

A Gamified, Educational Mobile Application About Infectious Diseases

Category

Educational Mobile Application

Problem

Lacking interactive learning methods that focusing on infectious disease

Technology Overview

An educational game in a mobile application format that can be used to teach infectious disease material

Copyright Status

Obtained

Value Proposition

- ▶ Improves infectious disease education by providing gamified content
- ▶ Increases engagement and time on task
- ▶ Allows for spaced learning and deliberate practice without faculty facilitation

Market Attractions

- ▶ 400,000 healthcare students
- ▶ 1.8 B US\$ market for gamification in education market by 2023 with CAGR of 32%

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About CU Innovations

CU Innovations is the technology transfer office for the University of Colorado Anschutz Medical Campus. CU Innovations seeks to bring together industry partners, entrepreneurs and investors to translate discovery into impact. <http://innovations.ucdenver.edu>

Problem: Infectious diseases are some of the most common diagnoses seen in inpatient and outpatient settings. All clinicians need a strong working knowledge of antimicrobial fundamentals as misuse of antimicrobials is the main driver of resistance. For many faculty, the time, creativity, and preparation needed to create meaningful active learning materials are significant barriers and traditional lecture and slides are solely used. Constructing learning tools in the field of infectious diseases is especially difficult, as mastering the fundamentals of antimicrobial stewardship requires students to memorize large volumes of material about pathogens, antibiotics, patients, and the interactions between the three. There are currently very few infectious disease specific teaching tools available and none in a mobile application format. Standard study tools of homemade flashcards and lists are boring and do not engage students. Pharmacy, medical, dental, and veterinary students have all identified they need better ID and stewardship education.

Solution and Value Propositions: Dr. Meghan Jeffres at the University of Colorado has created an educational game in a mobile application format that can be used to teach infectious disease material. This educational application has the potential to improve infectious disease education by providing an interactive, gamified alternative to traditional lectures. An image from the mobile application is shown in Figure 1. Using this game, students can learn how to identify appropriate antimicrobials for a pathogen, differentiate between appropriate and optimal antimicrobial therapy, and differentiate the degree of damage to the microbiome between antimicrobials. It could be used by a broad range of students including those in pharmacy, medical, and nursing fields. This application improves foundational infectious diseases education, increases engagement and time on task, and allows for spaced learning and deliberate practice without faculty facilitation. It provides gamification of ID content conveniently located on a student's phone.

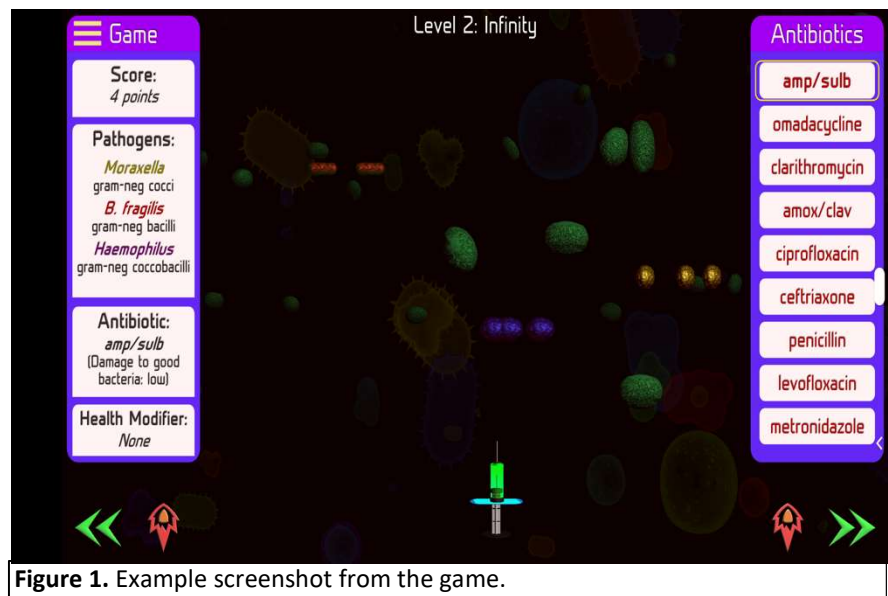


Figure 1. Example screenshot from the game.

Additional Documents and Sources:

Jeffres MN, Kufel WD, Biehle LR, et al. A Comprehensive Survey of Infectious Diseases Curriculum Among US Pharmacy Schools. *American Journal of Pharmaceutical Education*. 2019;83(9):7168.