CALL OF DUTY – A MOBILE GAME APPLICATION

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<u>Introduction</u>

We can't imagine ourselves working without a phone around. Mobile gaming has become a part of everyone's life be it a simple one or one that is packed with graphics and immersive gameplay. Gaming is a distraction from stressful work for many people. It can be played by anyone without any age restrictions. A game's success can be determined by its gameplay, immersive Ness, and creativity. The more interesting a game is so its popularity. Immersion is conceptually rooted in one's presence in the game while gameplay experience is an attitudinal evaluation of the experience of the game.

In this case study, we will be analysing the game '**Call of Duty: Mobile'**. This game was developed by **Timi Studio Group (owned by Tencent Games)** and published by Activision for Android and iOS. CODM is a mobile version of a very successful PC and PlayStation gaming series, Call of duty. It is a very successful free-player to play shooting game.

The purpose of this study is to provoke the reader through the ways adopted by the game's developers to create immersive and aesthetic gameplay. We first analyze the features provided in the game, its structure, and user interface experience. Then we give suggestions and scope of improvement for the game and our report on the same.

<u>Literature Review</u>

<u>Overview:</u>

Games can be understood as rule-based systems. Rules in games both act as constraints and affordances. Balancing player freedom with constraints is one of the core challenges in game design. Also, abstraction and arbitrary (sometimes even unrealistic) constraints are necessary to make games playable in the first place. Freedom and constraints are not antagonists but together lead to ideal spaces for explorative play. To empower players to explore possible interactions with the game world, the game must act as a safety net where negative repercussions are removed.

<u>Game modes:</u>

In this game, there are 5 modes: Multiplayer match, Ranked match, Zombie, Battle Royale, and Tournament. There are different maps in the game viz., Nuke town, Crash, Shoot house, Dome, Highrise, Terminal, Summit, etc. Different game modes such as Frontline, Team Death Match, Search and Destroy, Domination, Free for All, Kill Confirmed, Hard Point, etc. Featured modes such as Snipers only, Rocks and Stones, One Shot One Kill, Gun Game, etc are available each different for a different season.

<u>Rules:</u>

In Ranked matches, players will receive a rating based on their gameplay. Players are segregated into different sections based on their rating. The groups are Rookie, Veteran, Elite, Pro, Master, Grand-Master, and Legendary in increasing order of their rating. Players are deployed into rooms with opponents in range of their rating. In multiplayer non-ranked matches, the gameplay is like Ranked matches, but players won't receive a rating. Zombie mode is wherein the player is supposed to fight against zombies. Battle Royale is a mode in which the players jump from a plane onto a location on the map without any weapons. Players find weapons, mods, medical kits, Armor, etc on their way and try to annihilate their enemies with the constraint of diminishing safe zone.

Agenda:

Each game mode has a different agenda to win in that match. The most common structure of gameplay is a 5v5 system where 5 players each are deployed in two teams namely Guerrilla Squad and Special Forces. The aim is to kill the enemies till the target of 50 points is reached, 1 point each for a kill. Players remain invincible for the first three seconds of deployment after getting killed or at the start of the game.

Gameplay:

Tournaments are always conducted, and the players can enter the tournament and compete globally against other players. Players get special gifts for participating in the tournament and the rewards get better as our ratings increase. Arsenal contains all weapons available including legendary and mythic weapons. The leader board is for knowing our position aspect to all other players. Players can also join into one clan and fight as a clan together. Fighting, being a part of a clan increases the clan's rating and gives an additional bonus while playing matches.

Special perks:

Loadout contains Weapon Upgrades, Inventory, Battle Royale, multiplayer, zombie mode equipment, score streaks like Shock RC, Sentry gun, Chopper, Swarm, Missile, etc., and operational skills such as the K9 Unit, Purifier, War Machine, Death Machine, etc. Weapons can be upgraded using money in-game or weapon exp cards Attachments such as scope, stock, silencer, muzzle, Mag, ammunition, etc. can be equipped as per players' requirements and interests

<u>Findings</u>

Functional Requirements:

- Game should let players sign in using Guest /Call of duty/ Facebook account
- Users should be able to make friends in the game and chat with them.
- All players should have the option to join a clan and leave it at their will.
- Clan bonus must be reflected if the player is a part of a clan
- COD money should be made available for players to buy with their real money through any online payment mode.
- Users should be able to change their Avatar, Display frame, and character name using special cards.
- Players should have the ability to upgrade their weapons using experience cards or game coins.
- All weapons owned must be displayed in loadout including Assault rifles, Snipers, LMGs, SMGs, Shotguns, etc
- Experience earned must be based on several conditions such as kills per death ratio, Headshot count, Assists, etc.
- Weapon Camos, Attachments, and experience cards should be awarded as per their rating and achievements.
- Rewards should be given for daily tasks
- Each player should be uniquely identified by their dog tag.
- COD mail should be active and messages from the server must be sent to the same
- Players belonging to a similar rating range must be deployed into a room in ranked matches.
- Rating should be increased or decreased as per players' performance in the game. Given tough opponents, reduction in Exp should be relatively low.
- Exp should not be reduced for lost matches in which the player was deployed after the game has begun
- At the start of the game and after every death, if respawnable, Loadout options should be displayed for a change in the same
- After loadout deployment, the character remains invincible for 3 seconds
- Mobility options must be displayed like left, right, jump, crouch, etc
- Primary, secondary, and operator skill weapons should be displayed to the player
- Map view of the game must be displayed in every game
- Players should have the ability to change the game setting such as positions of weapons, buttons, etc.

Non-Functional Requirements:

- All players should be able to connect to the gaming application from anywhere around the globe.
- Player side script verification must be done to identify any mods applied at the player's end
- If a player quits a ranked match, a BAN must be issued for 10minutes so that the player can't play any matches
- Inactivity during an active game should be recognized as malpractice and the player must be kicked out of the room
- Game resources must be initialized quickly
- Game updates must be made mandatory to play online matches
- Bug fixes must be available in updates
- Security patches must be covered in the updates
- The lag that is present in the network for the game should be displayed (in Ms)
- Databases must work efficiently for quick data retrieval and updates.
- People shouldn't see any visual errors when multiple actions take place.
- System should be secure from malicious actors. If a player attempts to tamper with data, they should immediately get banned and removed from the system.
- System should keep the player's personal info confidential
- Integrity of a player's game data must be preserved
- Security from third party attacks, server-side scripts, SQL injections, Cross Site Scriptings, etc must be provided
- If any issues are found with respect to the game due to any technical issues, they must be automatically fixed
- Verbal abuse, sexual assault, discrimination based on gender, color, caste, or any other criterion is strictly prohibited among players
- Game environment must be properly deployed as per user preferences
- In case of player logging in using social media, The server should not store any of the credentials in their raw form in the database

Any game, as it gains popularity, requires more maintenance and security. Bugs reported by users in forums must be fixed as soon as possible by the developers. The bots deployed in practice matches should be smart. This involves including Artificial intelligence and good training methods to improve the gameplay of the deployed bots. There are a few areas in the game where excess customization is present like the huge range of available weapon camos, and attachments that are not necessary. Every time an update is out, it usually takes up a large space and all the weapons and maps must be downloaded again. This is not fixed in any of the updates due to overheads that occur in achieving the same. If this is fixed it would be the biggest bug fix in the history of CODM. This is a very good multiplayer game but there is no story mode available. A story mode with a crispy screenplay, graphics, and thrilling story where the players can play at their own pace would make the game even more interesting.

4. Conclusion

Paraphrase

Call of Duty: Mobile is a free-to-play shooter game that gives users an immersive and aesthetic feel of completing their missions and achieving their goals as a team. This is a very addictive and interactive game. As with any other game, this acts as a great stress buster and provides the players with a rich graphical environment.

Summarize your case study

In general, the game was well received by the people belonging to the age group of 15-28. Call of Duty is a very successful gaming series that rules PC and Console gaming for ages. This is an attempt to bring the same into mobile gaming. The developer's team is very good at bringing new features constantly into the game. This game was received well even by its critics and was given a good rating of 7.7 by IBN. The game displays craftsmanship curated at every point in the game

Future recommendations

They should consistently take feedback from their players. Not just gathering the information, they should analyze the information carefully and communicate with their players frequently. If there is no communication between game developers and players, it is not good for the game. So, they should effectively convey their views and take frequent pieces of advice from the player base.

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