

# Confound Game

by

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## 2. Acknowledgements

Great thanks first of all, my wife who put up with her husband coming to bed late, and disappearing at unusual times, or suddenly, with an odd expression, scribbling something down on whatever

crumpled piece of paper he could find.

Also thanks to Ed and especially JoAnne, who put up with the original user interface, and with "Beta releases" every 2 or three days. I appreciate greatly JoAnne's ability to find ways to easily beat the computer as quickly as I could find ways to thwart them.

Finally, thanks to my employer who allowed me to take home the SDK which got the project started (it was perfectly legal, by the way -- I deleted it from my hard drive at work, since I wasn't using it at that time).

### **3. Introduction**

Several years ago, there was a board game that was similar to CONFOUND. I loved playing it, but, since it wasn't your run-of-the-mill strategy game, in order to play it with someone, I had to first teach that someone the game. Of course, once that happened, I could have them for lunch since I knew the game very well, and they were just novices.

Well, time passed and, like a lot of other things I've enjoyed, the game went off the market and the company that did it went out of business (as far as I can tell-- I've looked, and can't find them anywhere).

When I started getting into Windows programming, I looked around for something to program, and thought of this game. This way, you start off with a knowledgeable opponent -- the computer itself.

This game will run on anything that runs Windows 3.0 or 3.1. An 80386 or above is recommended for good response time. A color monitor is also recommended.

To install the game, copy CONFOUND.EXE, CONFOUND.WRI and CNFNDREG.WRI onto a convenient directory on your hard drive. If you can't think of any better one, your WINDOWS directory will do fine.

To start the game, either go into File Manager and double-click on CONFOUND.EXE in the directory you've copied it to, or install it into the Program Manager using the "NEW" command, and then double-click on its icon.

### **4. Playing the game.**

I've spent a lot of time on the Help facility in the game itself. Rather than spend a lot of time again repeating all that, take a minute to fire up the game and read the Help messages. I'll wait.

Tum de dum de dum de dum...

Done? Good.

Now let me see if I can expand on the Help messages. Both you and the computer start off with 2 "pegs" and 2 home squares. You start off on your home squares, ditto for the computer.

Each move you both have a choice -- build or move. To win the game, one of you needs to get one of his pegs onto one of his

opponents home squares. This means, you must make it as easy as possible for you to get there, while making it as difficult as possible for your opponent.

I sweated over the user interface, since the actions involved are reasonably complex [note -- if you've played version 1.00, you have some unlearning to do here, so read on]. The principles to remember are:

1. The cursor will change shape to help you know what to do next.
2. Since the peg moves to an adjacent square, you would need to be spastic on the mouse button to click-move-click, so I have you click-hold-release to move a peg.
3. Since the walls travel longer distances, you click and release the button to do things with the walls.
4. There seems to be application peer pressure to only use one mouse button, so I do -- the leftmost one.

This means that, to move the peg, you press the mouse button on the current location of the peg, and don't let go until you reach the square to which you wish to move.

To place a wall, you click on one of your walls in your "pile," and then release the mouse button. If you want to place a horizontal wall, just carry it over to the board, locate the "wall" of the cursor where you want the new wall to go, and click again. Shazaam! A wall is born.

To build a vertical wall, add a quick stop at the "wall flipper," which is that little square between the wall pile and the board. Click once to go from horizontal to vertical, or back again. Let the cursor be your guide.

You then place the vertical wall in a similar manner to the horizontal wall -- just locate the "wall" carried by the little hand where you want it and click the leftmost mouse button to place the wall.

Walls cannot intersect existing walls, or block paths to home squares.

## **5. Winning the game**

There are three levels of difficulty in the game. The first two use minimal long-term strategy, and the "Hard" level uses every trick in the book. I wish there were an easier transition, but I couldn't think of any.

There is a bit of pure randomness to the computer's strategy (by intent), so that it won't play exactly the same game each time you play.

There may be other strategies than these, but the main kinds of walls the computer deals with are:

1. Offensive walls. These are used simply to block it's opponent's path while leaving it's own unscathed.
2. Back walls. These are used to narrow the possible paths to only the best one, which then cannot be blocked because it's the only way to get to a home square.
3. Defensive walls. These are used to block a particularly damaging offensive wall that its opponent could place.
4. Tube walls. A tube is an unblockable path between a peg and a winning home square. Right now, the computer tries to prevent you from constructing a tube, but it isn't smart enough yet to build tubes of its own. See the next section.

Don't worry about using all of these to start with; take it easy, learn the game, and have fun.

I find the game is fun whether I win or I lose. It's hard to judge how hard the game really is to play; remember, I've eaten, slept, and breathed this game for the duration of the development effort (about a year of time). Let me know how you find it -- whether it's too easy, too hard, or just right. One indication I have is that, even if I win, I need to stay on my toes -- one mistake, and the computer chews me up and spits me out.

## 6. Revision History

**Version 1.00**    **3/24/93**    **Initial Release**

**Version 1.10**    **7/07/93**    - JoAnne (my ace Beta tester) said to me, upon one of my almost daily "Beta" releases, that it suddenly became much easier for her to win. "Well, ha-ha," I said, "that's pretty unlikely, since I haven't tinkered with the strategy module." It might have been unlikely, but it was also true. I introduced an interesting bug into the low-level code that meant two different ways of computing path lengths gave answers that differed by one square. This threw off the strategy significantly. Bottom line: fixed it in 1.10, so, everyone -- keep on your toes; this thing is mean and nasty again.

- Substantially altered the wall-building user interface. You don't *want* to know what it used to look like -- the developer's bane is that I had "gotten used to it," and so couldn't see how *hard* it was to use.

- Made minor improvements to the strategy module with regard to scoring of backwalls.

## **7. Future directions**

I believe it was Carnegie who said, "there comes a time to shoot the engineer and go into production." I agree wholeheartedly; I could diddle with the strategy of this thing until I retire, and still not be 100% satisfied. Then, when I did finally release it, find out only 3 people ever like it enough to register it.

In order to prevent this, I decided to release it now. It behaves itself, doesn't make any psychotic moves that I can detect, and plays a decent game. If enough people register it, where I would like to see it go (no commitment on this) is (not necessarily in the order they'll get implemented, either):

1. Right now it does a decent job of preventing "single-width tubes." It completely misses "double-width" tubes. This is mucho worko indeedio.
2. It needs to build its own tubes. This gets real heavy real fast.
3. Like chess, the game is won or lost in the opening. This means either an "opening book" or a neural net of some sort. I actually have the neural net code designed, but what terrifies me is training it and debugging it. I'll spend more time doing that than in implementing it. My leaning right now is to come up with a way to have the neural net play the existing heuristic method so it could teach itself.
4. The computer would play better with multiple-move lookahead. This means that it either needs to be algorithmically faster (I have some ideas in this regard), or I just wait for the next generation of microprocessors to hit the street in a big way. It's also a *lot* of work.
5. I've toyed with the idea of making it possible for two humanoids to play each other, rather than against the computer. My thoughts on this is to add facility to play on a network using DDE or something similar. This would be tough, since I don't have a network right now to debug it on.

## **8. About the author**

I often wonder with Shareware whether I'm dealing with a roomful of programmers or one guy in his basement in his spare time. As far as CONFOUND is concerned, wonder no longer -- as I write this, I'm sitting alone in a basement, listening to a washing machine running in the background.

My "day job" is an Engineering and Design Manager at a major metropolitan newspaper. I have worked there for seven years now.

We have undergone frequent reorganizations in the last 18 months. For several of those, it looked like my "hands-on" days were over. One of the reasons I started work on CONFOUND was because I wanted to keep my "hands in" just-in-case. Out of work technical managers are everywhere these days, but GUI programmers are still much in demand. In addition, I needed to know if I still had the "right stuff" as far as development was concerned.

Lately, however, due to the magic of downsizing, I find myself running a department with 2 engineers working for me, and more than enough work for 3. This means I'm now very hands-on, but doing most of my work with a different, but similar GUI, namely the Macintosh. My work with Windows has made it easier to get over the steep Mac learning curve, since I just needed to understand the differences from Windows, rather than starting from zip.

I also have been watching the plight of my fellow (and seemingly expendable) engineers with a great deal of concern. It struck me that the best thing I could do is to get off my duff and move into a direction that might result some day in the creation of jobs.

Personally, I have a wife and a toddler son. We live in a little single-family dwelling just outside the city.

My hope for CONFOUND is that it is moderately successful. Certainly, some of the proceeds from it will be plowed back into my computer, to add more disk storage to better accommodate the modern development behemoths. I have 1 20 Meg drive and one recently acquired 40 Meg drive (which used to be only 20), with most of the 40 Meg drive dedicated to my C Compiler, and about 50% of the 20 Meg drive dedicated to Windows itself. *Sigh*.

The machine that this was developed on is a "nameless Taiwan clone" PC, which started as an XT six years ago, and now is on its third motherboard, a 16 MHz 386SX with 3 Megs of memory. My goal was to make CONFOUND run acceptably on this, which is about the minimum for a "serious" Windows machine. This means that it should be blazingly fast for you lucky ones with the 486DX-2/66 machines.

If it makes more money than that, I've toyed with the idea of a laptop so I could develop things upstairs where the real people live, and/or a small Mac so I could write some things for that market. You might even see a Mac version of CONFOUND some day.

Over the long term, the proceeds will also find their way into my son's college savings and/or moving into larger dwellings to accommodate aging parents on both sides.

Of course, if this turns out to be the software "pet rock" of the 1990s, we're off the ground as far as a "real" company is concerned, creating those jobs I referred to, above.

I hope you do enjoy this game. It's been both fun and a real pain to write (sometimes simultaneously!). I'm glad you at least tried it out.

I've got a notebook full of other shareware ideas. Keep your eyes

open.