

Pokémon Go is an augmented reality (AR) mobile game developed by Niantic, a company that was spun off from Google in 2015. The game offers a variety of activities that blend the virtual world with real-world exploration. Here are the major activities players can experience in the game—1)

Catching Pokémon: Players can catch Pokémon in real-world locations. 2) Battling System: Players can battle against or team up with other real-world players. 3) Adventure and Exploration: Players can visit PokéStops or Gyms to collect items, gifts, or engage in battles. These locations are often popular real-world sites such as sightseeing spots, restaurants, shopping malls, etc. 4) Social Features: Players can make friends with other real-world players, exchange Pokémon, complete tasks together, form raids to catch rare Pokémon, or gather high-value gifts. 5) AR Features: Players can use their phone's camera to see Pokémon in the real world and make interactions.

Niantic collects data through these activities, including location data (whether the game is on or off), activity data (such as distance walked, calories burned, and time spent at certain places), and user interaction data (such as battles and trades). These data are used to improve game functionality and user experiences, though there have been concerns about the extent of data collection and its implications for user privacy.

Financially, Pokémon Go has been highly profitable since its launch. The game has generated nearly \$8 billion in revenue over eight years, with a player base of nearly 80 million in 2023. Its parent company is now valued at \$9 billion (Iqbal 2024), with a significant portion of its valuation attributed to the success of this game. The major revenue streams for Pokémon Go include—1) In-App Purchases: Players can buy coins to purchase game items such as Poké Balls. 2) Advertising and Sponsorship: Businesses pay to have their locations featured as PokéStops or Gyms or Gift Balloons (Moran 2019), potentially attracting more customers. 3) Events: Some special events require the purchase of access or tickets. 4) Merchandise and Hardware: The company also sells branded products.

To speak on where the ethical issues lie, axiologists mention that before morality, the main purpose of a product should drive a good user experience and be marketable to the audience using the product. Consequentialism also states that prior to a moral rightness and wrongness, the value of the wrongness will depend on the concern of the company. On the contrary, as Immanuel Kant famously coined a theory saying, "there is nothing that is good except good will". A person with a good will is someone who does the right thing for the right reasons, independent of goodness or badness of consequences. This shares the sentiments from famous deontologists. In a perfect state, an ideal company would adopt a hybrid approach, including all three of these concepts.

This next section, we wanted to include some of the less and more consequential issues that have faced this company over time. A study had reported that over 25% of Pokémon Go users admit to driving (27.3%), biking (43.4%), walking without paying attention (31.5%), and being sleep deprived (37.8%). There are other concerns of these issues and concerns seem similar in the gaming industry. To share a few, trespassing on public and private property, property damage, racial, gender, and sexuality bias towards players, unauthorized gameplay at sacred properties, harassment, and even fatalities. An additional study was done to capture some of the ethical concerns. One thing that is noticed from these ethical issues, is the delta between those who participated and those who think the activity is unethical. The users of the application are not fully aligned on the activities they are participating in. If so, they would not stand for this or deem this as ethical. Outside of the known ethical issues, there are additional concerns on how this information is being used at a macro level.

The public makes a strong case against Niantic and Pokémon Go, despite arguments and findings being made on both sides. Two primary arguments being made by Niantic and Pokémon Go are that this so-called "surveillance capitalism" is inevitable and that effective controls and policies were not in place to deter them from capitalizing. Shoshana Zuboff's book, *The Age of Surveillance Capitalism*, attests that "the idea that digital surveillance is inevitable - that's just invalid" (Wired). Going along with this notion is dangerous for individual privacy and, without pushback, companies like Niantic will continue to capitalize at the expense of the public. The Harvard professor continues with the argument that the

primary issue with surveillance capitalism is that our behavior is being monetised and we will ultimately be directed to act in certain ways if we are not careful about limiting the power of the companies at fault. It becomes a battle to protect free will as we know it.

Surveillance capitalism was largely started by Google as it was "looking for new revenue streams after the dot-com financial crash" and they make the argument that "the reality is that data is essential to providing [their] services...and to making them useful to [users]" (CBC). Zuboff argues that companies like Google and Niantic are no longer collecting data for this purpose, rather using it to influence people into making decisions that benefit those who are purchasing this data from them. This is where the ethical dilemma comes into play as these companies are starting to abuse their power which typically happens as any industry begins to grow. The tricky part here is that vast amounts of data have been collected faster than policies have been implemented to monitor how it is used.

Despite the overwhelming success of the app after its launch the consensus in response to data security and surveillance concerns from users, competing companies, and government officials has been a demand for clarity and transparency by Niantic and Pokémon GO. There is much unrest regarding the access to iOS user google account information and unauthorized geolocation disclosure, but also the potential "third party service providers the data may be shared with" often for profit (Volz, 2016). Senator Al Franken of Minnesota penned a letter to Niantic executives requesting clarity on what user data Pokémon GO is able to access and to what extent the app may be collecting unnecessary personal information without consent. Franken's letter was soon followed by inquiries by the CIA and pentagon to Niantic as to the national security concerns Pokémon GO possessed with divulgence of specifications of classified US military bases and federal buildings. The concern prompted the pentagon to release an internal memo containing guidelines for use of the app to personnel with hopes to avoid any leaking of sensitive information (Bannister, 2016). Adam Reeve, Principal Architect at RedOwl initially uncovered the issue with iOS and Google account users and posted it to his Tumblr page. The post addressed Niantic and Pokémon GO's Google login and authentication process and labeled the app as a "huge security risk" (Reeve, 2016). The post amassed a large response from the Tumblr community because of the popularity

of the game at the time. The post was liked and reblogged numerous times, some displeased with the oversight, others aware and unbothered.

Niantic's and Pokémon GO's attitude in response to these concerns was to address the claims clearly and to the point. Niantic released a statement to *The Verge* responding to Reeve and Franken ensuring Pokémon GO app users that the privacy permissions during account creation for iOS users "erroneously requests full access permissions for the user's Google account. However Pokémon GO only accesses basic Google profile information (specifically user ID and email address), no other Google account information is or has been accessed" (Byford, 2016). They affirmed that requesting full access permissions "was an oversight", Niantic never "sought, accessed, nor received data" outside of Google account username and email address during the authentication process (Brant, 2016). To further alleviate concerns Niantic and Pokémon GO released an updated version of the app, Pokémon GO 1.01 correcting the issues with the "Google account scope" removing the option to select full permissions to user account information, limiting it to data in actual use (Etherington, 2016). Lastly, to avoid any future issues Niantic revised their privacy policy defining who makes decisions, what data is collected and how it is used, who the data is shared with, how long it is kept, and the rights and choices users have in regards to their personal data across all Niantic augmented reality platforms.

In the context of Niantic's Pokémon GO and the ethical dilemmas surrounding surveillance capitalism, it is imperative to advocate for a more stringent regulatory framework that prioritizes user privacy and data rights. The extensive data collection practices employed by Niantic not only jeopardize individual privacy but also set a concerning precedent for other tech companies. Historical examples, such as the enactment of the General Data Protection Regulation (GDPR) in the European Union, illustrate how comprehensive legislation can effectively protect users while holding companies accountable for their data practices. The GDPR has established clear guidelines for data collection, usage, and user consent, serving as a valuable model for future regulatory efforts.

While some may argue that data collection is essential for enhancing user experiences and driving innovation, this perspective often overlooks the ethical responsibilities that accompany such practices. The notion that "data is essential" can lead to the neglect of user autonomy and the potential for manipulation inherent in unregulated data practices. To foster an environment where technology can advance without compromising individual rights, a balanced approach is necessary. This involves implementing robust regulations that emphasize user consent, transparency, and accountability, while also encouraging ethical innovation.

A potential compromise could see tech companies commit to ethical data practices voluntarily, alongside legislative measures that enforce strict guidelines. This dual approach would empower users, ensuring they have a say in how their data is utilized, while still allowing companies like Niantic to leverage data to enhance user engagement. Ultimately, it is crucial to prioritize the protection of individual privacy over corporate profit, forging a path that respects user autonomy and fosters responsible technological innovation.

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