



**BEE**  
HUMAN

**Test your reaction time, typing speed,  
and hand-eye coordination.**

Group Y13

# AGENDA



**Demonstration**

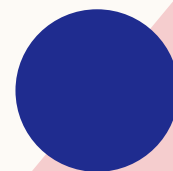
**How does it work?**

**How did we build it?**

**How we organised our project?**

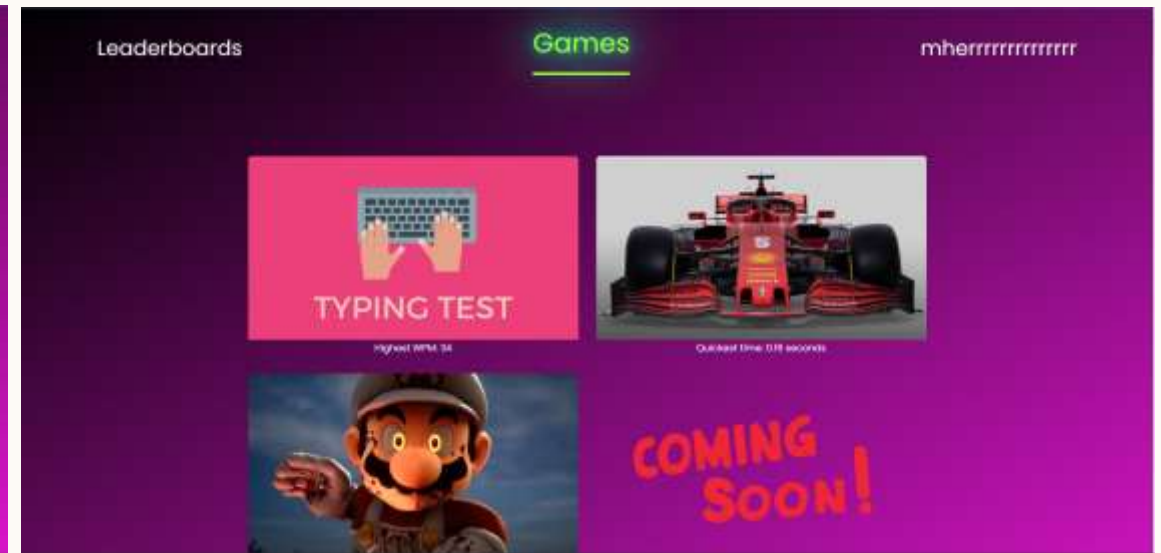
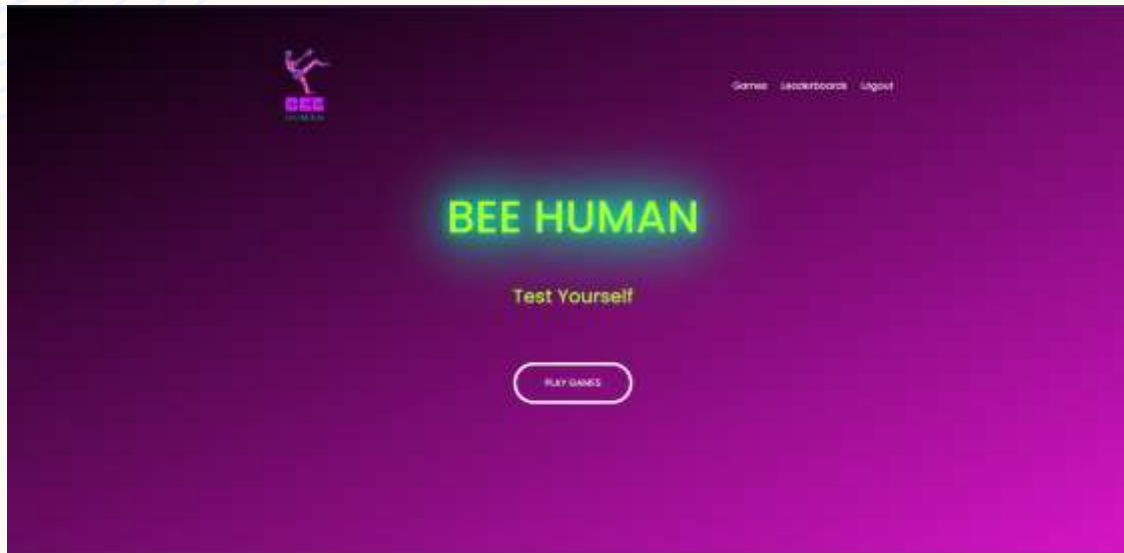
**What ethical issues did we consider?**

**What would we do differently?**



# DEMONSTRATION

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# HOW DOES IT WORK?



How the application is run



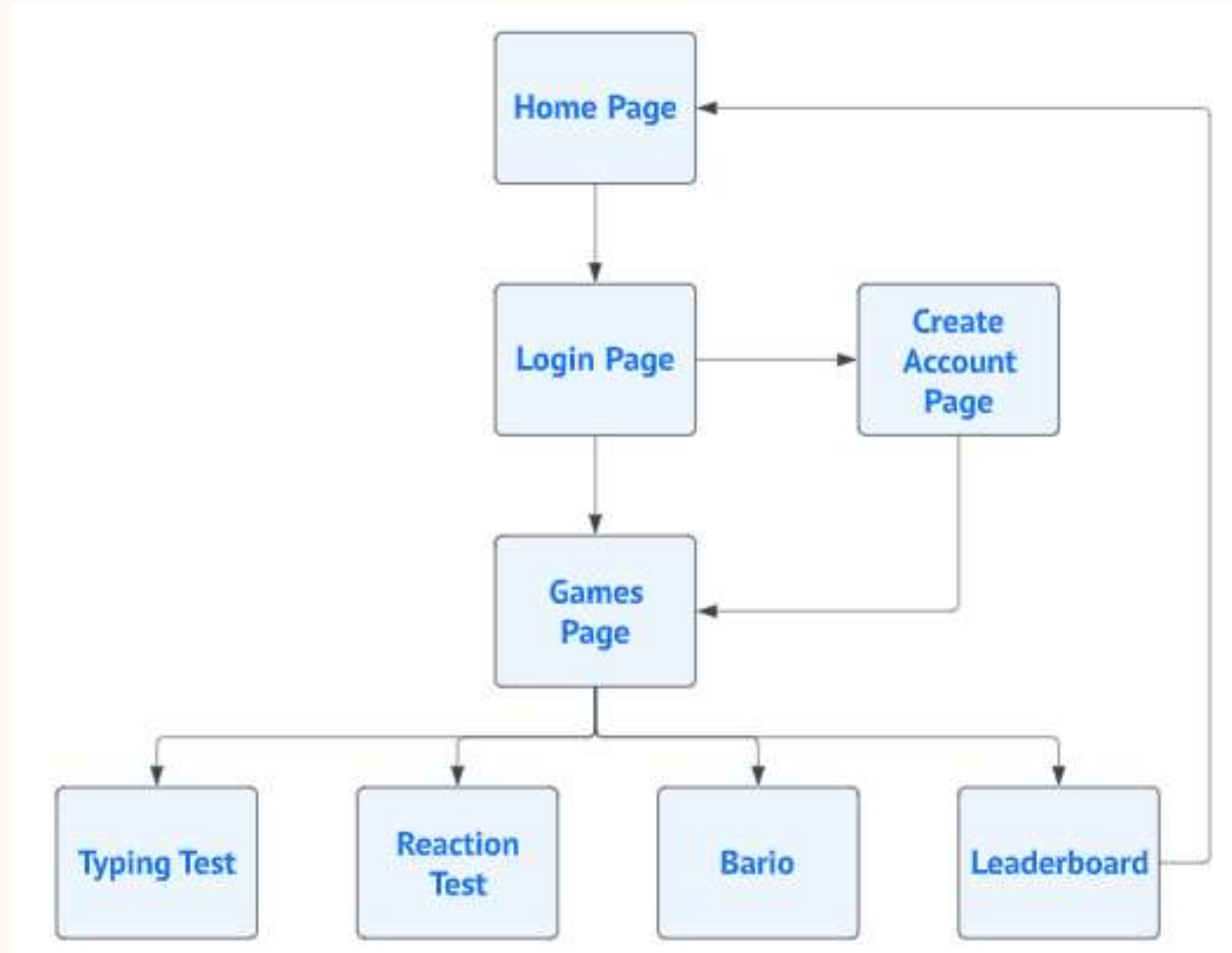
The structure of our system



How the front end connects to the backend

# OVERALL STRUCTURE OF OUR SYSTEM

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# DATABASE STRUCTURE

- **Originally, we considered one table for all high scores**
- **We rejected that idea because decomposing the leaderboards simplified the logic in the code**

v	2022_comp10120_y13	BarioTable
🔑		resultID : int
📄		userName : varchar(20)
#		barioScore : int
🕒		timeAchieved : timestamp

v	2022_comp10120_y13	UserTable
🔑		userID : int unsigned
📄		userName : varchar(20)
📄		password : longtext
🕒		created_at : timestamp
🕒		updated_at : timestamp

v	2022_comp10120_y13	TypingTable
🔑		resultID : int
📄		userName : varchar(20)
#		typingScore : int
🕒		timeAchieved : timestamp

- **We used a relational database structure**
- **Usernames are forced to be unique**
- **Therefore, it can be used as a foreign key**

v	2022_comp10120_y13	ReactionTable
🔑		resultID : int
📄		userName : varchar(20)
#		reactionScore : float
🕒		timeAchieved : timestamp



# HOW DID WE BUILD IT



# Front-End

- **HTML**
- **CSS**
- **JAVASCRIPT(Animations, Media etc.)**
- **FontAwesome library**





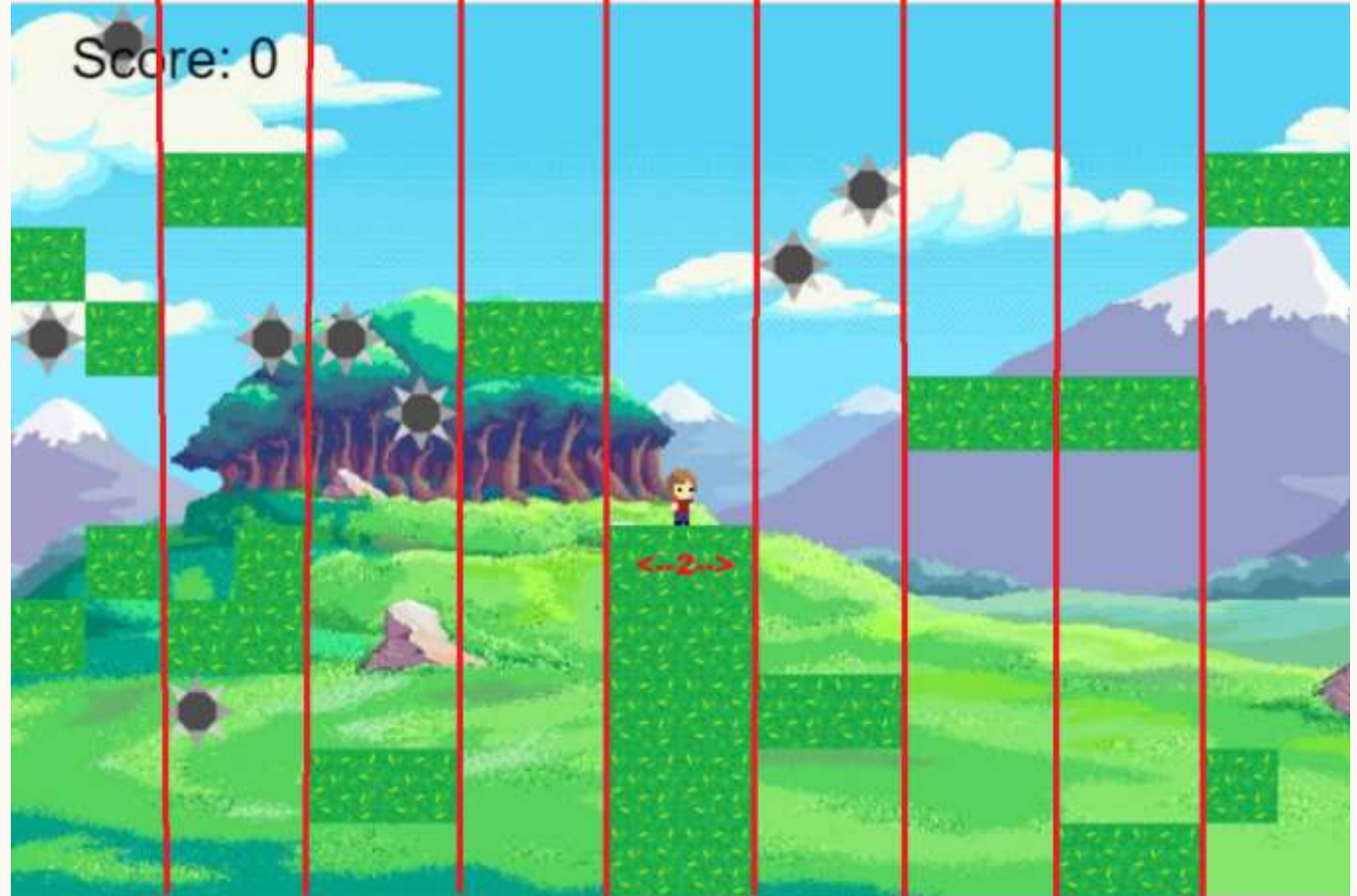
# Games

- **JAVASCRIPT**
- **Canvas API**



# Games

- **JAVASCRIPT**
- **Canvas API**

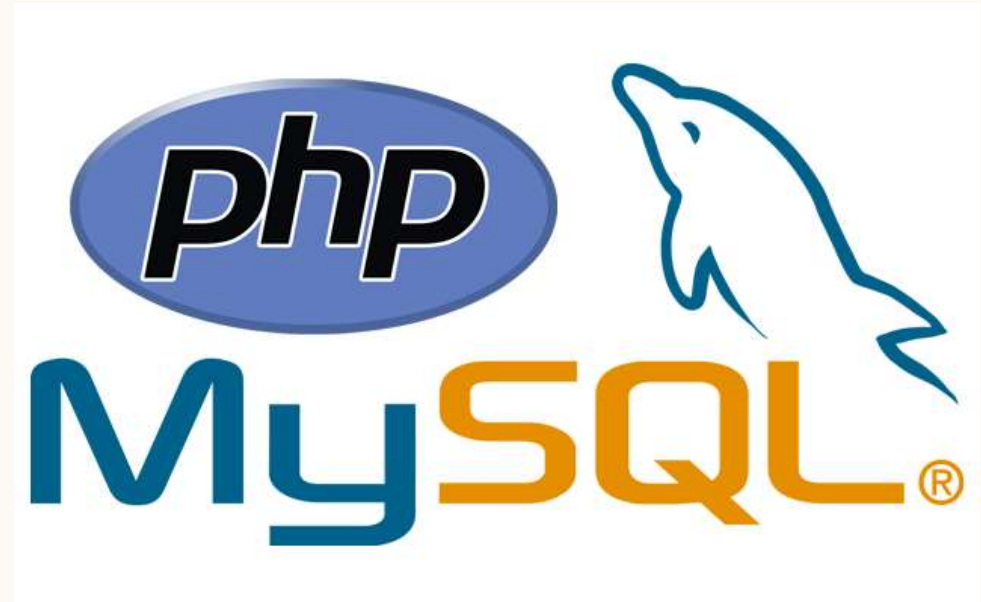


# Back-End

- **PHP**
- **PHPMYADMIN**
- **MySQL**

## **Techniques:**

- **Prepared statements, hash function, PDO framework**





# HOW DID WE MAKE TECHNICAL DECISIONS

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- **GITLAB**
- **INDIVIDUAL BRANCHES**
- **EACH SPECIALIZED ON A DIFFERENT ASPECT**
- **GROUP DISCUSSIONS TO DECIDE CHANGES TO MAIN BRANCH**
- **CHECKED EACH OTHER'S CODE FOR BUGS DURING MEETINGS.**
- **TKINTER**



# HOW DID WE ORGANIZE OUR PROJECT



Start – Working on Front-End and Creating the layout of the website

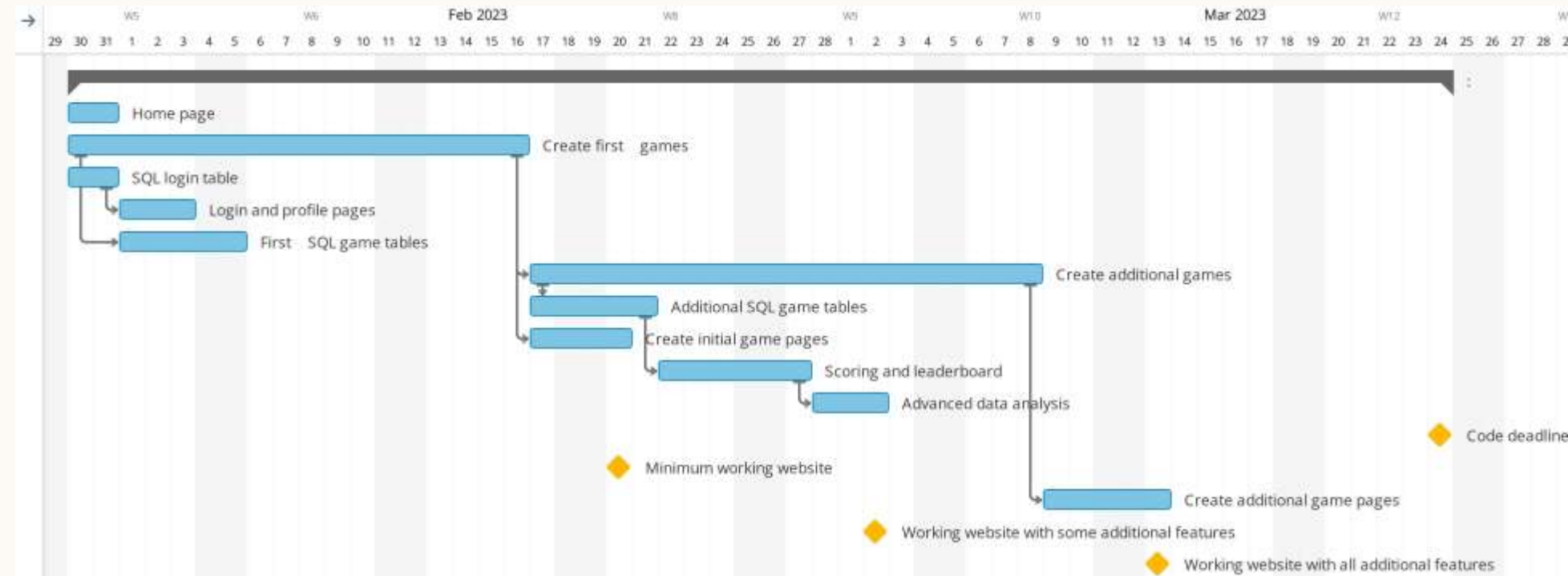


Mid-Process – Developing the Games and Integrating them into the website



Finish – Working on the Back-End and Connecting everything together

# GANTT CHART



**Authentication system and games were our first priority for MVP**

# Communication

## Daily Communication



**Communication with Tutor for important decisions**



**Weekly meetings to track our progress**



# HOW DID WE TACKLE ETHICAL AND LEGAL ISSUES

## WHAT ISSUES DID WE ENCOUNTER?

- **Storage of user's passwords**
- **Storage of user's data on their abilities**

## HOW DID WE TACKLE THESE ISSUES?

- **Passwords are hashed as users re-use passwords**
- **We don't store personal data**





# WHAT WOULD WE DO DIFFERENTLY

- **Only one admin of the repository created a bottleneck**
- **Inexperienced with branches so we had merge conflicts that delayed progress**
- **Create Google account sign in/up system**
- **Using more frameworks and libraries to save time**



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# THANK YOU



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