Maykabuk Casino Machines, Inc.

Congratulations! You've just joined the software development team at Maykabuk Casino Machines, Inc., the world's leading provider of gambling machines for casinos! Maykabuk has a proud history of making high quality, enjoyable, fair, and profitable mechanical slot machines. However, in response to the increasing demand for computerized gambling machines that allow increasingly complex play, the company has branched out.

Your first assignment

Maykabuk is planning to sell a new computerized gambling machine called Pathfinder. You are the front-end developer on the project.

Pathfinder rules

In Pathfinder, the player is presented with an initial board, consisting of an 8x8 grid of squares. There are 5 special squares: three "key" squares and two "bonus" squares. No special square ever occurs along the outside border of squares (i.e., in the first or last row or column). On each turn, the player draws a card. A card consists either of a "path" or a "strike". The objective of the game is to build a continuous path from the top left square to the bottom right square before drawing accumulating three "strike" cards. The path must run through each special key square. If a player plays a path card on a bonus square, one accumulated strike is removed from the strike count (if there are any strikes at all). A path card has between two and four exits. The first path card drawn must be played on the top left square. Every path card drawn for the rest of the game must extend the currently existing path on the board. If the path can no longer be extended, the player loses immediately.

The player starts the game by placing an initial wager. At any time, the player can surrender and receive back 25% of the initial wager. If the player loses (accumulates three strikes before reaching the bottom right corner), the entire wager is lost. If the player wins (reaches the bottom right corner before accumulating three strikes), the player receives 4x the initial wager.

The interface to the game should always indicate: the initial wager; the number of accumulated strikes; the current path; the special squares (whether or not the path has crossed those squares); and, the current state of the game (lost, won, in progress). While the game is in progress, the next card available to the player should be shown face down.

When the player taps the card, it should be shown face up. If it is a path card, the player should be able to rotate the card and place it on the board. The interface should indicate which squares are available for extending the path (i.e., which squares can have a path card played on them).

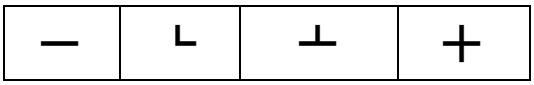
Your responsibility

There are a couple of aspects to your job. The game itself needs an interface that you will need to build. You've been provided with some very rudimentary drawings of how the cards are supposed to look and how the board might look at the beginning and in the middle of a game. But, these drawings were done by a backend engineer, and none of the UI or UX issues have been thought out. On top of that, there is no game engine that has been built yet, so you cannot connect to any game server.

You need to build a functional front-end that connects to a "stubbed-out" backend service (that you also need to provide). This needs to be delivered to the testing organization to work out the "curb appeal" of the game and whether or not the game payout is what the casinos who buy the game expect it to be. The stubbed-out backend will be used as a basis by the backend engineers, so plan for it to be handed off.

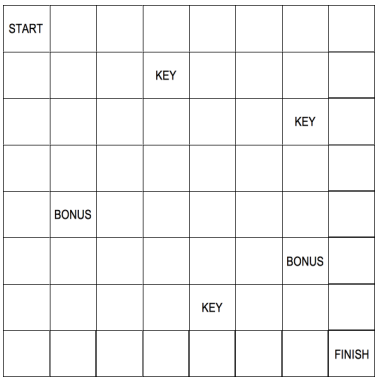
Drawings

Card types

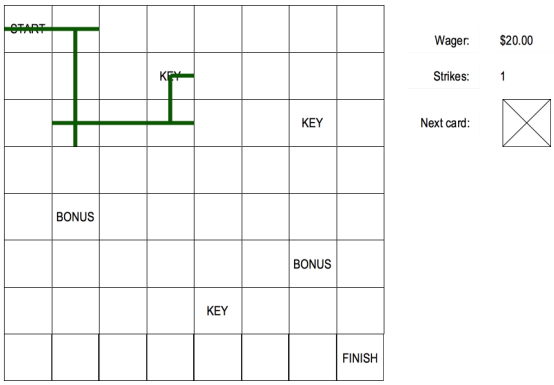


straight corner T 4-way

Pathfinder boards



Initial board



Board in the middle of a game