

Lisp in Summer Projects Submission

Submission Date	2013-10-02 17:36:23
Full Name	Mark M. Scala
Country	USA
Project Name	Texas Holdem for IRC
Type of software	command-line/terminal app
General category	game
LISP dialect	Common Lisp
GitHub URL	https://github.com/skalawag/lispbot/tree/poker-submission-monolithic-sans-tests
Did you start this project?	No, I'm modifying or extending an existing project.
Which file or directory contains the majority of your work?	plugins/texas-holdem-plugin.lisp
Briefly describe your modifications	The plugin (which is entirely my own) extends Lispbot.
Project Description	I want to describe my project in this form.
Purpose	The purpose of this project was to make a complex game playable over IRC, and to do it in Lisp.
Function	The project is a plugin for Lispbot that allows a group of people to play texas holdem over IRC.
Motivation	I chose this project because I wanted to attempt something non-trivial in Lisp and this project seemed about right for someone at my level of experience.
Audience	For people killing time on IRC.
Methodology	The problem has three parts: the user interface, the game state and logic, and poker hand evaluation. The easiest, by far, of those three was the user interface, since the hard work is done by Lispbot.

The implementation of the game state and logic was the most challenging part of this project. The hardest part of this is handling player bets and (especially) payouts, since the number of chips a player is entitled to depends on how many she has put in over the course of betting.

Hand evaluation is an interesting problem in itself, and after some experimentation, I settled on assigning an integer value to each hand type, where larger numbers indicate stronger hands. That made comparison of hands extremely easy.

Conclusion

The software is a good first pass at Texas Holdem, though I am sure there must be bugs lurking somewhere. It is a complex game.

There are some missing features, for instance, verification of player input, and appropriate feedback for players in that situation.

Features that I would like to add, in no particular order:

- tests :/
- a poker playing bot
- alternative variations on holdem
- other variations of poker

Build Instructions

1. Make sure you have the needed dependencies for Lispbot

2. Clone the repository.

3. Edit poker-startup.lisp (in the toplevel directory), changing the name of the irc-channel to suit, and create that irc-channel (by joining it).

4. Load poker-startup.lisp in the REPL and the bot should appear in the chatroom.

Test Instructions

In the REPL, you can enter the package bot.plugins and try out any of the functions in the plugin.

Of course, it would be more fun to actually play a game. Try !holdem-help to see available commands for the game.

Execution Instructions

1. Make sure you have the needed dependencies for Lispbot

2. Clone the repository.

3. Edit poker-startup.lisp (in the toplevel directory), changing the name of the irc-channel to suit, and create that irc-channel (by joining it).

4. Load poker-startup.lisp in the REPL and the bot should appear in the chatroom.

Describe any bugs or caveats

At present, I'm not aware of any bugs, but without input verification, commands will fail (mostly) silently. Every command should cause a redraw of the game display, so if that doesn't happen, you've made a mistake (or I have).

Official

I have read rules and have abided by them.

I am 18 years of age or older.

I am not living in Brazil, Quebec, Saudi Arabia, Cuba, Iran, Myanmar (Burma), North Korea, Sudan, or Syria.