The hit mobile app “Pokémon Go” is giving millions of people their first taste of futuristic augmented-reality technology. It is also raising questions about whether the game’s location and mapping features are luring players into danger.

In “Pokémon Go,” players use their phones to capture virtual creatures that appear to be hovering in their immediate vicinity in the real world. Advancing in the game involves collecting items such as “Poké Balls,” which are needed to catch monsters, and can be found at “PokéStops.” Players use captured creatures to fight other players at “gyms.”

Both PokéStops and gyms usually are located in public places such as libraries,
churches and landmarks flagged by the game on a digital map.

The game uses technologies built into modern smartphones, such as the camera and GPS, to create the digital map and determine the location of the creatures and places to visit. It also relies on players’ suggestions and a database from a previous game to determine viable sites for gyms and PokéStops.

The placements raise questions about whether players could get hurt searching unsafe areas—a dark alley or along a river, for example—particularly while staring at a smartphone screen. It is also a reminder of how fast-developing technologies like augmented reality can be handed to people with little precedent or guidance on how to use them in everyday life.

Days after the game’s launch in the U.S., Australia and New Zealand, players shared images and tales on social media of dangerous encounters, such as Pokémon popping up near subway tracks. In O’Fallon, Mo., four teens waited at PokéStops in order to rob arriving players, police said. Law enforcement has warned people to be mindful while exploring.

The game “could be potentially leading people into areas where they don’t belong,” such as construction sites or shuttered storefronts, said Don Boyes, an associate professor of geography and planning at the University of Toronto.

Niantic Inc., the Alphabet Inc. spinout that makes the game in partnership with Pokémon Co. and Nintendo Co., uses a custom version of Google Maps to create the digital playing field. It relies on players’ suggestions to identify places to
designate as PokéStops, and is drawing from a pool of about 5 million locations employees previously vetted for an earlier augmented-reality game, “Ingress.”

Beth King drove to a PokéStop in Columbia, S.C., last week and found herself parked outside what appeared to be a shuttered community center.

“The driveway was all weeded up,” said the 26-year-old administrative assistant. “It was in a sketchy part of town.” Another PokéStop was at what she called a rundown church in an empty lot full of potholes. “It was obviously not open anymore,” she said. “It made me nervous.”

As with “Ingress,” Niantic provides “Pokémon Go” players an online form to suggest places as PokéStops or report inappropriate ones. The list of approved locations shared by the two games has “been honed over the past three years,” Niantic Chief Executive John Hanke said. “It’s in pretty good shape.”

The appearance of Pokémon, meanwhile, is generated randomly by an algorithm that matches creature characteristics with the geographic makeup of a player’s location in the real world—think the goldfish-like Magikarp appearing by a lake.

Players could discover Pokémon in remote places, like a forested area of town, since the creatures can pop up almost anywhere a person has internet access and the app open. But players shouldn’t purposefully travel to hard-to-reach locations hoping to find prized rare creatures, Mr. Hanke said. There is no connection; creature rarity is entirely random.

Niantic blocks creatures from roadways, airport runways, bodies of water and other areas, Mr. Hanke said. The company declined to provide a list of fenced-off locations or discuss how it selects those spots.

It is challenging to keep mapping technology up-to-date, experts say. The mapping technology in “Pokémon Go” doesn’t warn players if a PokéStop is in an area that recently suffered storm damage or has a high crime rate, for example.

“If you’re a tourist in a city having fun, this could be a potentially dangerous app,” said Brian Tomaszewski, associate professor at the Rochester Institute of
Technology, who specializes in geographic information systems.

Niantic and its partners are aware of such scenarios as Pokémon hovering near subway tracks or players visiting PokéStops late at night, Mr. Hanke said. He pointed to the game’s warning cautioning players to be aware of their surroundings.

“We rely on our users to use the same common sense they would to go out for a walk or bike ride,” Mr. Hanke said. “Places may be safe during the day but not at night. They may be safe for you but not somebody else.”

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