BlockJam '23

Technology and Event Overview
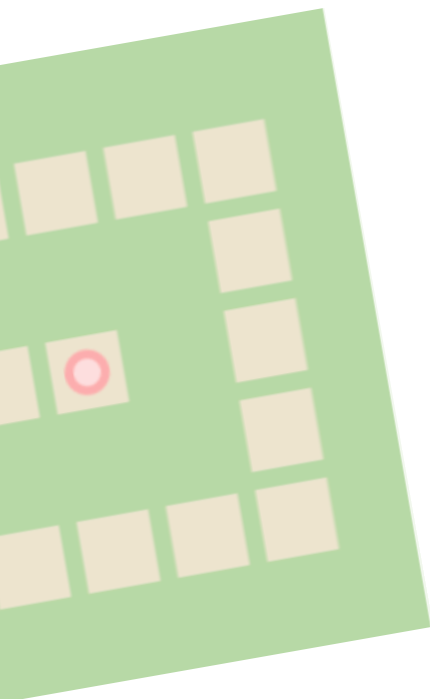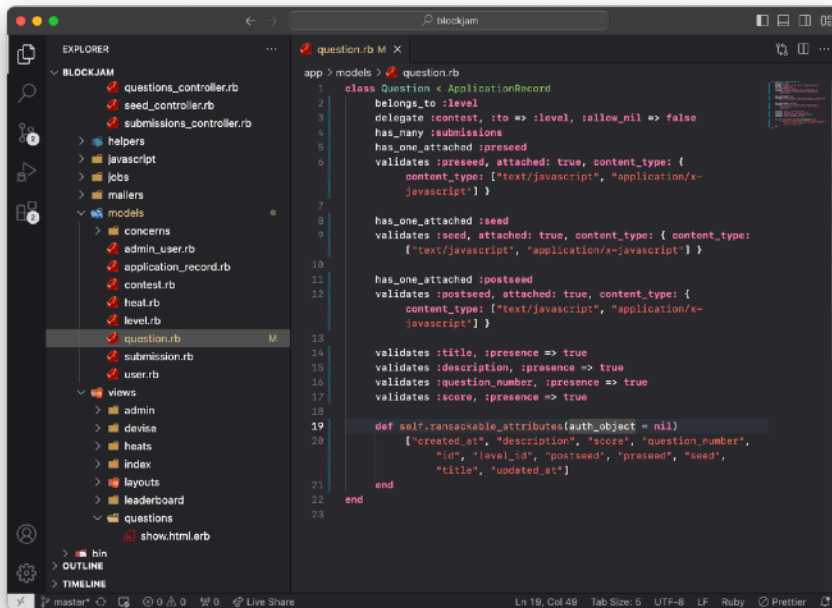
Technology Overview

open-source software https://github.com/sumukhprasad/blockjam

BlockJam is built on a solid Ruby on Rails foundation, enabling fast server response times even on low-powered hardware. This means that the BlockJam server can be run on virtually any computer that's hooked up to a network connection, allowing BlockJam to be hosted almost anywhere. BlockJam development also tool advantage of Rails' extensive tooling and automation to enable rapid development of the platform.

Scalability

The platform is designed to scale with the growth of user base and data volume. Rails' modular structure allows for easy addition of new features and functionalities.

Security

Ruby on Rails comes with built-in security features, such as protection against SQL injection, cross-site scripting (XSS), and cross-site request forgery (CSRF), ensuring a secure user experience.

Playing BlockJam

The objective of BlockJam is to solve mazes using code. The platform uses Blockly to provide a visual programming environment, through which students can program a character to solve the maze.
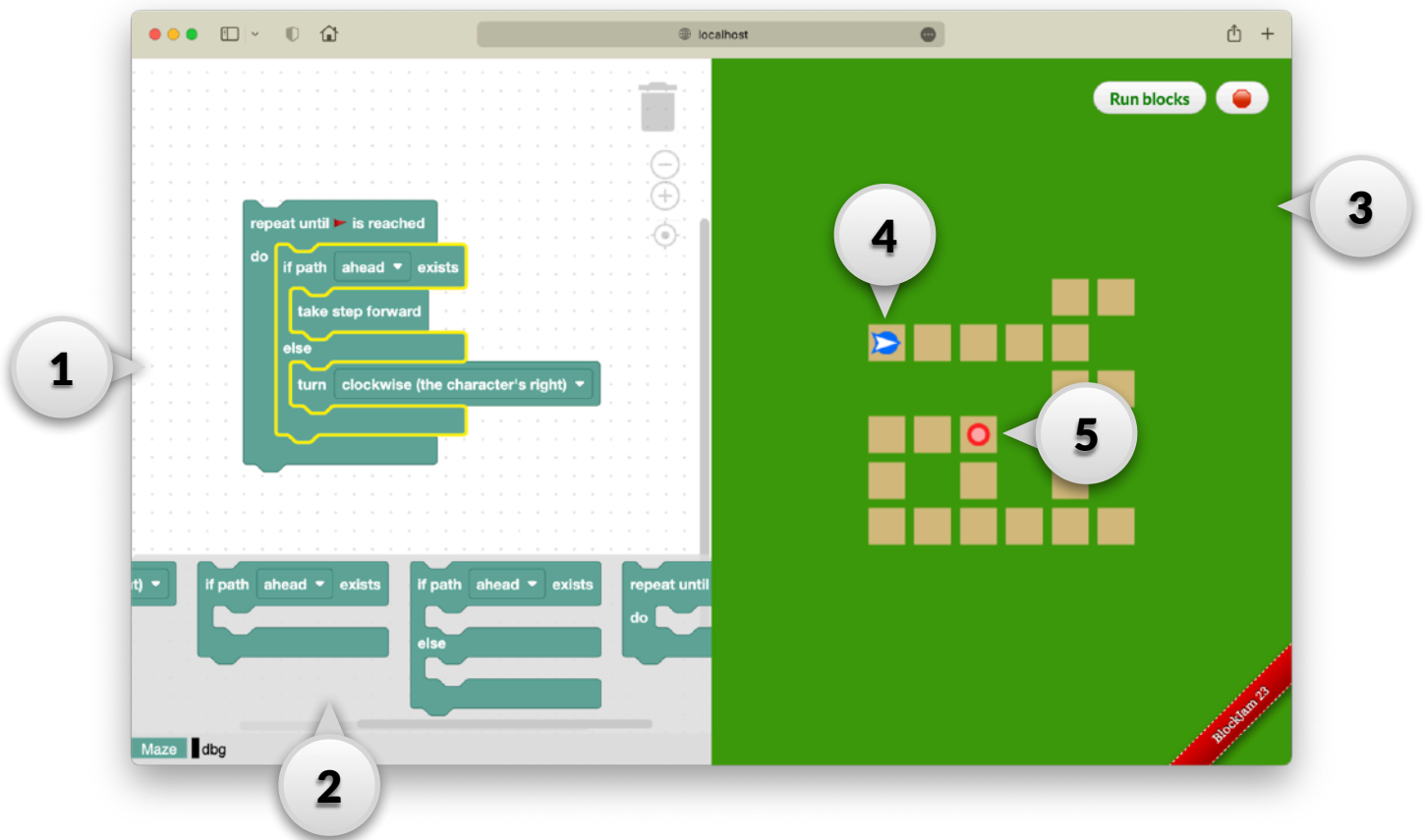
1 — Blockly workspace
2 — Custom blocks that control the character *[4]*
3 — Maze area
4 — Character
5 — Target (end of maze)

The objective of the game is to move the character (blue arrow) to the red dot that signifies the end of the maze. Students can use the blocks provided to make programs that control the character to try and solve the maze.
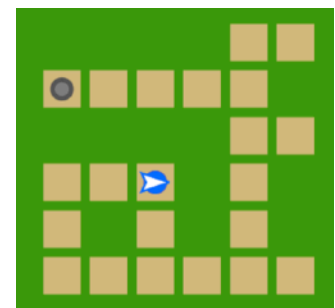
Solved maze

Event Overview

BlockJam was held for grade 5 at DPS Bangalore South, where students took part in 2 levels over a few weeks.

Level 1 saw the students navigating through beginner-friendly challenges and using the Blockly-based environment to solve the mazes. Qualifiers from this level moved onto level 2, where they were presented with more advanced and intricate mazes to solve.

Students solving mazes

The level of creativity and problem-solving shown by the students was inspiring, showcasing the students' ability to think critically and apply their thinking skills in real challenges.

BlockJam at DPS Bangalore South proved to be a remarkable platform for young talents to showcase their coding skills, fostering a love for technology and innovation.