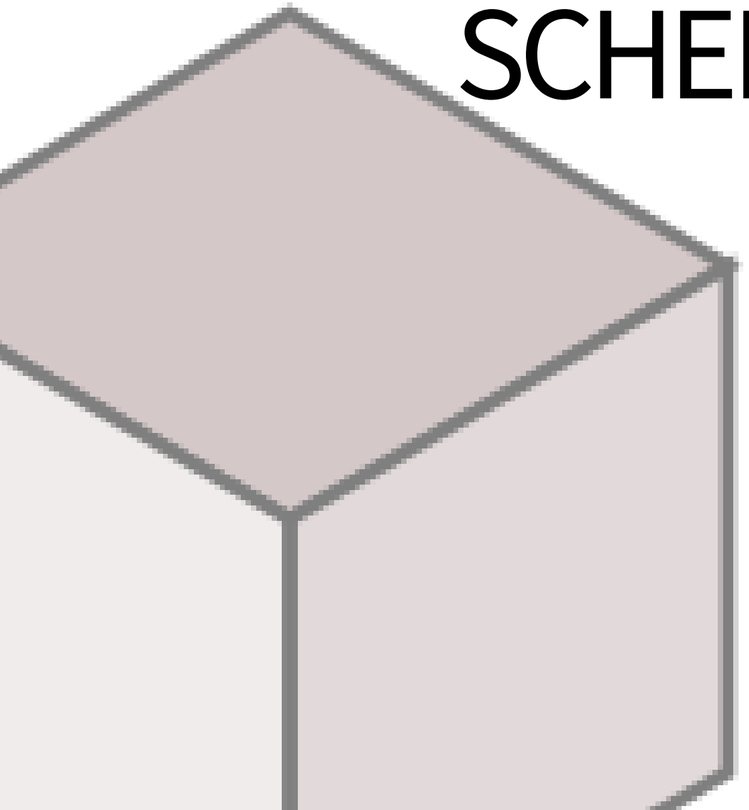
SITE

INDEX



SITE

SCHEDULE | 01



SITE

SCHEDULE

DAY 1
디자인 & 준비 작업

스케치 작업
기본 코드 작업

DAY 2
Front-end 코드 작업

JS Class 구조 작업
PUG, SASS 코드 작업

DAY 3
Back-end 코드 작업

Node JS Express 작업
SQL DB 연동 작업

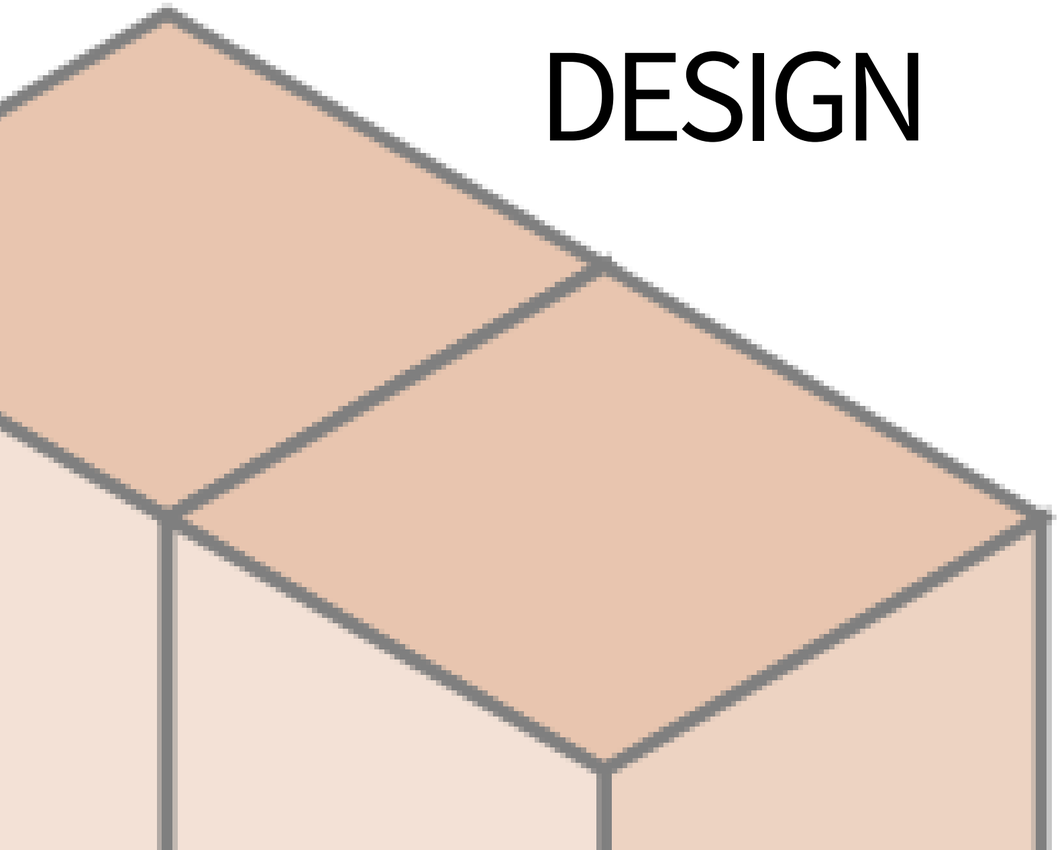
DAY 4
오류 수정

Tetris Game 버그 검토 및 수정

DAY 5
Project 정리

PPT 작업

SITE



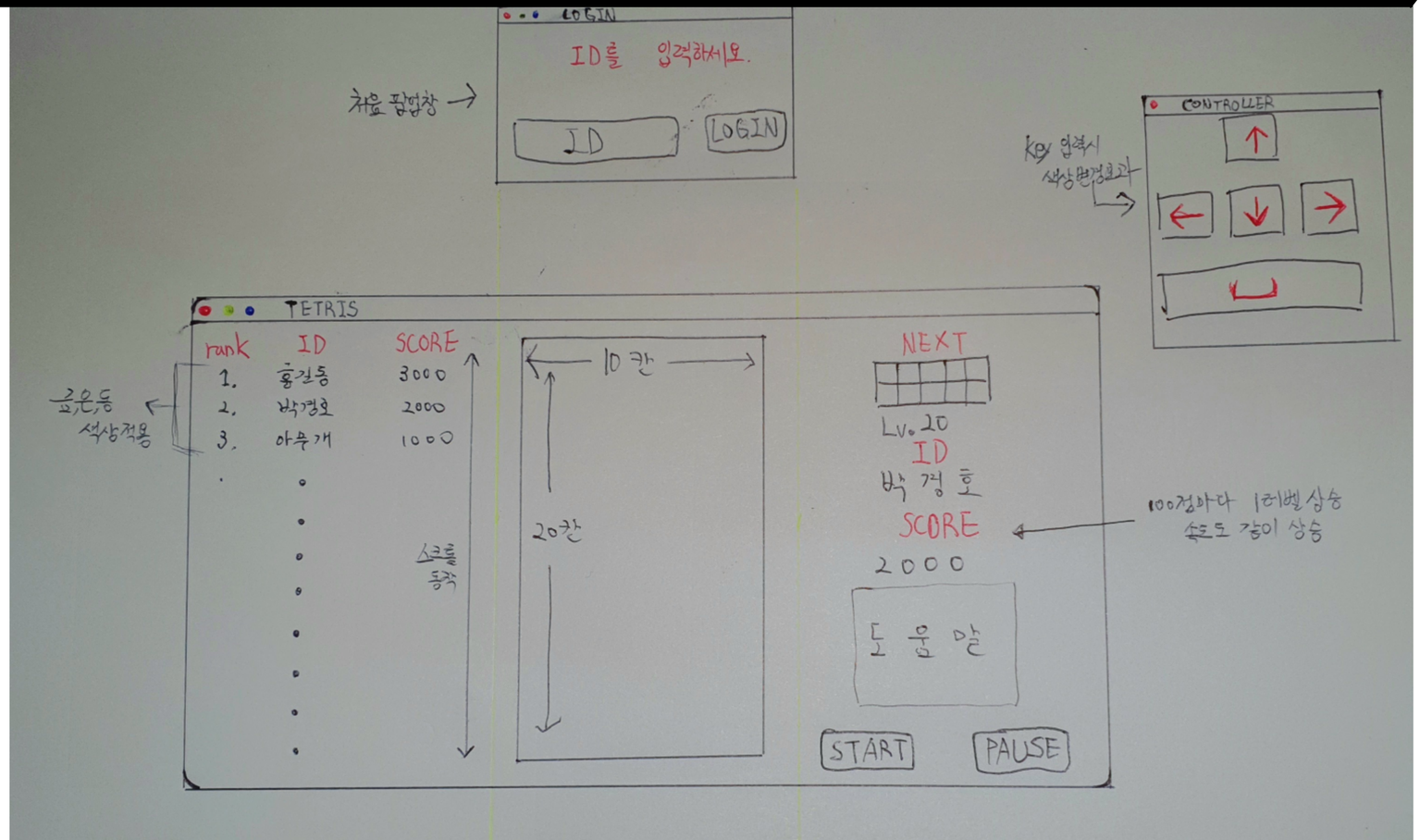
DESIGN | 02

SITE

DESIGN
SKETCH

01

- 첫 화면에 로그인 팝업창 생성
- 좌측에 순위표 구현
- 중앙에 실제 게임 화면 구현
- 우측에 편의 요소들 구현
- Touch Control 팝업창 생성



SITE

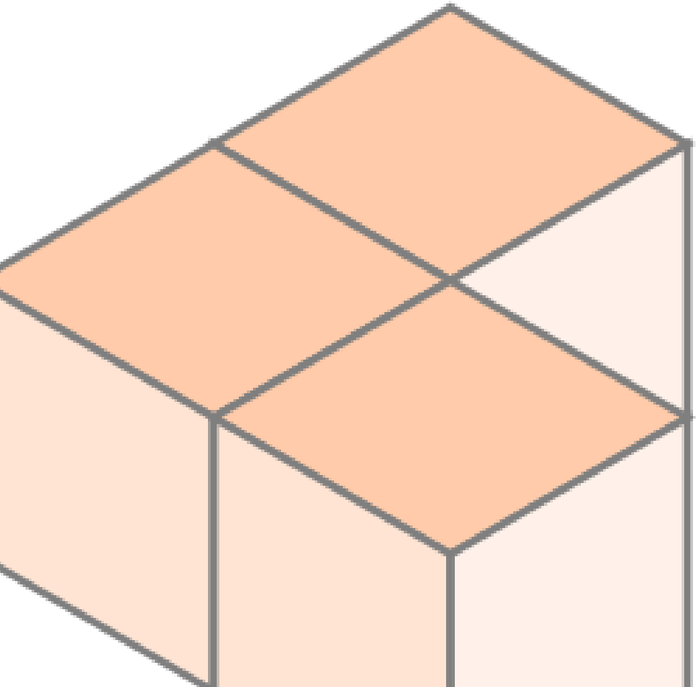
DESIGN
LAYOUT

02

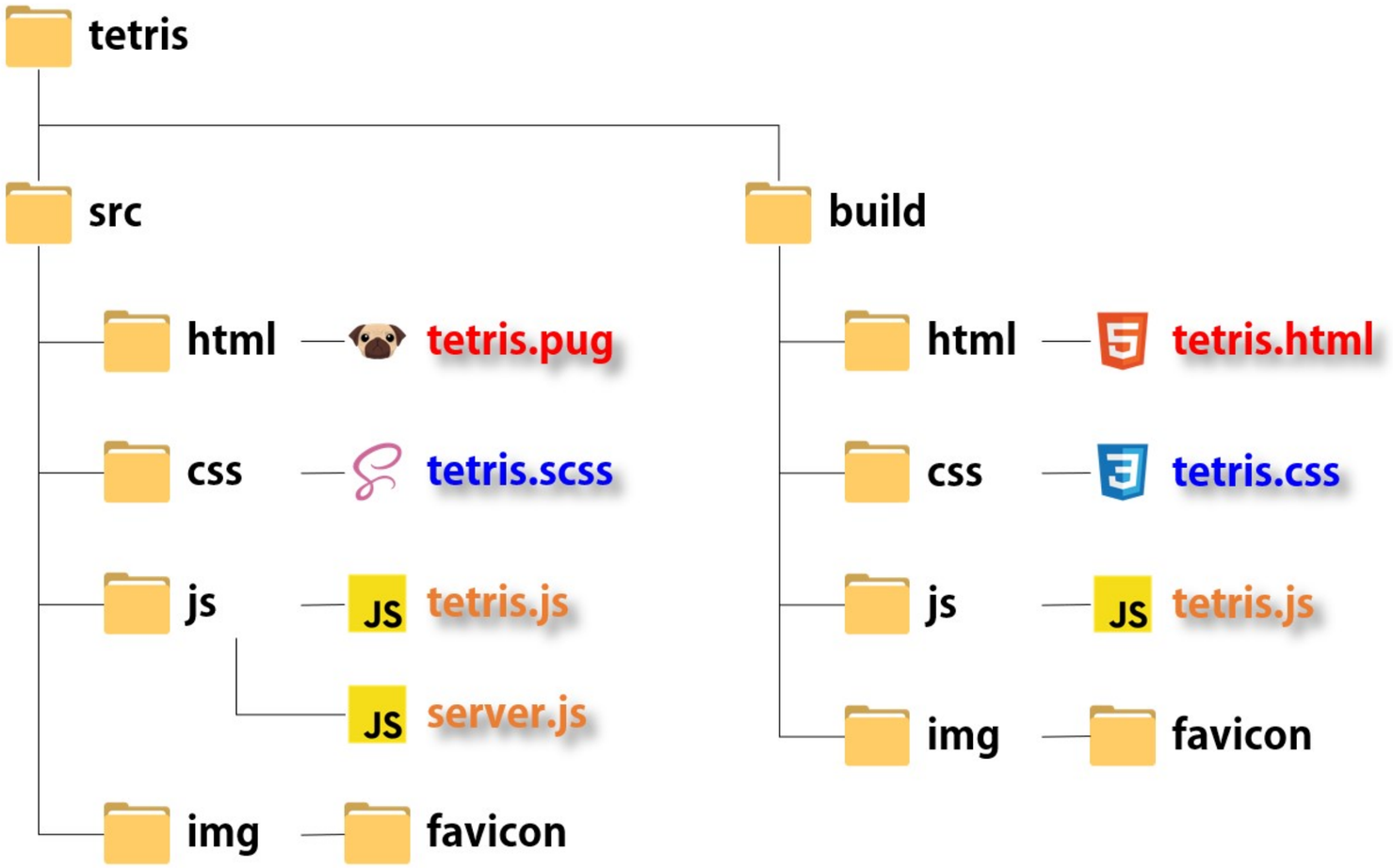
- 상위 3명 금,은,동 색상 적용
- 강조, 배경색 통일성 부여

SITE

FOLDER STRUCTURE | 03

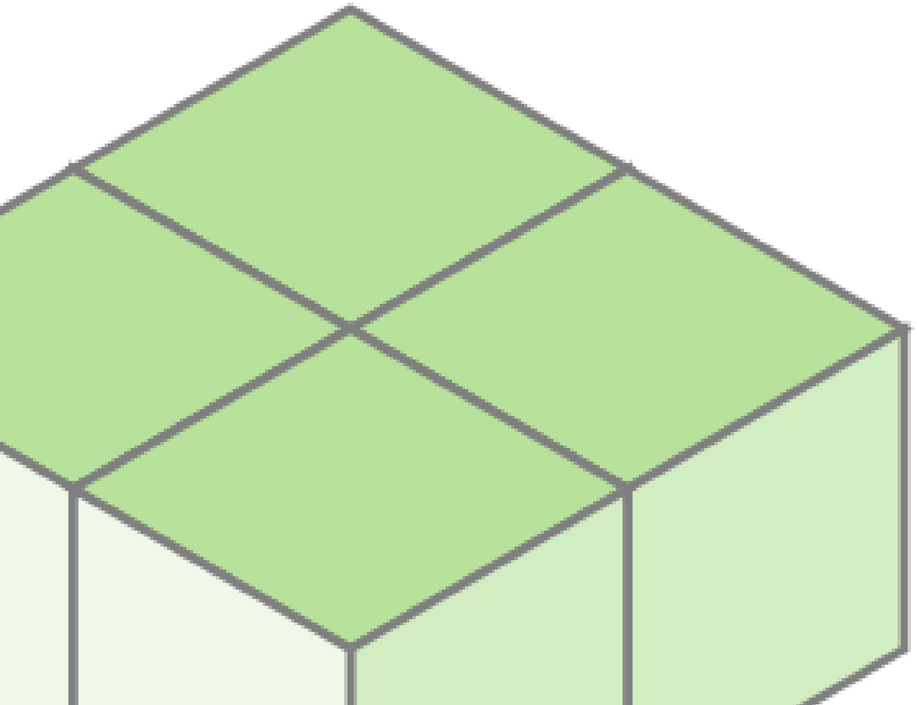


FOLDER STRUCTURE



SITE

GAME DESCRIPTION | 04



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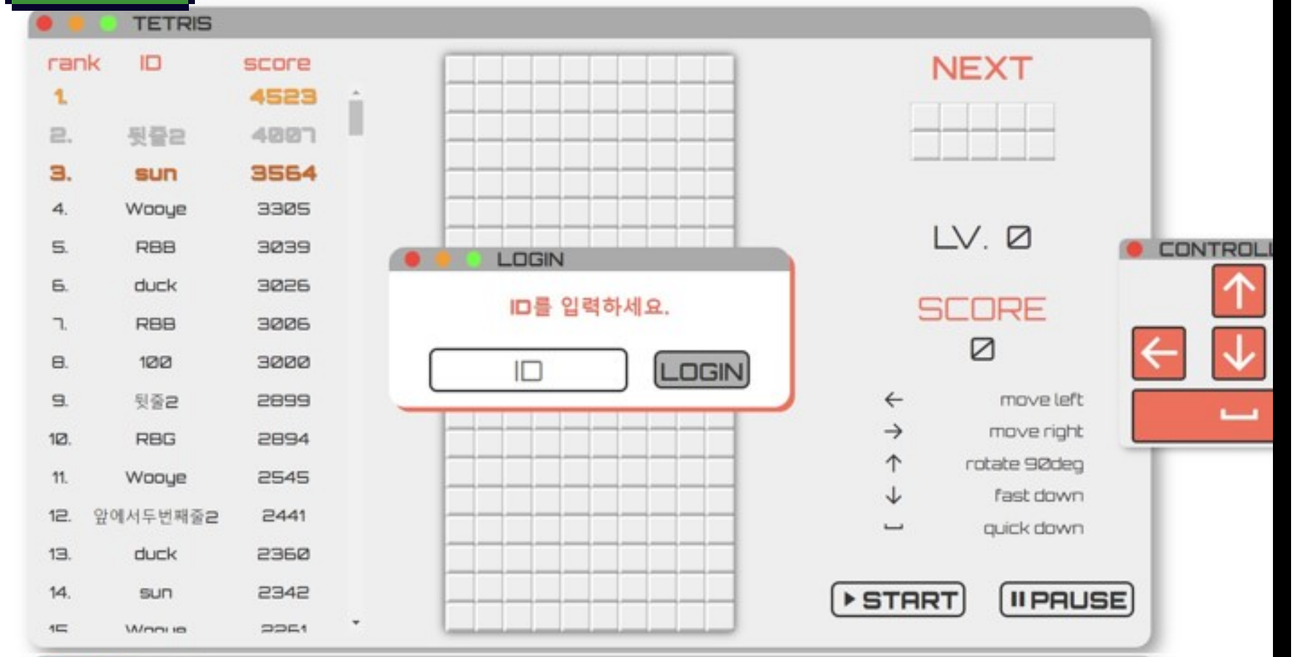
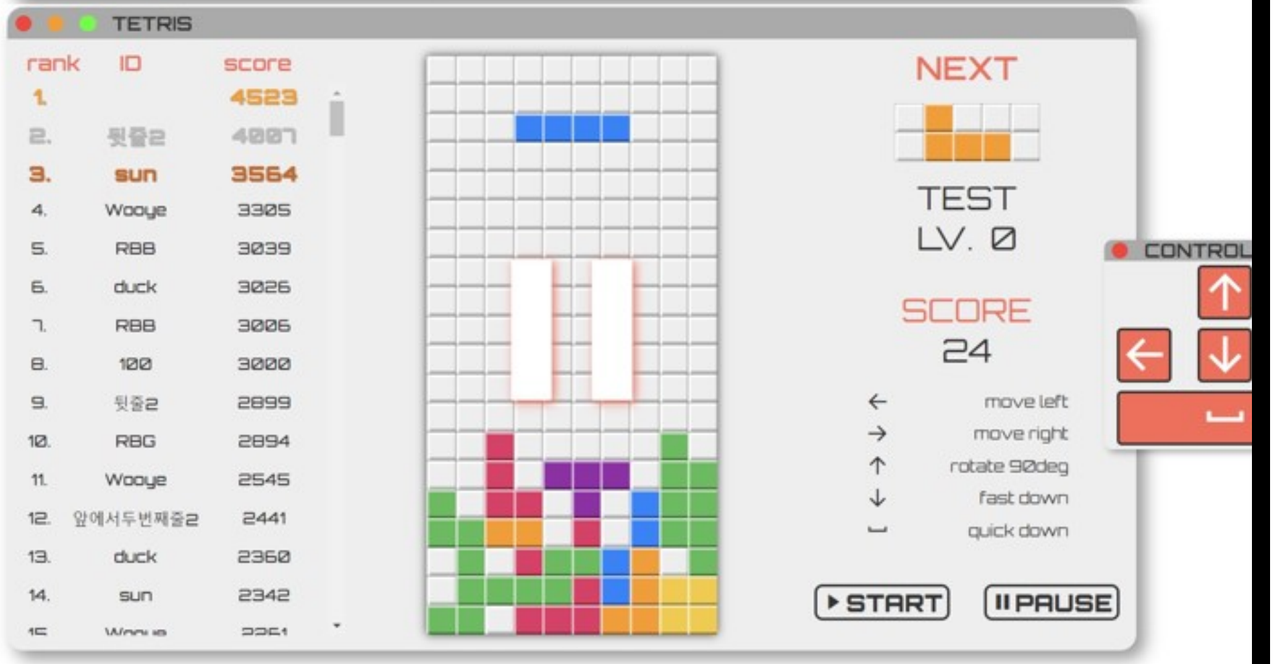




GAME DESCRIPTION

LOGIN

- 최대 8자 이내의 닉네임을 입력 후 게임 시작할 수 있다.

CONTROL

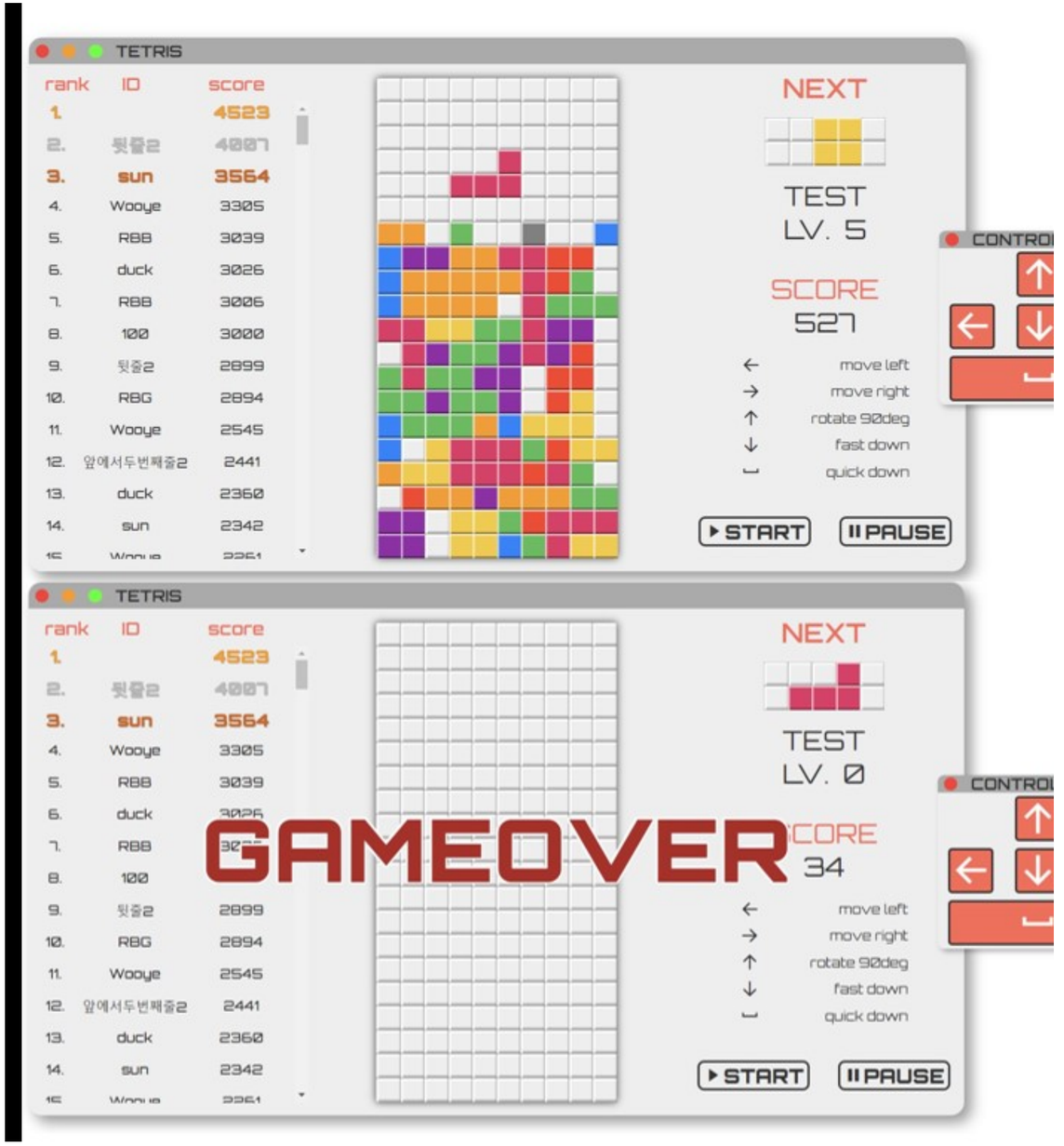
- START - 게임 시작 & 이어서 진행(PUASED)
- PAUSE - 게임 일시 정지
- ⇦ - 좌측 1칸 이동
- ⇨ - 우측 1칸 이동
- ⇧ - BLOCK 회전
- ⇩ - 1칸 내리기
- SPACE BAR - 한 번에 내리기

SITE

GAME DESCRIPTION

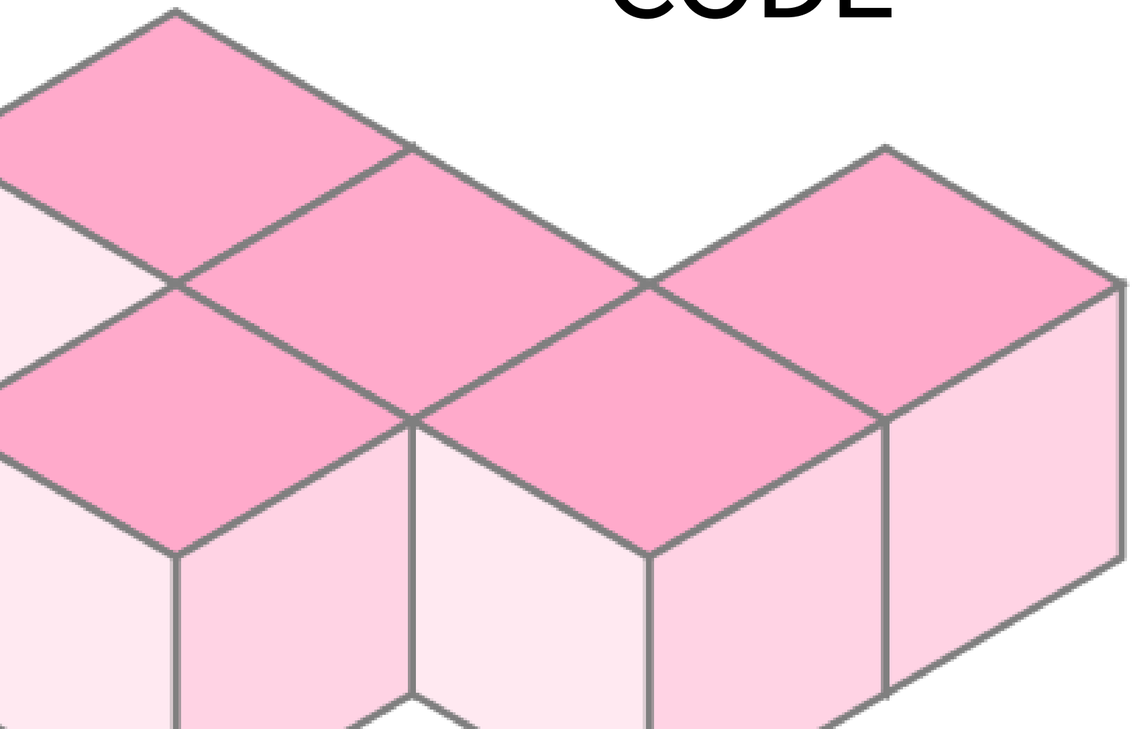
SYSTEM

- 좌측에서 순위 확인 가능
- 우측에 다음 BLOCK, ID, LV, SCORE, HELP 확인 가능
- 1줄 - 10점 | 2줄 - 24점 | 3줄 - 45점 | 4줄 - 80점
- 1초에 한 칸 DOWN - LV.20까지 LV.1당 SPEED 0.04초 감소
- LV.5당 랜덤 회색 BLOCK 생성 - 3, 6, 9, 12 …
- 맨 윗줄까지 쌓여 다음 BLOCK이 생성 불가하게 되면 GAME OVER



SITE

CODE | 05



SITE

CODE 01

JavaScript

```
1   class Tetris_game {
2   >   constructor(){      //--- Tetris Constructor ---//…
52      }
53  >   get repair_game(){      //--- Getter ---//…
55      }
56  >   set repair_game([key_1, key_2, key_3, key_4]){      //--- Setter ---//…
61      }
62  >   create_map = () => {      //--- First Create Game Map ---//…
75      }
76  >   start_game = () => {      //--- Call Start Game ---//…
139     }
140 >   preview_game = () => {      //--- Preview Next Block ---//…
195     }
196 >   change_color = () => {      //--- Reading Value & Change Color ---//…
327     }
328 >   total_down = () => {      //--- Move Down & Check Condition ---//…
498     }
499 >   rotate_shape = () => {      //--- Rotate Block CW ---//…
520     }
521 >   pause_game = () => {      //--- Pause Game ---//…
527     }
528 }
```

- CLASS 구조 작성
- Game Map 생성 Method 구현
- Block 1개 시작 Method 구현
- Preview Block 생성 Method 구현
- Array 값에 따른 색상 변화 Method 구현
- Block Down & Block 조건 검사 Method 구현
- Block Rotate Method 구현
- Game 일시정지 Method 구현

SITE

CODE 02

JavaScript

- CLASS Instance & Method 실행
- Click & KeyBoard Event Control 진행

```
529   let Control_game = new Tetris_game();
530   Control_game.create_map();
531   Control_game.change_color();
532   $(`body`).css('pointer-events', 'none');
533   $(`.login_box`).css('pointer-events', 'all');
534 > $(`.start_btn`).on('click', function(){      //--- Start Button Event ---//
545   });
546 > $(`.login_btn`).on('click', function(){      //--- Login Button Event ---//
550   })
551 > $(`.pause_btn`).on('click', function(){      //--- Pause Button Event ---//
556   });
557
558 > $(window).on('keydown keyup click', function(e){      //--- Control Arrow Key Event ---//
653   });
654
655 > $(function(){     //--- 우클릭 방지 ---//
678   });
```

SITE

CODE 03

Node.JS

```
let express = require('express');
let mysql = require('mysql');
let bodyParser = require('body-parser');
let app = express();
app.use(bodyParser.urlencoded({extended: false}));
app.use(express.static(__dirname + '/../../'));      //--- Static Folder Setting ---//
app.locals.pretty = true;
app.set('view engine', 'pug');      //--- PUG Engine 사용 ---//
app.set('views', './src/html');
let con = mysql.createConnection({      //--- MySQL DB Connect ---//
});
app.get("/tetris", (req,res)=>{      //--- '/tetirs' Get Mode ---//
  con.connect(function(err){
    if (err) throw err;
    let select_all = 'SELECT * FROM `tetris` order by score DESC';
    con.query(select_all, (err2, result, fields) => {      //--- Get `tetris` Table List ---//
      if (err2) throw err2;
      res.render('tetris',{ rank_list: result });      //--- PUG render & Variable Setting ---//
    });
  });
});
app.post('/tetris', function(req,res){      //--- '/tetris' Post Mode ---//
  let user_name = req.body.current_id;
  let user_score = req.body.current_score;
  con.connect(function(err){
```

- Express 활용
- Body-Parser 활용
- mysql DB 연동
- PUG View Engine 사용

SITE

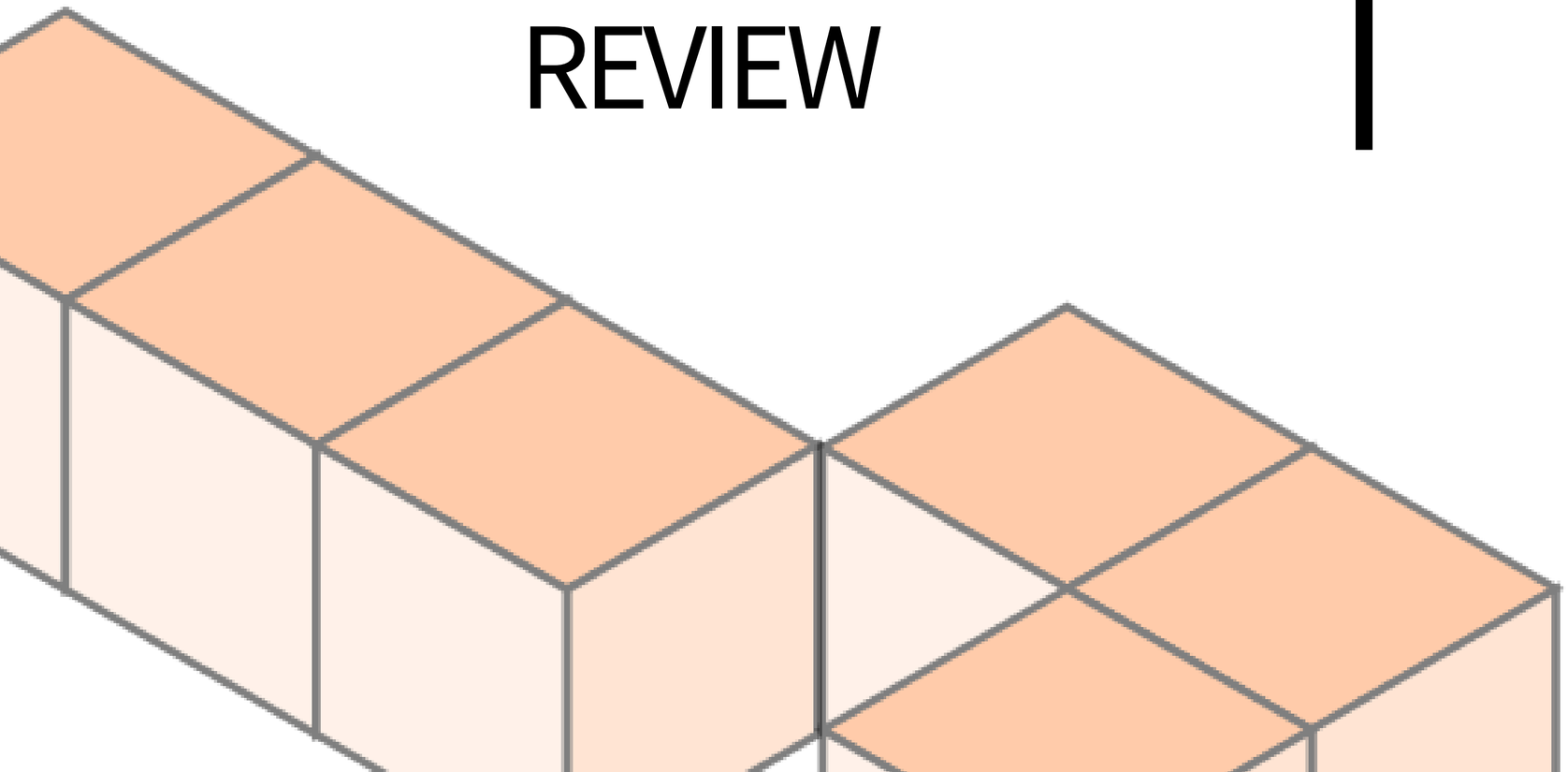
CODE 04

PUG

```
47              section.rank_area
48                each value, index in rank_list
49                  p= (index+1) + ". "
50              section.id_area
51                each value, index in rank_list
52                  p= value.name
53              section.score_area
54                each value, index in rank_list
55                  p= value.score
56  >       main ⋯
58        section.control_panel
59  >       section.preview_box ⋯
73          form(method="post")
74            section.level_box
75              input.current_id(type="text", value="", name="current_id", readonly)
76              p LV.
77                span 0
78            article.score_box
79              p SCORE
80              input.score_number(type="text", value="0", name="current_score", readonly)
81            input.end_btn(type="submit", value="", name="end_btn")
```

- NodeJS에서 배열 받아 활용
- Form Post 방식 활용

REVIEW | 06



REVIEW

2차원 배열의 회전을 주는 연습으로 시작되어
Tetris 작업을 하게 되었습니다.

Block 내려오기, 모양에 맞게 쌓기, DB 연동 등
하나하나 구현해가며 Tetris를 작업함으로써
작업 순서의 중요성을 더욱 느꼈습니다.

Tetris 작업에서 끝나는 게 아닌 테스트를 하면서
발생하는 문제를 해결도 하고 주변 사람들의
요청 기능을 추가하면서 재미를 느껴
Tetris 작업에 몰두할 수 있었습니다.

```
MariaDB [c16st10]> show tables;
+------------------+
| Tables_in_c16st10 |
+------------------+
| ck_member         |
| ck_table          |
| customers         |
| mysample          |
| ncs_11            |
| ncs_test          |
| selftable         |
| tetris            |
+------------------+
8 rows in set (0.001 sec)

MariaDB [c16st10]> select * from `tetris`;
+-----+--------------------------+-------+
| id  | name                     | score |
+-----+--------------------------+-------+
|  26 | joon                     |    10 |
|  27 | park                     |   160 |
|  30 | Goohan                   |   280 |
|  34 | hiheam                   |   340 |
|  35 | heam                     |   250 |
|  36 | yenny                    |   500 |
|  40 | duck                     |   200 |
|  41 | duck                     |   570 |
|  43 | ㅁㅁㅁㅁㅁ               |   360 |
|  44 | 뒷줄?                    |  1980 |
```

PORTFOLIO

TETRIS

THANK YOU!

MY NAME IS

PARK GYEONGHO

박경호