Game Designer Test

Part A: General Questions

Question 1: (~250 words max)

Name three of your absolute favorite games of all time- any platform/genre/etc. What makes each of these games so special from a player perspective?

Question 2: (~250 words max)

When you look at the most successful mobile hyper or hybrid casual games in 2023, **from the game design point of view**, which three games stand out and why?

Part B: Game Design

For the next section (questions 3-5), please pick **one** of the following games, and answer the below questions in detail. **The use of mock ups/charts/visuals is highly encouraged.**

Option 1: "Makeup Kit - Color Mixing" by Crazy Labs
Google Play: here.
App Store: here.

Option 2: "Drawing Carnival" by Crazy Labs
Google Play: here.
App Store: here.

Question 3: Game Analysis

1. Please describe and analyze the core game loop.
2. What are the main monetization points in the game?
3. What are the top 5 KPIs that you should measure, in order to decide if the game is successful or not? Explain why these are the most important ones, and what you expect their values to be in a successful game.
4. Let's assume that while analyzing the game's data, you noticed a high drop off for players during the <u>first session</u>. What additional information will you need to pin-point the problem?
5. In your opinion, what are the 2 biggest problems you can identify in the game? How would you suggest fixing them?

Question 4: Creative Thinking

In the following section, your suggestions do not need to be full designs. You should describe your features in high level. Please use visual aids such as mock ups, flows, etc where needed.

1. Suggest a new feature/change to increase monetization in the game.
2. Suggest a new feature/change to improve D7 retention.

Question 5: Feature Design Document

In the following section, you should create a full Game Design Document. The document should be detailed enough, and explain the feature fully (including topics like mockups, wireframes, target KPIs, required analytics events, configurable parameters, etc.). This document should be detailed enough for developers to implement it in the game.

1. Create a design for a new feature to be added to the game. The target of this feature is to significantly increase ARPU Day 14.

Good luck & Enjoy it!
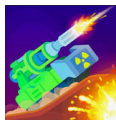CrazyLabs Hiring team

Game Designer Test


Mootaz Azaiez - Game Design

Part A:

Question 1:

-Tank Stars: This is a very well designed game with simple but also <u>addictive gameplay</u> that is p<u>hysics based</u> shooting and let's be honest physics is so fun! And on top of that we have multiplayer with the vibrant visuals and effects not to mention the simple gameplay and the variety of tanks and abilities and the upgrades and customization, it's all a <u>great mix</u> to keep the player addicted to the game for weeks!

-Age of Empires: In my opinion this game is a miracle, not only it had the best <u>historical immersion</u> and authentic settings but also the deep s<u>trategic real time gameplay</u> with the evolution feature over time and the amazing art and sound design all of that delivers the an a<u>mazing multiplayer experience</u>, maybe the best in RTS games in my opinion.
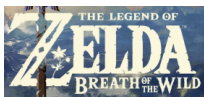
-Zelda BOTW: this is a very special game for me because of its <u>open world design</u>, the exploration and endless things you can do in its sandboxed world is amazing, the players can solve challenges <u>using a variety of creative solutions</u>, the <u>integration of the physics</u> in game gives a unique gameplay experience, not to mention its <u>stunning art style and engaging lore</u>.

Question 2:

Race Master 3D: The clever implementation of <u>player progression</u> is done very well in this game, this sense of achievement motivates players to continue racing for weeks, this system is a <u>great solution for low user retention</u> that many hyper casual games suffer from.
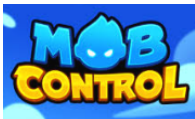
Mob Control: In my opinion the strong feature of this game is the satisfaction delivered to the player when gathering a large unstoppable crowd, this offers a very compelling "strength in numbers" gameplay experience, with the implementation of <u>risky rewarded mechanics</u> it adds excitement and depth.

Stumble Guys: The level design in this game is just perfect, it is designed in a way that requires both <u>skill and strategy</u>, from dodging obstacles and jumping makes the game both fun, funny and challenging, with the <u>hilarious gameplay</u> and the clumsy characters which leads to funny results, gives a mix that is usually difficult to achieve!
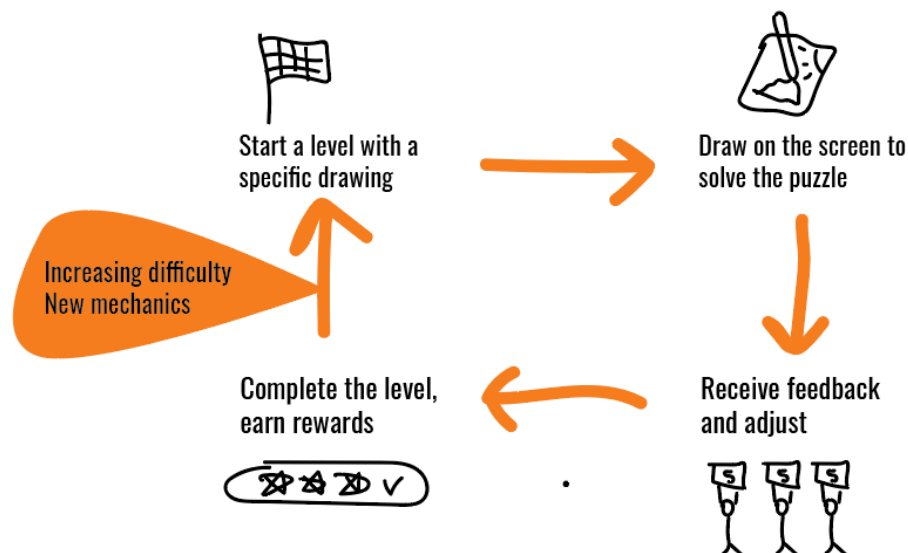
Part B:

Choosed game: Drawing Carnival

Question 3:
   1) :

Core game loop Analyze:

The Loop of Drawing Carnival is player engaging as it combines problem solving, creativity and real time drawing making it addictive and delivers the sense of loose time.

Details of the loop parts:

1- Level setup: The level presents a specific challenge where the player needs to finish drawing a picture. The missing parts are clearly defined as drawing lines and shapes helps to complete the task.

2- Drawing: Drawing on the screen using your finger and the game engine interprets these drawings and that's how the player interacts with the game environment , the player needs to choose the correct colours and stop drawing the lines in the right positions. The game can allow for multiple solutions so the player can be creative on how to approach.

3- Feedback: The player will receive feedback from the viewers based on their performance and how the player experimented with different drawings.

4- Complete: Players earn in-game currency and scores based on how good the feedback was, these rewards can be used to unlock drawing tools, border skins which gives progression feeling.

Increasing Complexity: As players finish more drawings, new drawing mechanics and elements are unlocked to make the game fresh with increasing difficulty in a gradual curve that keeps the player engaged without feeling overwhelmed.
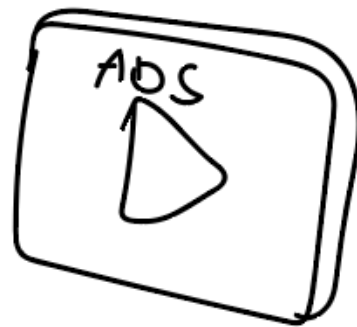
2) :

The main monetization points in the game are ADS and In-App Purchases.

In-App Purchases   ADS

ADS: Drawing Carnival offers the option to watch rewarded ads in exchange for pencils, borders, bonuses and more. As well as Interstitial ads that show between actions and banner ads, all of this balances free to play mechanics with monetization.

In-App Purchases: The game also offers in-app purchases for additional tools and cosmetics, or shortcut through difficult levels and also the option to remove the ads for a better gameplay experience.

3) :

In my opinion the top 5 KPIs that should be measured are ARPU, Retention rate, DAU, CAC vs LTV and Engagement metrics.

Let's go through them one by one:

1-Average Revenue per User (ARPU):
- The importance of this is that it calculates the amount of revenue per user which helps to see the effectiveness of the game's monetization, it usually combines in-app purchases and ads.
- A successful F2P game typically would range from 0.10 to 0.4 Euros per daily active user.

2-Retention Rate:
- This measures the percentage of players who return to play after Day1, Day7 and Day 30 from playing the game first time. Retention rate will depend on how good the game is on keeping players engaged.
- Successful values should range like this: D1 35+%, D7 17+%, D30 7+ %.
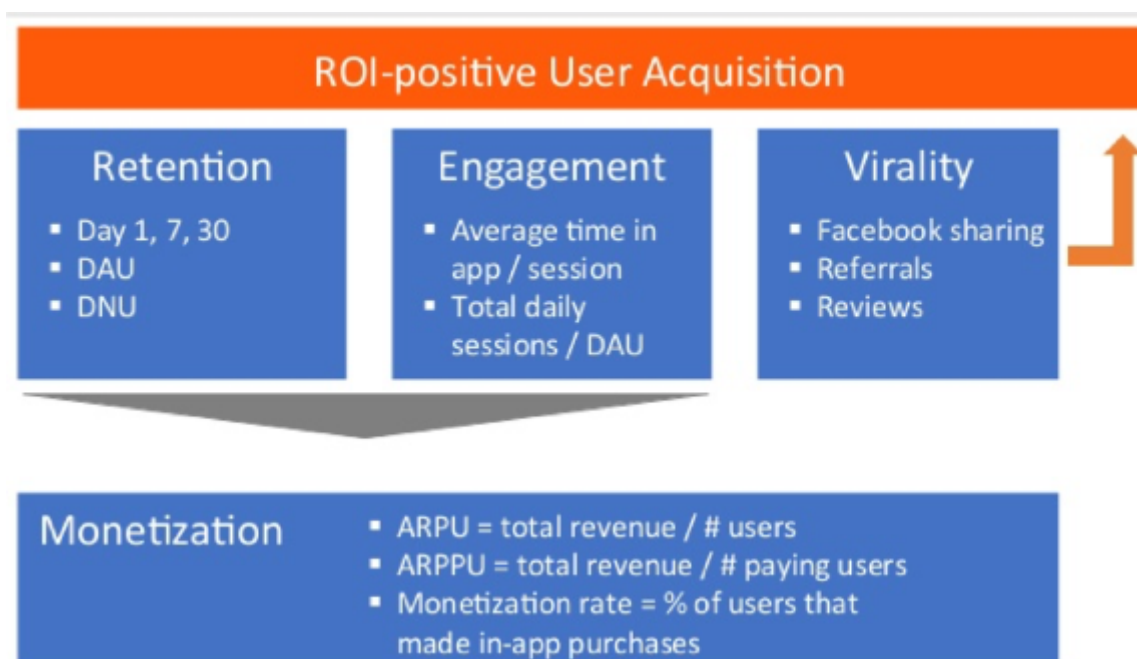
3-Daily Active Users (DAU):
- DAU measures the number of daily active players, this a great metric to know the overall popularity of the game.
- Expected values should be consistent and growing by time, Spikes in the metric during updates and events is a big plus!

4-Customer Acquisition Cost VS Lifetime Value (CAC vs LTV):
- CAN measures the cost of getting a new player but LTV calculates the total revenue of a player during their full time with the game, comparing these should let us know if the game is financially stable or not.
- For a successful game LTV should be much higher than the CAC, at least *3 higher.

5-Engagement Metrics:
- This contains a number of metrics that provide an insight about the game addictiveness of its engagement loops by measuring the session length, sessions per day and more..
- Good values should have 5-10 minutes of session lengths and more than 1 session per day.

ROI-positive User Acquisition

Retention	Engagement	Virality
▪ Day 1, 7, 30 ▪ DAU ▪ DNU	▪ Average time in app / session ▪ Total daily sessions / DAU	▪ Facebook sharing ▪ Referrals ▪ Reviews

Monetization
- ARPU = total revenue / # users
- ARPPU = total revenue / # paying users
- Monetization rate = % of users that made in-app purchases

4) :

When noticing a high drop off during the first session there is many aspects that we need to analyse, Most important are:

- **Onboarding (strating):** We need to look step by step, the first things that happen to the player when starting the game like tutorial, first level, first interaction.. We could find out that one of those steps is too long, boring or confusing even though the gameplay is engaging later.
- **Device Performance:** We need to also review the data related to game performance on devices and check for any long load-time, crashes and low frame rates as this can cause the player to get a bad first impression about the game and leave.
- **Monetization system:** Bad implementation of monetization like early attempts of showing interstitial ads or in-app purchases as this can disrupt the player experience and pressure him on spending money before they're even interested in the game.
- **User feedback:** Collect user feedback and reviews from surveys or store reviews and check for any direct insights related to first time experience and see what is frustrating or confusing them.

5) :

In my opinion the 2 biggest problems in the game are **Bad implementation of Ads** and **Confusing UI Positioning**.

Bad Implementation of Ads: The ads in the game are <u>suddenly triggered</u>, sometimes interrupting gameplay as <u>there is no transition between gameplay and ads</u>. They appear a bit too frequently which can distract the player and <u>affect the overall experience</u>. I have also checked the reviews and <u>players indicate that the ad strategy is a bit aggressive</u>.

Solutions: <u>Reduce ad frequency per session</u> especially during gameplay, <u>Implement a warning timer</u> or notification before an interstitial ad appears, <u>focus more on rewarded ads</u> which have more eCPM than other ads that the player doesn't control over.

Confusing UI Positioning: In my opinion the <u>UI is poorly designed</u>, some buttons are in non-standard positions making it a bit d<u>ifficult for newcomers to navigate</u> and this can lead to frustration.

Solutions: <u>Redesign the confusing UI elements</u> and reposition them in more familiar locations following common mobile game placements, <u>Improve the visibility</u> and ensure that the UI does not obstruct the gameplay, they should be transparent or small enough to not interfere with gameplay but also large enough to be easily clickable.

Question 4:
   1) :

A feature I would suggest and I cannot seem to find it in the game is a **premium subscription** or **ad removal option**, especially given the <u>feedback about the excessive ads</u>.

This can be done in 2 ways:

Ad Removal Option: this feature offers the players the option to remove the ads by making a <u>one-time purchase</u>, from 4.99$ to 9.99$ is a reasonable price range depending on the region and audience of course, This is a common practice in mobile games and could be a huge revenue source.

Premium Subscription: A monthly or yearly subscription that removes ads and maybe also includes some additional perks that make the subscription more attractive like accessing to special

drawing tools and offering discounts on in-game purchases. Monthly subscription can range from 2.99$ to 4.99$ or yearly from 24.99$ to 39.99$ with the yearly plan being cheaper to encourage long-term commitment.

This feature <u>addresses the primary complaint</u> about the excessive ads while also providing an <u>appealing monetization</u> option, there are also other ways to increase monetization like implementing a **Season Pass** or **Battle Pass** which can also <u>greatly increase the engagement and player retention</u>.


2) :

To Improve D7 retention one of the features i would suggest is **Daily Challenge System** where players <u>receive a new challenge every day</u>, the challenge can be a simple task like "complete 3 drawings" or more complex like "get an offer that is higher than 400$" .

How it works: The player has to finish the asked task on the daily challenge and the rewards for completing the tasks should <u>grow in difficulty and value each day</u>.

Example:
- Day 1-3: Small rewards like a small amount of in-game currency.
- Day 4-6: Medium rewards like special drawing tools or cosmetics.
- Dar 7-9: Huge rewards like a rare item, tools bundle, exclusive drawings and more..
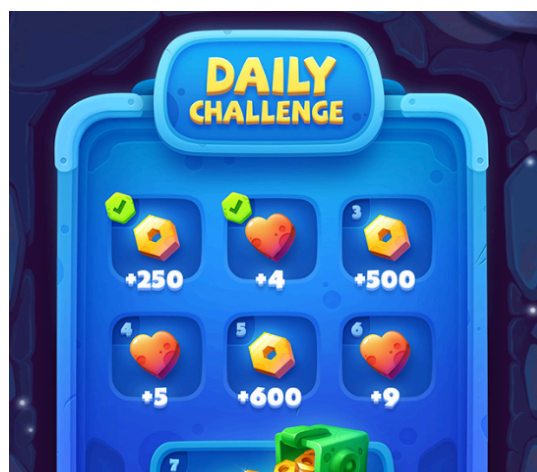
Streaks: To encourage players to <u>log in every day</u> we can offer <u>streak bonus</u> if they complete the daily challenges in 7 days in a row and if the player misses a day the streak will reset.

Why?

This will make the players <u>motivated to return to the game daily</u>, also it can be a potential revenue by adding the **Streak Reset feature** that gives the player the ability to restore their streak if misses a day or 2 by <u>watching an ad or spending in-game currency</u>.


Daily challenge system is a great way to increase D7 retention because:

- The system gives the player a reason to log in every day and make the game <u>a daily habit</u>.
- The increasing reward amount will keep the player excited to open the app every day, <u>the closer they are closer to Day 7 rewards the more excited</u>.
- We can add an option for socially sharing the daily challenge progress, this will encourage players to <u>play regularly and increase visibility</u>.

How to correctly implement the feature:

- **Push notifications:** Use push notifications to <u>remind the players to finish their daily challenge tasks</u>, with a hint on how close they are to the Day 7 reward.
- **Challenge Variety:** Make sure that the challenges are <u>different and not repetitive</u> to keep things interesting.
- **Challenge Customization**: This is an optional addition but we can also allow the players to <u>choose a challenge from 3 offered</u> to give them some <u>control and to satisfy all playstyles</u>.
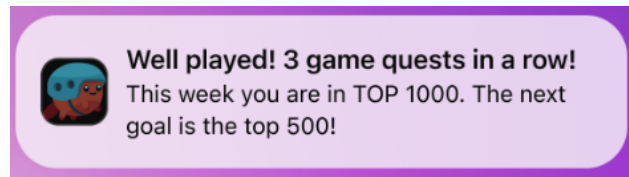
This feature has a great potential to make the game a daily routine for the players and can significantly **improve D7 retention** and encourage the player to <u>return consistently</u> which is important for long term success.

Question 5:

PLEASE GO TO NEXT PAGE

Game Design Document
Feature: Boost & Premium Power-Ups

Objective:
This feature aims to increase the ARPU on day 14 by introducing Premium Power-Ups and Boosters that encourage spending and enhancing the gameplay of the game.

1. Feature General Overview:
1.1 Description:
Premium Power-Ups and Boosters are a variety of consumable items, consuming them will provide the player with temporary advantages and enhance the gameplay experience. To purchase these items the player can use real money or in-game currency that he can win from in-game achievements. This system is designed to particularly increase the ARPU around Day 14.

1.2 Components:
- **Boosters:** Those are items that can <u>enhance the gameplay experience for a limited time</u> and they are 3: Double Rewards, Challenge Reducer and Streak Protector.
- **Power-Ups**: Those are consumable items that <u>give the player more power in gameplay</u> and they are also 3: Correct colour, Slow Draw, Attractive Painting.
- **Bundles**: Bundles are <u>power-ups and boosters packed together</u> at a <u>discounted price</u> to encourage higher spend.

1.3 Target KPIs:
- **ARPU:** Targeting a <u>30-40% increase</u> in ARPU by Day14.
- **Average Spend Per Paying User:** Encourage <u>spending through bundles.</u>
- **Conversion Rate:** Increase the percentage of players who make a <u>minimum of 1 in-app purchase by Day 14</u>.

2. Detailed Design:

2.1 Boosters:

- **Double rewards:** this will double the rewards earned from drawings for 1 hour.
  Pricing: 0.99-1.99 per use.
  Parameters: Duration, Price and Reward Multiplier.

- **Challenge Reducer:** Lowers the challenge difficulty by 20-30% for 30 minutes.
  Pricing: 0.99$ per use.
  Parameters: Duration, Price and Reduction percentage.

- **Streak protector: (Only if we include the suggested feature to improve D7 retention on question 5.2)** This protects the daily streak in case the player misses a day.
  Pricing: 1.99$ per use.
  Parameters: Uses limit, Price.

2.2 Power-Ups:

- **Correct colour:** This will auto-select the correct colour to paint in the selected area for the next 10-20 games.
  Pricing: 0.99$ per use.
  Parameters: Number of games, Price.

- **Slow Draw:** This will make the drawing speed slower by 50% so the player can stop drawing the line in the perfect position in the next 10 games.
  Pricing: 0.99$ per use.
  Parameters: Number of games, Price, Slow rate.

- **Attractive painting:** This will make the buyers more attracted to the painting and offer *2 more interest and money for the next 10 games.
  Pricing: 1.99$ per use.
  Parameters: Number of games, Price, Interest rate.

2.3 Bundles:

- **Starter Pack:** Includes 1 double reward, 1 Streak protector , 2 attractive painting.

Pricing: 3.99$

Parameters: Items included, Price, Availability (EG: limited time offer).

- **Pro Painter Pack:** Includes 3 double reward, 3 attractive painting, 1 correct colour, 2 slow draw)
  Pricing: 8.99$
  Parameters: Items included, Price, Availability.

- **A little bit of everything Pack:** Includes 2 Double Rewards, 2 Challenge Reducer, 1 Streak Protector, 1 Correct colour, 1 Slow Draw, 2 Attractive Painting.
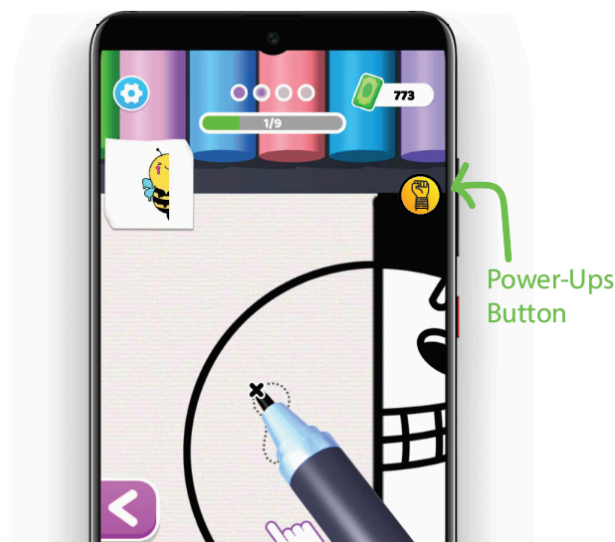 **Pricing:** 9.99$
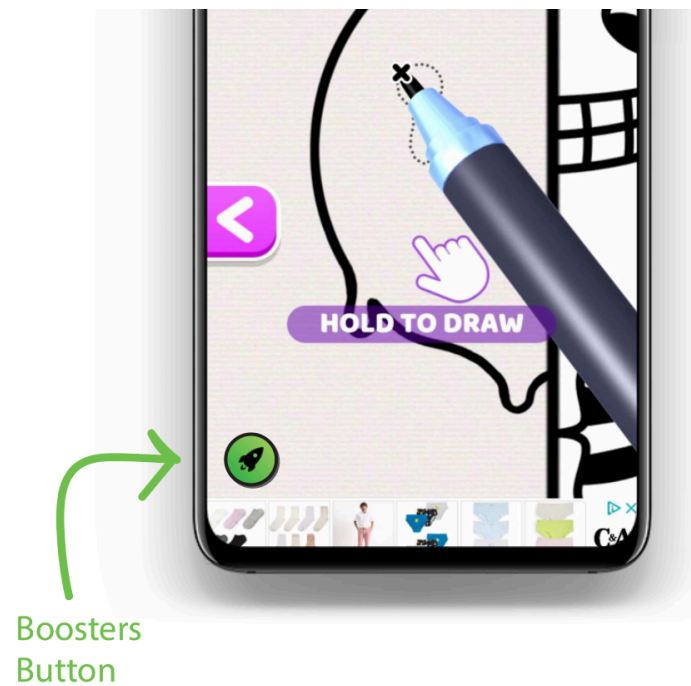 **Parameters**: Items included, Price, Availability.

3. Wireframes:
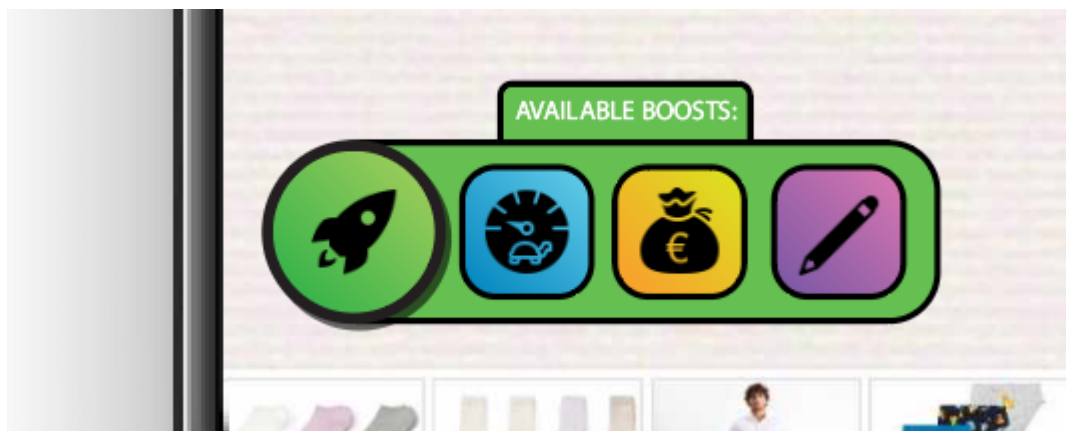
3.1 Main Screen Integration:

- **Power-Ups Button:** Positioned on the main gameplay screen, with a small icon to open the available power-ups.

- **Boosters Menu:** A button on the main menu and in-game or via an auto-trigger when entering challenging levels.
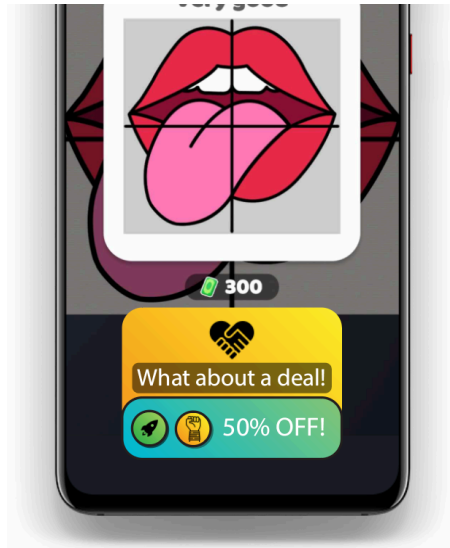
When open:

On click a slider of available and acquired boosters appear where the player can directly choose from.
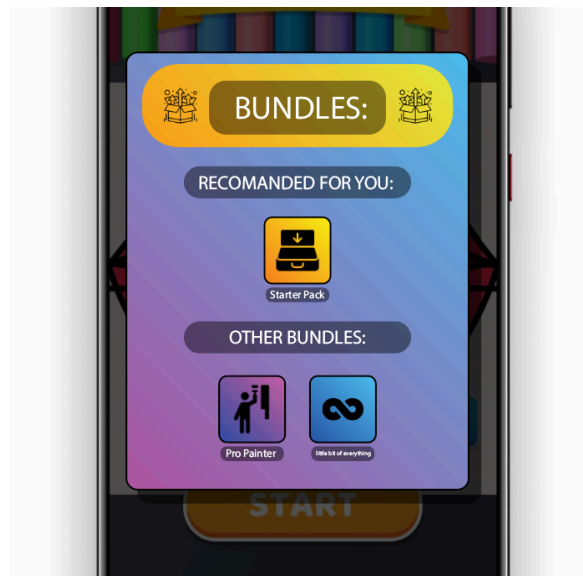
3.2 Purchase Flow:

- **Popup Offers:** When a player fails a level or completes a streak, a popup appears about power-ups or boosters at a discounted price.
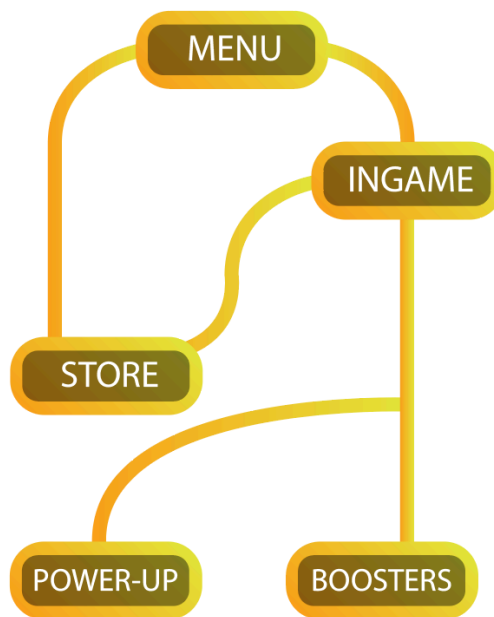

3.3 Bundle Shop:

- **Dedicated Shop Section:** A tab in the in-game shop dedicated for bundles, with promotional banners for limited-time offers showing the raiming time until the bundle is removed.

FLOW:

4. Required Analytics events:

4.1 Purchase Tracking:
Event: ´purchase_powerup_booster´
Parameters: item_type, item_id, price, currency ,
time_spent_before_purchase.
Purpose: To track power-ups and boosters and which are most
purchased, the price effectiveness, and the time spent in the
game before purchase.

4.2 Bundle Conversion Rate:
Event: view_bundle_offer, purchase_bundle
Parameters: bundle_id, price, time_to_purchase_after_view.
Purpose: Evaluate the effectiveness of bundle offers and the
conversion rate after viewing the bundles.

4.3 Bundle Conversion Rate:
Event: daily_retention_check
Parameters: day_x, powerup_used, booster_used,
purchase_made.

Purpose: To see how power-up and booster usage affects the player retention, particularly on Day 7 and Day 14.

5. Parameters:

5.1 Pricing:

- **Power-Ups:** Adjustable pricing tiers for all power-ups.
- **Boosters:** Configurable pricing, duration and effect strength.
- **Bundles:** Adjustable contents and pricing of bundles.

5.2 Availability:

- **Item Frequency:** how often power-ups and boosters are offered.
- **Popup Triggers:** when popups for offers should appear, such as after level failures or streak completions.
- **Bundle Rotation:** Schedule different bundles to appear at different times, based on player actions and events.

5.3 Reward Multiplier:

- **Adjust Multiplier for Boosters:** to find the perfect settings for best effectiveness of boosters like "Double Rewards" to balance between player satisfaction and monetization.

6. Implementation Roadmap:

6.1 Development Phases:

- **Phase 1: Design and Prototyping**
  - Finish mockups, wireframes, and UI integration.
  - Develop power-up and booster systems.

- **Phase 2: Backend and Analytics**
    - Implement purchase flow, analytics tracking, and events.
    - Set up parameters in the admin panel (like google analytics).

- **Phase 3: Testing and Balancing**
    - Conduct A/B testing on pricing, availability, and usage.
    - Modify and optimise based on player feedback and analytics.

- **Phase 4: Launch and Post-Launch Optimization**
    - Release the feature to all players.
    - Monitor KPIs and change pricing, offers, and bundle as needed.

design & Prototyping → backend & analytics → Testing & Balancing → Lunch & Post Lunch

6.2 Quality Assurance:

- **Gameplay Testing:** Ensure that power-ups and boosters enhance gameplay without disrupting the game balance and to not give the feeling of overpowered or useless items.

- **Usability Testing:** Verify that the UI is clean and that the purchase flow is smooth and easy.

- **Load Testing:** Make sure that the backend can handle the increased transaction, particularly during bundle offers during events.

7. Results and outcome:

7.1 ARPU Increase:

- **Day 14 ARPU:** A 30-40% increase by encouraging purchases through premium items (Power-ups & Boosters) and bundles.

7.2 Conversion Rate:

- **Initial Purchase:** A 10-20% increase in the percentage of players who made their first purchase by Day 14.

7.3 Retention Improvement:

- **D7 and D14 Retention:** Expect a 20-30% increase in retention rates, driven by the improved gameplay experience thanks to the power-ups and boosters.

8. Conclusion:

The Power-Ups and Boosts system is made to increase the monetization and the player spending opportunities to improve the gameplay experience with a careful balance of pricing, effectiveness and pricing of all the the offered items, the main aim is to increase the ARPU by day 14 and significantly improve retention and to make the players have more reasons to engage deeply with the game and to make it a daily routine.

———————————————————-END OF GDD———————————————————-