

## Fred (Beginner Player)



Fred is an 8-year-old boy from Toronto, Canada. He is very young and does not have the capabilities to problem solve at a fast rate. Fred doesn't enjoy learning and would rather hangout with friends or play Pokémon on his Nintendo switch. All his friends are quite advanced for their age and always beat him in strategy games such as chess. Fred believes that all his friends are smarter than him and he doesn't like that. Fred wishes to problem solve quickly and potentially be as smart as his friends.

Fred doesn't usually practice his problem-solving skills. For this reason, he doesn't want to be overwhelmed as he starts practicing. Fred thinks that if he starts playing a problem-solving digital game, it will help him mighty. Instead of jumping right into the hard levels of the potential game, he would like to start off easy and make his way to the harder ones.

It takes about 10 to 15 minutes for Fred's mom to drop him off at school. In order to pass by time, he always uses his mom's phone to play games. Fred believes that there must be a game he could get on his mom's phone that could help him improve his problem-solving skills and finally get a win against his friends.

## Olivia (Intermediate Player)



Olivia is a 17-year-old girl from Los Angeles, California. She is a busy girl as she must balance school, gymnastics, and a part-time job almost everyday. She takes school, gymnastics, and her part-time job very seriously. Anytime Olivia has some free time, she would like to play games on her phone. Olivia believes that the time she uses to play games could possibly be used to develop her problem-solving skills which could potentially help her with school, gymnastics, or even her part-time job. Olivia would like to still play games during her free time but also work on her problem-solving skills.

Olivia has played a problem-solving game before. She wishes to use a potential app would allow her to play a game but at the same time develops her problem-solving skills. In a way, when Olivia has some free time, she is essentially hitting two birds with one stone.

It takes about 20 minutes for Olivia to travel between school, gymnastics, and her part-time job. While on the bus, Olivia plays games on her phone which equates to approximately 1 hour of playtime. Olivia wonders if there exists some game that could impact her work positively.

## Mike (Advanced Player)



Mike is a 50-year-old man from Durham, North Carolina. He is the coach for the Duke Blue Devils at Duke University. Duke Blue Devils is a basketball in the NCAA. Mike is really smart to be a coach for this team. Mike does whatever he can for his team to win. Unfortunately, his team's win percentage is below 50%. Mike believes that the talent on his team is great, but he is being outcoached by other teams. Mike wishes to improve his problem-solving skills at an advanced level which could potentially help him outcoach his opponents and increase the team win percentage.

Mike has never improved on his basketball plays and would always use the same ones. Using an app with hard challenges, he believes he can make connections and use new strategies to create new basketball plays. By doing this, Mike is developing his problem-solving skills at the same time.

Pre-game and half-time is about 15 minutes each. Mike thinks he can use that time to use the app which allows him to figure out the mistakes he is making. Mike would then draw up a new basketball play which could outcoach the opposing team and help his team win the game. Mike believes if an app like that exists, it would impact his team positively.