



**On Line Financial Trading & Stock  
Market Simulations  
October 2000**

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**ON LINE FINANCIAL TRADING & STOCK  
MARKET SIMULATIONS**

**MARKET RESEARCH REPORT  
OCTOBER 2000**

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## 1. INTRODUCTION

The worldwide computer games market, worth around £969m in sales<sup>1</sup> in the UK alone, is highly competitive and dangerously risky. Companies that get it right scoop the pot but just a few wrong moves spells disaster. “Close but no cigar” is not an option – games typically take two years and around £1m to develop but 10% of games take 90% of revenues.

Technology drives success and the growth of processing power on the Internet is beginning to change the computer games marketplace. Games can now be released in beta-test on the Web, bug-tested and customer reviewed before full commercial launch leading to speedier development and testing of ideas without blowing the whole company on a gamble. This aids diversification of genres. Although traditional action/adventure/flight simulations still account for most of the market, the popularity of “God” games such as SimCity and The Sims shows a willingness for customers to try out other ideas if the underlying premise is attractive and the presentation is good.

Customers are also becoming less and less keen to spend money on a game, usually around £35 to £40 per CD-ROM, before trying it out first. This is leading to new business models. For example, Freeloader.com, officially launched 30 May 2000, offers users the ability to download the first level of popular computer games for free. The next level can be downloaded once users have built up enough credits by clicking on the site’s advertising.

The Internet is also opening up the marketplace to new competitors as online games can be developed at a fraction of the cost of PC-based packages. Not only for other games companies but anyone who wants to enhance their existing site with a fun or educational add-on.

Most of all, the Internet offers true multiplayer interaction. This creates the opportunity for games where players no longer purely to pre-determined or external events outside their control but by playing the game, actively influence how it proceeds.

Internet online gaming is still in its infancy, but the potential is substantial.

### 1.1 Scope of this report

We carried out a review of the Internet-based financial and investment games market. The purpose of this research was to:

- ◆ Identify and evaluate existing Internet based financial and investment games
- ◆ Identify potential applications for games as a tool for generating web site popularity;
- ◆ Pinpoint the benefits which can be achieved by adding investment games to web sites.

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<sup>1</sup> Source: *Giving the Game Away* by Charles Arthur, The Independent, Monday 29 May 2000



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## 2. METHODOLOGY

### 2.1 Site discovery

An initial search was carried out using a number of directories such as Alta Vista, Dog Pile, Yahoo and Lycos. Online gaming is still a relatively small sector of the whole gaming market and the majority of gaming links found were to sales and awareness sites for PC games. Most directories however, now include an online games section although these tend to be dominated by competitions, draws and “win an X” contests. When true games are listed, these are often online versions of traditional board and card games such as poker, chess, backgammon, draughts, etc.

As the results of the initial search were so limited, further searches were carried out using a number of browser and search engines such as Alta Vista, All-in-One Search, All the Web FAST search, Hotbot and Metacrawler. We looked particularly for games where there was a purported financial incentive, i.e. a payout. To a small degree we relied on word of mouth.

The combined results of both sets of searches provided the sample of online gaming sites analysed in this report.

### 2.1 Site research

We looked at more than 150 sites, and reviewed almost 120 in detail. We aimed to achieve a representative overview of many types of financial and investment type games. Appendix 1 contains an analysis of the sites reviewed.

We group these sites into the following categories:

1. Stock market simulations based on real stocks, shares and market movements;
2. Fantasy stock market simulations based on fantasy stocks, shares and market movements;
3. Themed stock market simulations based on sports, celebrities, events, etc;
4. Primarily chance, guessing or betting games, sometimes with a stock market gloss.

This latter category has generally been excluded from the analysis as have sites based on PC games, sites under construction or those which were inaccessible.



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### 3. KEY OBSERVATIONS

The online finance and investment game sector is a very busy marketplace with wide variety in game style, playability and above all quality. Game sites range from business-like professional products to very simple one-man-band homepages and everything in between. The only sites which stand out are those that show creativity and novelty either in the game concept or the styling of the site – or both.

#### 3.1 Many games too tied to real markets: “trite trackers”

The sector is dominated in terms of numbers by stock market simulations tracking real stock market and share prices movements. These are usually offered as an add-on to their sites by online financial research and trading companies. Most of these games originate in the US and are aimed primarily at US markets. These simulations are now beginning to arrive in the UK with, for example, US-based GlobalFinanceNet’s **UK-iNvest.com Investment Challenge** targeting the UK. The German market is also dominated by these types of simulation, which aim to educate as well as entertain. France is still developing its online financial games in a market which appears dominated by traditional action adventure games.

Many of these games are heavily reliant on stock market and share price data fed in from the parent company or other source. Many “trite trackers” place too much emphasis on the accuracy or source of their data, and fail to enliven the site with either creative design or even fun. These games tend to have low interactivity. If everyone buys shares in a stock in the game, instead of going up in price, the share will continue to do what it does in real life. This negates the community of gameplay.

#### 3.2 Importance of graphics and design

Whilst interesting, useful and at times very sophisticated, these games have a “me-too” feel and many sites are interchangeable apart from the logo on the top of the page and the prizes offered. Most offer similar levels of prizes such small cash prizes, Palm Pilots or other business tools and subscription to their paper-based magazines. Indeed one company, **Investor Challenge**, provides its propriety stock market challenge game to a number of sponsors and the same site appears 4 to 5 times, with different co-branding in the listing.

Where these products are aimed at children, teenagers or students, such as **MainXchange Stock GameOne**, more care has been taken to make them visually more appealing. One of the best of these is Liberty **Financial's Young Investor Web** gateway to the **Stock Market Game (SMG2000)**. Although the game is fairly standard, the Liberty Financial site is great fun, allowing users to choose the style of the site and which guide they prefer (in a similar manner to Microsoft’s Office Assistant) from a number of options.



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### 3.3 Games enhanced by creativity and novelty

Some fantasy and themed stock exchange simulations have been developed that use the basic exchange and tracking mechanism in a more creative way. In these games players will influence the rise and fall of their investments, rather than passively watching prices rise and fall on an external agency, games such as FatCat ([www.zaroo.com](http://www.zaroo.com)). These games are also more interesting from a developers point of view as they require the creators to develop trading mechanisms from scratch and provide a more dynamic interactive experience. Games with a distinct identity and style succeed in building player loyalty and drawing people into their own world. The interest in and adoption of Internet virtual worlds such as **Lizbekistan**, show the depth of appeal of well thought through fantasy environments.

### 3.4 Outstanding Sites

- ◆ **majorleaguemarkets.com** whose baseball and football games are currently suspended but whose site has a racketeer theme which runs right through the design from logos to help pages and introduction to the game via “Mickey”, one of boys who works for the “Bosses”.
- ◆ **SportsTrading.com**. Players invest in player stocks, team bonds and sports funds, the value of which rise and falls depending on their popularity with players. The site design is very slick and incorporates multimedia, a sports ticker, “Coach” who offers help and advice and a “Sports Trading Exchange Commission” to regulate the market.
- ◆ **FleetKids - BuyLo...\$ellHi**. Stock market game designed for young children featuring imaginary companies. This game introduces the concept of the stock market in a fun way with funny newspaper articles, catchy company names and ticker running across the page.
- ◆ **Studio Boss**. One of many themed games based on weekly the box office performance of actors and films. Although more like fantasy football than a true stock/share trading game, the site is bright, attractive and fun.
- ◆ **FunBets Stock Market Game**. A combination of betting and stock market share buying. Players are given an initial stake of 1m fake dollars. From categories - such as Politics, they choose an event e.g. the Presidential Elections and then purchase shares in the participant they think will win. The price of these shares varies as the odds change. The site is bright, fun and generates a real sense of excitement as events have real deadlines rather than an artificially imposed cut-off point.
- ◆ **FatCat**. FatCat is a template for live trading games which can be adapted however the host site wishes. A powerful trading matching engine is used to carry out real-time deals in any product or entity. These entities could be companies, products or web pages themselves.



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Players can invest in the popularity of individual web pages, as measured by any tracking package. All that is required is the imagination of the host company.

Most sites are still text based and the sophistication of their design is still limited by download times and Internet accessibility – particularly in Europe where Internet call charges are metered. The computer games market shows what could be achieved if this can be overcome. **LavaMind** is a key company and the one to watch – its **Gazillionare**, **Zapitalism** and **Profitania** finance and investing games, whilst not online gaming, are innovative, beautifully designed and are garnering critical acclaim in many of the gaming magazines.



## 4. ANALYSIS

### 4.1 Overview of Games

The quality of data available from websites varies considerably as there are no standards and site owners may be anyone from established companies, Internet start-ups, educational establishments, to individuals creating sites for business or pleasure. Despite this, there are many similarities between games – few sites have unique features to make them stand out from the crowd.

### 4.2 Categories of Games

We have categorised the gaming world in 4 ways, considering interactivity and time independence (See Figure 1: Categories of Games ):

- ◆ Complex (high interaction, time dependent): typically strategy games that build up strong communities but depend on quick responses for their success and gameplay, e.g., Ultima;
- ◆ Isolated (low interaction, time dependent): typified by action type “shoot'em'up” games that require immediate response, but have little sense of community, e.g., Jamba's Chain Reactors;
- ◆ One-Off (low interaction, time independent): gambling, trivia and ‘Trite Tracker’ games, with little sense of community but independent of user response times, e.g., Final Bell, Global Strategist;
- ◆ Sticky (high interaction, time independent): games which develop strong communities and high interactivity, resulting in long term relationships with users, including web trading games such as FatCat or Studio Boss.

### 4.3 Features of Successful Games

- ◆ Timebound – contests that have a short, limited time span generate most interest. They prevent players drifting away through boredom and provide a strong reason to visit the site and return regularly;
- ◆ Use of real-life time events - contests based on a real life sports game garner some of the excitement and buzz of that game and the short duration provides instant gratification similar to betting;



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- ◆ Limited timeframes for action – for example, you must trade within the next x minutes, increases pressure and generates more excitement;
- ◆ Compete against experts and other players – being able to *see* whom else is playing and daily ranking of winners/leaders creates a feeling of community. Many sites have leader boards and the best allow other players to see details of winning play, commentaries from successful players and in some cases, actual strategy and portfolio holdings;
- ◆ Regular and fun prizes – a selection of big and smaller prizes offer more chance of winning than one grand prize. Use of themed units to reward success is more fun than cash or points, especially where these can be redeemed for attractive goods and services;
- ◆ Integrated features such as chat forums, bulletin boards, news, links to fun sites all contribute to the game experience and when well designed, can generate more site traffic for the game and potential advertisers. Collecting units by clicking on advertising or “find Waldo” or click on the moving mini-games could also be used to good effect;
- ◆ Regular email of your performance – encourages active play and feeling of community – these could be themed to add to fun and overall design of site;

Game sites may have been developed as an integrated product or have grown from a basic idea and player’s comments on features and playability. Many sites have no clearly defined aim or target audience and provide little or no information about ownership, activity or member statistics. Finally, these games sites are on the whole unregulated and unaudited therefore data on prizes given out have to be taken on trust.

Given these issues and time constraints on this research, the data contained in the following table has been taken at face value from the games sites themselves and should be treated with some caution.



## 5. IMPLICATIONS FOR MARKET ENTRANTS

Although the online gaming market is taking off, there are still relatively few finance and investing games on the Web. Of those that are available, only a small number are visually appealing and almost none fully exploit the potential of graphical interfaces, creative design and player interaction.

### 5.1 Look for the new Space Invaders

Financial and investment games have the potential to draw and hold people at a site or series of sites, many currently fail to do so. These “sticky” games will depend on creative gameplay and innovative design. Organisations wishing to take advantage of such games will need to balance the graphical sophistication of downloadable or CD-ROM computer games with the technological constraints of the Internet. Any trading game that can meet the demands of potential players could be adapted by a variety of hosts or sponsors who wish to make use of the power of games to draw visitors to their site.

### 5.2 Develop new trading engines

As players, and the market, become more sophisticated, games that can draw on the power of real exchanges, trading in futures, options and other sophisticated products will be developed. It may be possible to combine these sophisticated trading products with innovative trading entities. Current games concentrate on real stocks, sports and music, however other trading entities, such as web pages or site traffic will emerge, being inspired by the needs of the game sponsor.

### 5.3 Form partnerships and share expertise

Many corporate web sites wish to build up a community of loyal users, but do not have the internal resources to develop and support sophisticated trading engines. For these organisations the easiest route would be to work with one of the existing templates such as FatCat (zaroo.com) which can be adapted to suit a particular brand or product.

### 5.4 Promotion of games

Cross media advertising to generate awareness for the site will be key as online gaming is still a relatively new area for most game players and as we found in our research, locating games can be difficult. Sites offering simple game playing have already recognised this – as is shown by the recent introduction of TV advertising of games sites such as **Jamba.co.uk**.

### 5.5 In conclusion

Internet games (see diagram opposite) will need to provide high levels of interaction and succeed in building up popularity through a large community of players. To do this they



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will need to provide a high quality game environment along with sophisticated gameplay. Internet based games, particularly in Europe will need to be playable in the current environment of metered call charges and relatively narrow band width, leading to an unwillingness to spend long periods of time on-line.

This analysis of gaming on the Internet demonstrates that the on-line trading games market is crowded, but primarily with low-key games that have not captured the public's imagination. First-mover advantage can still be taken by innovative and imaginative game developers and service providers ready to develop the market for trading games further.

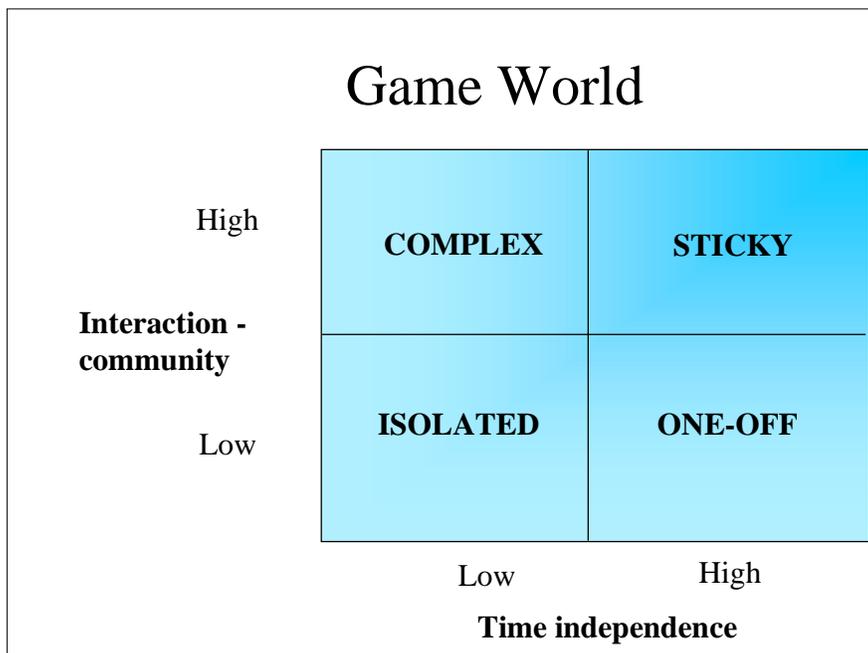


Figure 1: Categories of Games



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## **6. IDEAS FOR FURTHER RESEARCH**

Very little third party independent research was discovered in the course of tracking down gaming sites. Most related to computer gaming and specifically to action/adventure and flight simulation genres. A more systematic review of this literature might enhance this study.

To develop a detailed underPlaying some of the leading games over a limited time period could provide a better view of their playability and attractiveness.

Only a few purchasers and suppliers of games were spoken to directly. This study could be labouring under the typical web 'flood' of data, but not so much information. It would be interesting to determine who is spending significant sums on having games on their site and how they value gaming.

## **7. FOR FURTHER INFORMATION**

If you would like to discuss this study further, please call Michael Mainelli or Mary O'Callaghan at Z/Yen Limited on +44 (0) 20 7562-9652.

Z/Yen specialises in risk/reward management, an innovative approach to improving organisational performance. Z/Yen's clients include blue chip companies in high technology, financial services, the not-for profit sector and business to business services.

### **7.1 Research figures**

Sites reviewed are listed in Appendix 1. If you would like more details of the research, please contact Mary O'Callaghan.

Number of sites reviewed	<b>168</b>
Number of sites analysed in detail	<b>119</b>

Number of real market stock exchange games	<b>62</b>
Number of fantasy stock exchange games	<b>14</b>
Number of themed stock exchange games	<b>23</b>
Number of betting / trading games	<b>4</b>
Number of sites not categorised	<b>16</b>



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**Appendices**



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## **Appendix 1: TABLE OF GAMES INCLUDED IN SURVEY**

### **Disclaimer:**

The sites listed below and throughout the report are given for information purposes only, and should not be taken as an endorsement of their content.

While every effort has been made to check the accuracy of references, web sites do change, move or close down quickly and some sites we visited may be unavailable.

Z/Yen is not responsible for the content or management of any website mentioned in this report.

Z/Yen cannot be responsible in any way for any material that you encounter in any of these sites.

<b>Organisation</b>	<b>Location</b>
<b>About.com</b>	fantasyleagues.about.com/sports/fantasyleagues/msub14.htm
<b>Accuinvest Investment Challenge</b>	www.accuinvest.com/Education/Stock_Game.htm
<b>Allstocks.com</b>	<a href="http://www.allstocks.com/links/html/stock_games_contests_links.html">www.allstocks.com/links/html/stock_games_contests_links.html</a>
<b>Asiadaq Stock Exchange</b>	www.asiasdaq.com/stock/stockframe.htm
<b>Attitude Network</b>	<a href="http://www.gamesdomain.com/directd/pc/win95/sims/stock135.html">www.gamesdomain.com/directd/pc/win95/sims/stock135.html</a>
<b>Battle of the Stocks</b>	www.1010software.com/1010_software_home.php3
<b>Bloomberg Personal Finance Stock Trading Challenge</b>	www.investmentchallenge.com/bloomberg/bloommedia/default.asp?acct=&pass=
<b>Boerse 2000</b>	boerse2000.rtl.de/
<b>boerse-online.de, der BfG-Bank Deutschen Börse AG.</b>	www.stockroulette.de/
<b>Bollywood Stock Exchange</b>	www.bwsx.com
<b>California State University</b>	<a href="http://www.csusms.com/">www.csusms.com/</a>
<b>CHALLENGE NOUVELLE ÉCONOMIE</b>	www.fortuneo.com/cgi-bin/fortuneo/WebBank/scripts/home.jsp
<b>CNET Investor - The Game (Nordby International)</b>	www.nordby.com/challenges/thegame



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<b>Organisation</b>	<b>Location</b>
<b>College Surfer's Fantasy Stock Market</b>	<a href="http://www.collegesurfer.com/stockgame/">www.collegesurfer.com/stockgame/</a>
<b>ComDirect Bank AG</b>	<a href="http://www.comdirect.de/game/">www.comdirect.de/game/</a>
<b>Comdirect, T-Online, Stern, Boerse</b>	<a href="http://www.brokerpoker.de">www.brokerpoker.de</a>
<b>Commodity Trader</b>	<a href="http://members.tripod.com/~leikam/trader/">members.tripod.com/~leikam/trader/</a>
<b>Courier-Post Stock Market Game</b>	<a href="http://miva.courierpostonline.com/miva/cgi-bin/miva?stockgame/stockrel.mv">miva.courierpostonline.com/miva/cgi-bin/miva?stockgame/stockrel.mv</a>
<b>Credit Suisse Invest Game Junior</b>	<a href="http://www.investgame.ch/iglw/D/IGdStart2.asp">www.investgame.ch/iglw/D/IGdStart2.asp</a>
<b>Crew Stock Market Simulation Game: Virtual Stock Exchange</b>	<a href="http://www.crews.org/media_tech/compsci/8thgrade/stkmkt/index.htm">www.crews.org/media_tech/compsci/8thgrade/stkmkt/index.htm</a>
<b>Cyberstox: The Pop Culture Exchange</b>	<a href="http://www.cyberstox.com">www.cyberstox.com</a>
<b>Cyprus Financial Mirror Virtual Stock Market</b>	<a href="http://www.cfm.com.cy/game/index.htm">www.cfm.com.cy/game/index.htm</a>
<b>Darwin: Survival of the Fittest</b>	<a href="http://darwin.ameritrade.com/">darwin.ameritrade.com/</a>
<b>Deal Station 2000 International Currency Trading Challenge</b>	<a href="http://www.globalcontest.com">www.globalcontest.com</a>
<b>Delaware Online (News Journal)</b>	<a href="http://www.delawareonline.com/stock/index00.shtml">www.delawareonline.com/stock/index00.shtml</a>
<b>Deutsche Sparkassen</b>	<a href="http://www.planspiel-boerse.de/">www.planspiel-boerse.de/</a>
<b>DM Online</b>	<a href="http://www.dm-online.de/boerse/ibowl/">www.dm-online.de/boerse/ibowl/</a>
<b>Dream Shares</b>	<a href="http://fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=www.dreamshares.com/">fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=www.dreamshares.com/</a>
<b>E*Trade Stock Market Trading Game</b>	<a href="http://www.etrade.com">www.etrade.com</a>
<b>Edustock (ThinkQuest)</b>	<a href="http://tqd.advanced.org/3096/61game.htm">tqd.advanced.org/3096/61game.htm</a>
<b>E-Trade's Market Madness game</b>	<a href="http://www.etrademarketmadness.com/">www.etrademarketmadness.com/</a>
<b>Eureka!</b>	<a href="http://www.wingold.com">www.wingold.com</a>
<b>Euro Stockmarket Game</b>	<a href="http://www.euro-boersenspiel.de/">www.euro-boersenspiel.de/</a>
<b>F1 Stoxx</b>	<a href="http://www.f1-stoxx.de/">www.f1-stoxx.de/</a>



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<b>Organisation</b>	<b>Location</b>
<b>FantaStock</b>	www.fantastock.com/
<b>Fantasy Baseball</b>	247malls.com/OS/ls/sandbox.htm
<b>Fantasy Futures</b>	fantasyfutures.com
<b>Fantasy SportShares</b>	www.sportshares.com
<b>Fantasy Stock Market</b>	www.fantasystockmarket.com
<b>Fantasy Stockmarket Game</b>	fantasy.co.nz
<b>FatCat Zillionaire</b>	www.zaroo.com
<b>Fat Dog Exchange</b>	www.fatdogexchange.com
<b>Final Bell</b>	www.sandbox.com/finalbell/pub-doc/home.html
<b>Finance Online</b>	www.musterdepot.de/spiel/
<b>Financial Life Magazine</b>	www.boersenspiel.com/
<b>FleetKids - BuyLo...\$ellHi</b>	www.fleetkids.com
<b>Fool's Gold</b>	<a href="http://www.fools-gold.com/">www.fools-gold.com/</a>
<b>Foresight Exchange Prediction Market</b>	www.ideosphere.com/fx/
<b>FunBets Stock Market Game</b>	www.vista1.com/funbets/
<b>Gazillionaire</b>	www.zapitalism/gaz/
<b>Global Strategist</b>	www.global-strategist.com/
<b>GO Money's Portfolio Sweepstakes</b>	money.go.com/Sweepstakes.html?svx=dirref_money
<b>Gold bounty</b>	www.goldbounty.com/
<b>Golf Stock Exchange</b>	fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=www.golfstockmarket.com/
<b>Good News Bears Stock Market Project</b>	www.ncsa.uiuc.edu/edu/RSE/RSEyellow/gnb.html
<b>Great Game, The</b>	www.thegreatgame.com
<b>Hollywood Stock Exchange</b>	www.hsx.com
<b>Hoover's Stock Challenge</b>	www.maxinvest.hoovers.com/
<b>HotStox; KidStox; TechStox</b>	www.hotstox.com/



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<b>Organisation</b>	<b>Location</b>
<b>Hypo Vereinsbank Börsentraining</b>	<a href="http://www.hypovereinsbank.de/bt/Homepage.html">www.hypovereinsbank.de/bt/Homepage.html</a>
<b>IndexTrade.com</b>	<a href="http://www.indextrade.com/">www.indextrade.com/</a>
<b>India Infoline.com</b>	<a href="http://indiainfoline.com/">indiainfoline.com/</a>
<b>Infonautics Info</b>	<a href="http://www.company.sleuth.com/index.cfm">www.company.sleuth.com/index.cfm</a>
<b>Institutt for informatikk</b>	<a href="http://www.stud.ifi.uio.no/~ludvigp/stockmarket/index2.html">www.stud.ifi.uio.no/~ludvigp/stockmarket/index2.html</a>
<b>Internet.com Stock Challenge, The</b>	<a href="http://stockchallenge.internet.com/">stockchallenge.internet.com/</a>
<b>Investment Challenge</b>	<a href="http://www.ichallenge.net/">www.ichallenge.net/</a>
<b>Investment Game, The</b>	<a href="http://www.cibc.com/smartstart/parent/InvestmentGame.html">www.cibc.com/smartstart/parent/InvestmentGame.html</a>
<b>Investment Simulation – Cambridge</b>	<a href="http://www.cam.ac.uk/societies/cuba/frontend.htm">www.cam.ac.uk/societies/cuba/frontend.htm</a>
<b>InvestorFactory.com Investment Challenge, The</b>	<a href="http://www.investorfactory.com/default.asp">www.investorfactory.com/default.asp</a>
<b>Investorlinks.com Stock Market Game (Virtual Stock Market)</b>	<a href="http://investorlinks.virtualstockexchange.com/">investorlinks.virtualstockexchange.com/</a>
<b>Investors Forecast</b>	<a href="http://www.investorsforecast.com/">www.investorsforecast.com/</a>
<b>InvestSmart Stock Game &amp; The InvestSmart Fund Challenge - this is same as ThinkQuest Stock Game.</b>	<a href="http://library.thinkquest.org/10326/market_simulation/iqgame.html">library.thinkquest.org/10326/market_simulation/iqgame.html</a>
<b>Invhot</b>	<a href="http://www.invhot.com/contest.html">www.invhot.com/contest.html</a>
<b>Iowa Electronics Market</b>	<a href="http://www.biz.uiowa.edu/iem">www.biz.uiowa.edu/iem</a>
<b>Kirkland Games</b>	<a href="http://www.compositeindex.com/">www.compositeindex.com/</a>
<b>Komodo Software</b>	<a href="http://home.istar.ca/~komodo/">home.istar.ca/~komodo/</a>
<b>La Bourse</b>	<a href="http://www.multimania.com/bitmaper/">www.multimania.com/bitmaper/</a>
<b>l'Ecole de la Bourse</b>	<a href="http://www.ecole-bourse.tm.fr/bej/set_bej.htm">www.ecole-bourse.tm.fr/bej/set_bej.htm</a>
<b>Longshot.com</b>	<a href="http://www.longshot.com">www.longshot.com</a>



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<b>Organisation</b>	<b>Location</b>
<b>Lycos Investment Challenge</b>	maxinvest.lycos.com
<b>MainXchange Stock Game</b>	www.mainxchange.com/stockgame/
<b>MajorLeagueMarket.com Baseball</b>	Majorleaguemarket.com/
<b>MajorLeagueMarket.com Football</b>	football.majorleaguemarket.com/
<b>Mandricks and Cool Articles</b>	www.fundzgame.com
<b>Marcopoly</b>	www.marcopoly.scorpioweb.com/
<b>Market Bucks</b>	www.marketbucks.com/
<b>MarketCentral</b>	<a href="http://www.mktctl.com">www.mktctl.com</a>
<b>MarketPlayer.com</b>	www.marketplayer.com
<b>Max's Investment World</b>	www.maxinvest.com/challenge/game_central.php3
<b>Mida\$</b>	midas.jotto.no/
<b>MidAm's Enter the Pit</b>	www.midam.com/pit/pit.html
<b>MiniMogul - The Movie Investment Game</b>	www.minimogul.com
<b>MockStock Investment Challenge</b>	www.inforel.com/~eharland
<b>Money Challenge</b>	www.moneychallenge.com/
<b>Money Game Investment Contest</b>	www.moneygame.com/
<b>Money.com Stock Tournament</b>	stocktournament.money.com/
<b>moneycontrol.com</b>	www.moneycontrol.com/
<b>Moneytunes.com</b>	www.moneytunes.com
<b>Movie Agent Competition, The</b>	www.geocities.com/Hollywood/Cinema/4503/
<b>MovieBoss.com</b>	www.movieboss.com
<b>Neuer Market Info</b>	www.neuer-markt-cup.de/
<b>Nordby International - see CNET Investor</b>	www.nordby.com/challenges/thegame
<b>Nth American Investment Simulations</b>	info.wlu.ca/~wwwbeta/investus/college.html



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'nVestor'. League of American Investors	investorsleague.com
Online Maths Applications>Investing	tqjunior.advanced.org/4116/Investing/investin.htm
Pifagor Online	www.pifagor.mega.ru
PredictIT! Virtual Stock Exchange	www.virtualstockexchange.com
Premiere Medien GmbH & Co	www.premiereworld.de/sport/ps_boerse/boerse.htm
Profitania	www.profitania.com/profit/pro_main.html
Profits Warning	www.team17.com/TGR/
Raspberry Hill Publishing Market Games	www.raspberryhill.com/marketgames.html
Really Big Game	fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=www.reallybiggame.com/
Realworld Games	www.realworldgames.com
Rogue Market, The	www.roguemarket.com/
Sandbox	www.sandbox.net
Sierra On-Line Stock Market Challenge	smc.sierra.com/
Smart Stocks.com	www.smartstocks.com/
SoccerBank	www.soccerbank.com
Sportsfan.com	www.sportsgaming.com/
SportsShares	fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=www.sportshares.com/
SportsTrading.com	www.sportstrading.com/
StarStock.com	www.starstock.com/
Stock Market Contest	www.stockmarketcontest.com
Stock Market Game	www.ucc.uconn.edu/~wwwece/smg.html
Stock Market Game (SMG) / Young Investor Website	www.younginvestor.com
Stock Market Game (SMG2000)	www.smg2000.org



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<b>Organisation</b>	<b>Location</b>
<b>Stock Market Game, The</b>	<a href="http://ecedweb.unomaha.edu/stockmg.htm">ecedweb.unomaha.edu/stockmg.htm</a>
<b>Stock Market Shark</b>	<a href="http://electricgames.com/pc-games/s/pc-stockmarketshark.html">electricgames.com/pc-games/s/pc-stockmarketshark.html</a>
<b>Stock Market, The</b>	<a href="http://www.library.thinkquest.org/3088/starkmarket/introductionnf.html">www.library.thinkquest.org/3088/starkmarket/introductionnf.html</a>
<b>Stockgames.com</b>	<a href="http://www.stockgames.com">www.stockgames.com</a>
<b>StockGeneration Ltd.</b>	<a href="http://www.stockgeneration.com/">www.stockgeneration.com/</a>
<b>Stockk.com Investment Challenge</b>	<a href="http://games.stockk.com/">games.stockk.com/</a>
<b>StocksQuest</b>	<a href="http://library.thinkquest.org/C001759/">library.thinkquest.org/C001759/</a>
<b>Stock-Trak</b>	<a href="http://www.stocktrak.com">www.stocktrak.com</a>
<b>Street.com Investment Challenge, The</b>	<a href="http://www.investmentchallenge.com/thestreet/streetmedia/default.asp?acct=&amp;pass=">www.investmentchallenge.com/thestreet/streetmedia/default.asp?acct=&amp;pass=</a>
<b>Streetpicks.com</b>	<a href="http://www.streetpicks.com">www.streetpicks.com</a>
<b>Studio Boss</b>	<a href="http://www.eonline.com/Fun/Games/Studioboss/">www.eonline.com/Fun/Games/Studioboss/</a>
<b>Super Star Trading Contest</b>	<a href="http://superstar.donney.net/index.htm">superstar.donney.net/index.htm</a>
<b>Taking Stock</b>	<a href="http://www.santacruz.k12.ca.us/~jpost/projects/TS/TS.html">www.santacruz.k12.ca.us/~jpost/projects/TS/TS.html</a>
<b>The Money Machine Investment Challenge (ZDTV)</b>	<a href="http://www.investmentchallenge.com/zdtv/zdtvmedia/default.asp?acct=&amp;pass=">www.investmentchallenge.com/zdtv/zdtvmedia/default.asp?acct=&amp;pass=</a>
<b>TradeComp International</b>	<a href="http://www.tradecomp.com/">www.tradecomp.com/</a>
<b>UISES</b>	<a href="http://www.uses.com/sec/">www.uses.com/sec/</a>
<b>UK-iNvest.com Investment Challenge</b>	<a href="http://www.investmentchallenge.com/ukinvest/ukinvestmedia/default.asp">www.investmentchallenge.com/ukinvest/ukinvestmedia/default.asp</a>
<b>Undergraduate Investment News</b>	<a href="http://www.uinews.com/">www.uinews.com/</a>
<b>Unknown</b>	<a href="http://www.fantasy-ballstreet.com/">www.fantasy-ballstreet.com/</a>
<b>Unknown</b>	<a href="http://www.bl-boerse.de/">www.bl-boerse.de/</a>
<b>Virtual Exchange</b>	<a href="http://www.vexchange.com">www.vexchange.com</a>
<b>Virtual Producer</b>	<a href="http://www.virtualproducer.com/">www.virtualproducer.com/</a>
<b>Virtual Trader Online</b>	<a href="http://www.virtualtraderonline.com/">www.virtualtraderonline.com/</a>
<b>Virtual Trader Online</b>	<a href="http://www.virtualtrader.co.uk">www.virtualtrader.co.uk</a>
<b>Virtual Trading Exchange</b>	<a href="http://iitm.com/vte/Welcome.html">iitm.com/vte/Welcome.html</a>



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<b>Organisation</b>	<b>Location</b>
<b>Volksbanken und Raiffeisenbanken Virtual Depot</b>	<a href="http://www.vrnet.de/">www.vrnet.de/</a>
<b>Wall Street Hoops</b>	<a href="http://fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=collegehoops.wallstreetsports.com/">fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=collegehoops.wallstreetsports.com/</a>
<b>Wall Street Simulator for Windows</b>	<a href="http://www.larax.com/">www.larax.com/</a>
<b>Wall Street Sports</b>	<a href="http://www.wallstreetsports.com/">www.wallstreetsports.com/</a>
<b>WallSt-Challenge - Top Trio</b>	<a href="http://www.wallst-challenge.com">www.wallst-challenge.com</a>
<b>WISO-Börsenspiel</b>	<a href="http://www.zdf.de/boersenspiel/">www.zdf.de/boersenspiel/</a>
<b>World Soccer Exchange</b>	<a href="http://www.eurofootballexchange.com/">www.eurofootballexchange.com/</a>
<b>World Soccer Exchange</b>	<a href="http://fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=soccer.wsx.com/">fantasyleagues.about.com/sports/fantasyleagues/gi/dynamic/offsite.htm?site=soccer.wsx.com/</a>
<b>WorldFinanceNet.com Investment Challenge</b>	<a href="http://www.investmentchallenge.com/worldfinancenet/wfnmedia/default.asp?acct=&amp;pass=">www.investmentchallenge.com/worldfinancenet/wfnmedia/default.asp?acct=&amp;pass=</a>
<b>Worldlyinvestor.com Investment insider's Challenge</b>	<a href="http://www.investmentchallenge.com/worldlyinvestor/wimedia/default.asp?acct=&amp;pass=">www.investmentchallenge.com/worldlyinvestor/wimedia/default.asp?acct=&amp;pass=</a>
<b>Worth.com</b>	<a href="http://www.worth.com/articles/wscviiopener.html">www.worth.com/articles/wscviiopener.html</a>
<b>WrestleStock.com</b>	<a href="http://www.wrestlestock.com">www.wrestlestock.com</a>
<b>Yahoo! Finance - Investment Challenge</b>	<a href="http://contest.finance.yahoo.com/t1?u">contest.finance.yahoo.com/t1?u</a>
<b>Zapitalism</b>	<a href="http://www.zapitalism/zap/">www.zapitalism/zap/</a>
<b>ZD II Investment Challenge</b>	<a href="http://www.zdii.com/module.asp?module=challenge_home">www.zdii.com/module.asp?module=challenge_home</a>
<b>ZDNet</b>	<a href="http://www.softseek.com/Games/Business_Simulations/Review_11577_index.html">www.softseek.com/Games/Business_Simulations/Review_11577_index.html</a>



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### **APPENDIX 3: Z/YEN - AN INTRODUCTION (PRONOUNCED "ZEE-YEN")**

Z/Yen's mission is to be the foremost risk/reward management firm. Risk/reward management is the application of risk analysis and return incentives to strategic, systems, human and organisational problems in order to improve performance. Z/Yen believes that the intelligent management of risk is the basis of significant reward. By recognising, understanding and managing risks, more risks can be assumed and performance increased. Z/Yen applies risk/reward management in the public, private and not-for-profit sectors in areas as diverse as finance, information technology, human resources, research and development, environment, quality, sales and marketing.

Z/Yen's slogan is "zest for enlightenment", embodied in five distinguishing principles:

- ◆ investing in clients;
- ◆ investing in partners;
- ◆ improving ourselves;
- ◆ retaining and developing innovation and humour;
- ◆ sharing the rewards.

Z/Yen has developed a risk/reward methodology based on analytical techniques from a number of fields which manage risk. The methodology consists of a strategic framework, supporting software, procedures, case studies and report formats. The methodology has been applied to strategic planning, financial planning, information technology planning, marketing plans, fraud investigations, reserves analysis, systems reviews, cost-effectiveness studies and human resource planning.

Z/Yen's strategy is based on three approaches:

- ◆ enhancement of the risk/reward methodology;
- ◆ management consultancy projects to identify ventures;
- ◆ development of a partner network.

Z/Yen organises its work in projects with a specific proposal for each phase and strong project management. Z/Yen is committed to sharing the risks and benefits of work with clients, often in the form of performance-related fees, and measuring work in quantitative or qualitative terms. Z/Yen has access to venture capital and, where appropriate, can provide a combination of financial and advisory services in exchange for equity or other stakes.

Z/Yen applies its techniques with confidence in a variety of areas, but has stronger experience in technology, insurance, banking, media, health, distribution, charities and business to business services. The firm is headquartered in London, but Z/Yen is committed to the 'virtual office' concept and is an intense user of technology in order to improve flexibility and benefit staff. Z/Yen has two working founders, ten staff and approximately 50 associates. Staff share significantly in the benefits of success and Z/Yen seeks to develop a supportive environment in which professionals from a variety of disciplines can flourish.