MARKET MAKERS, PART I
by Jerry Michalski

Say you want to use the Internet to help you buy (or sell) a used TV or a car, or maybe something more obscure, such as a particular year, make and model of bicycle or ceiling fan. You could try typing "buy used car" into the major search engines, but you'd get lost and frustrated before long. Even if you found your way to a cybermall, chances are you wouldn't find the specific item you're looking for or enough items to choose from.

You could head for Usenet newsgroups such as rec.bicycles.marketplace and misc.forsale.non-computer, where there are plenty of things for sale. Good luck, though. You'll have a hard time finding out which ads are fake and which ones have already turned into transactions. (UK-based Apollo Advertising created a Web page with a list of 158 newsgroups worldwide that carry items for sale; see http://193.117.180.2/news.html.)

You could also try to train a software agent to go find the best deal it can on the item you covet. Bot-shopping works best for simple goods that are easy to compare with each other, such as audio CDs or books (see Net-Bot, Release 1.0, 3-97); however, it falls apart as goods get more complex.

Anyone who has tried to shop for a PC or cellular phone probably wouldn't want to hand that process over to a software agent of any IQ. There are too many decisions to make, too many tradeoffs that can't be preconfigured -- much less predicted and resolved properly -- and too many ways for the products to be made incomparable. Change the warranty period on an otherwise identical item and you've differentiated it from its competitors enough to confuse matters, or at least to confuse a bot.

In the future, bots will probably help notify us of things we care about, but they are unlikely to lead us to the oft-predicted and highly improbable disintermediated future.

Make markets, not malls

The Internet does seem to reduce the friction of doing business. It really does remove geographic limitations enough to bring together buyers and sellers who might never have found one another, sometimes spawning markets that couldn't exist before the Net became popular. But where exactly should these buyers and sellers meet?

INSIDE
MARKET MAKERS, PART I 1
Try to buy.
A new fabric.
THE MARKETS 5
Housing: Realtor.com,
HomeShark.
Industrial supplies:
FastParts.
Employment: I-Search.
AFTERTHOUGHTS 18
Perfect markets?
RESOURCES 20
Names, phones, dates, URLs.

OUR HIGH-TECH FORUM: AMSTERDAM, OCT. 5-7
We suggest they turn to market-makers, companies whose relatively neutral role attracts enough buyers and sellers to keep their markets going. This issue of Release 1.0 explores what it takes to make markets on the Net and what it means for buyers and sellers. We are especially interested in how these new markets will affect the dynamics, costs and power relationships of traditional markets.

To begin studying this topic, we focus this issue on four traditional market domains: classified ads, housing, industrial goods and employment. These markets are not mutually exclusive -- note that classifieds include housing and employment, and often even industrial gear. One of the interesting issues is how companies that specialize in certain markets will fare against those that are generalists.

Within these domains, we profile five interesting market-makers: Classifieds2000, Realtor.com and HomeShark, FastParts and I-Search. Next month we will focus on less traditional markets, including those for knowledge, love, barter, law-avoidance and fun.

Not this, not that

Market-makers are neither merchants nor brokers. Supermarkets aren't market-makers; they control whose goods they offer and they set prices; they buy goods, hold them and re-sell them. So what is a market maker?

We described one market-maker, Aleph, in Release 1.0, 3-96. Aleph makes markets in document translation. It attracts, vets and sends business to human translators around the world. It also attracts people who have documents to translate. By matching documents to translators efficiently and helping move the documents and payments between the parties reliably, Aleph hosts that market.

Aleph now offers translation in 90 languages by over 3000 translators around the world. Large companies such as Boeing, Ford, Deloitte & Touche, HP and The Gap have begun to give it large-scale ongoing work. According to Michael Demetrios, Aleph's founder and president, the primary value the company offers is trust. Companies trust that its translators can do the work; translators trust that they will be paid for the work.

That trust is essential for a market-maker's credibility. It also lubricates the gears of commerce, because parties in a trusted environment get down to business faster.

Occasionally, market-makers have more lop-sided loyalties, offering preferential treatment to some parties or even representing only buyers or sellers. But they do so at the risk of their credibility.

I have some land in Florida...

Another important component of market-making is not having a financial stake in either side of the transactions. Taking a fee in the middle is OK. Here's how FastParts, which makes markets in brand-new semiconductors and other commodity electronics components (see page 13) explains the role it plays as a market-maker:
"FastParts is neither a broker nor a distributor. We are an infrastructure and communications provider, and a facilitator of buy and sell transactions directly between subscribers. FastParts never buys or sells components ourselves; we are never involved with pricing, nor do we ever take a position in any trade. Although FastParts manages the physical transfer of traded parts, we never stock, own or take title to any components."

Market-makers aren't altruistic; they need to make a profit. They may charge a fee for each transaction consummated through the system. If they attract enough traffic, they may make enough to pay for their efforts by selling ads around the space or promotional placements to sellers.

There is one existing meaning of the phrase "market making" that we don't mean to imply here. In traditional over-the-counter securities markets such as NASDAQ, companies that are authorized market-makers must take positions on securities -- literally making the market -- when others won't step forward to either buy or sell.

Changing time and space

Internet markets are changing our conceptions of marketing time and space. For example, one can't overstate the positive effect that timely, active notifications can have on market-making for just about any product. The line of people waiting by the newsstand early on Thursday mornings, when the week's best apartment classifieds are delivered, will be replaced by e-mail, voicemail and pager messages notifying individual buyers that what they're looking for has just arrived.

Online auctions such as OnSale and FirstAuction depend on electronic notifications. What better way to bid up prices than to send repeated e-mail messages to an engineer at her desk that the color printer she covets is almost out of her reach?

Space is different on the Web, too. There's NO ND 2 ABBRV8, since every ad can take as much space as it needs (of course, brevity still sells). Ads can include pictures, video clips, testimonials... whatever it takes to convince someone to buy.

Time re-enters the equation here. Normally, a real-estate agent's time is his most important asset. Taking someone around town to see homes for an afternoon is a big investment. People who look for property online can do so as slowly and for as long as they wish. They can also take the time to educate themselves more about what they're purchasing.

Like mustard on a hot dog

Online markets offer market-makers and their partners countless ways to add value to transactions. They can offer useful ancillary services, such as driving directions, e-mail reminders or weather reports. They can transform communications during the transaction process, making it easier for buyers and sellers to reach one another, or maybe masking their identities.

They can also redesign relationships and channels inside the market, creating efficiencies and new opportunities. Ideally, great market-makers wrap
themselves around their customers and become an integral part of their daily activities. They are the first place that customers think of turning to with questions.

There's fierce competition brewing online in a wide range of traditional markets. Here are some of the players in markets we're not covering in this issue:

- **Vehicles**: Auto-By-Tel, Microsoft Autopoint
- **Travel**: Travelocity, bizTravel, Microsoft Expedia
- **Securities**: E-Trade, eSchwab
- **Online ads**: Narrowline, DoubleClick
- **Financial services and insurance**: InsWeb, Quicken InsureMarket, World Insurance Network

Right now, Microsoft and Intuit are especially interested in market-making. Microsoft built its Carpoint and Expedia sites with the company's market-making mantra in mind: IDA (Inform, Decide, Act). The idea is to see customers through the entire transaction without their having to leave the Web-site. Let them inform themselves first, then help them decide what they want to do (preferably buy something) with useful analytic tools and advice, and then help them act on their decision by completing the transaction.

Microsoft just announced that it would be dipping its toe in the real-estate market. Intuit will probably enter real estate soon, too, but for now its nearest offering, Quicken InsureMarket, just covers insurance.

There are a variety of near markets -- cyberspace remoras -- that don't host the purchase and sale of goods, but they help stimulate transactions by offering advice or information. For example, if you want advice on considered purchases such as washing machines and vacuum cleaners, go to Compare.net or PersonaLogic; for information to help you choose an HMO or physician, try MedAccess; and for hot tips on stocks, head for Motley Fool.

**Warping and woofing**

A big, quiet, important change is happening. It's based on these shifts in marketing time and space described above and the ease with which one can leave things at hand in cyberspace.

For instance, if buying a house is part of a household move, the family will probably have to hire a moving company, find new insurance or change its existing coverage, find new schools and baby sitters, and contract for utilities, telephone, cable TV, Internet access and other services. Entrepreneurs are now beginning to link all of these things on the Net. Look at any Net-based market and you'll find such links. The hyperlink is key.

By focusing on their businesses and their customers' needs at a very local, granular level, companies are weaving a new commercial fabric. Markets are beginning to overlap and intertwine in ways that will be beneficial to many players but will also spell the end for some players and radically shift power relations among others. Cost structures will change, affecting margins. Market-makers such as the ones described in the next section are a driving force behind these changes. The last section of this issue outlines many of the open questions that the next decade's events should answer.
THE MARKETS

The markets we're about to dive into are different from each other in interesting ways. For example, in the classified-ad market, the companies that traditionally owned the business -- newspapers -- have lacked direction. The upstart, Classifieds2000, is setting the rules online.

In the online market for real estate, it is the old-timers of the National Association of Realtors who are leading the charge. The market for homes for sale by owner, which intuitively looks like an appealing Internet business, is in disarray.

The other two markets we cover, commodity electronics components and employment, have never had dominant market-makers. Parts markets have hundreds brokers and dealers. There are also many executive search firms, placement centers, temporary help firms and employment companies. FastParts is pioneering the former market; I-Search is tackling a piece of the latter.

CLASSIFIED ADVERTISING

Perhaps no other market is as obvious a candidate for Net automation as the classified-ad business. Newspapers know this and worry that it makes them quite vulnerable. Classifieds are high-margin business for newspapers. They sell ads in the smallest increments of space possible, make efficient use of paper and don't require much outbound marketing -- they arrive as motivated inbound calls.

From the newspaper industry's perspective, the picture is grim: Classified ads comprise the fattest 37 percent of all US newspaper revenues, which are projected to total $16.6 billion in 1997. Without that money, newspapers might quickly become insolvent.

CLASSIFIEDS2000: CLARITY AND SCALE

In early 1995, when he first got the itch to start a classified-ad system on the Web, Karim El-Fishawy was a marketing manager at HP. He put together a business plan and phoned his brother Sani, who was in Bolivia on a six-month leave of absence, having just finished a grueling two-year project at Synopsys. When Sani returned from South America in June 1995, they started programming; Classifieds2000 went online that October.

Pooled assets

The brothers' insight was to build the business not as a single destination site, but as the common back-end for everyone else's classifieds. Classifieds2000's development team built a central database flexible enough to handle many kinds of classifieds and take on many different personalities.1

1 The system runs in an Oracle database on Windows NT servers -- currently nine quad Pentium Pro machines. The servers are hosted at MAE-West (the major West-Coast Internet backbone interchange point) by Genuity, Classifieds2000's ISP, which specializes in co-located servers.

Private sellers don’t have to pay to post ads on Classifieds2000; commercial sellers do. Everyone’s ads are pooled together. Classifieds2000’s major ad-listing categories are Vehicles, Rentals and Roommates, Personals, Tickets/Events, Real Estate (coming soon), Computers and Software, Employment, General Merchandise and Everything Else.

Network affiliates get their own look and feel, but also benefit from the large base of available ads. For example, when Car and Driver visitors click on "classifieds," they see only car ads, but they can see car ads posted by visitors to all the other Classifieds2000 affiliate sites; MacAddict visitors get only Mac classifieds, but they can see all the Mac ads entered anywhere. Infoseek and Excite visitors can see all the ads posted.

Initially, almost all ads on Classifieds2000 were posted online for free by private parties. Increasingly, though, the ads on Classifieds2000 are commercial. The site collects revenues from the ad originators and acts as a distribution channel for them. The audience represented by the many network affiliates has begun to attract more and more commercial distribution deals, which are already Classifieds2000’s principal revenue stream.

In orbit

In July, about 3.3 million users visited the site and made 9 million searches through 310,000 classified ads, leading to an estimated $20 million transacted through the site. The El-Fishawy brothers expect the company to hit breakeven by the end of this year.

Page views are growing 50 percent per month. Sixty percent of the posted items sell within four weeks, which Karim sees as evidence of having achieved critical mass. Listings are growing, too, but in bigger jumps as Classifieds2000 makes deals with commercial listings providers. More on those in a minute.

Classifieds2000 now has 31 employees. It received $2.8 million in its first round of funding in early 1997, from Polaris Venture Partners and the Broderbund Online Venture Fund. Revenue growth has been strong enough that the El-Fishawy brothers don’t foresee needing a second round, unless for strategic reasons.

The private/commercial balance

Classifieds2000 has several commercial classified advertisers, who pay the company to post their listings and get some promotional exposure. These companies include Net Temps (employment), Dealer Specialties and the Cobalt Group (automobiles) and Visual Properties and CUC’s RentNet (real estate rentals).

Most recently, Classifieds2000 closed similar deals with Auto-By-Tel, All-Apartments and Realtor.com. These last few are significant because of their...
size. Realtor.com now has 800,000 listings and is aiming for one million; compare that to the 200,000 that Classifieds2000 now has across all categories. More on Realtor.com and the real-estate market in general below, on page 9.

Even as Classifieds2000 closes new commercial deals, private postings keep growing at 40 percent a month. Long run, Sani expects the private and commercial postings to roughly balance each other. Many people think they can save money or cut a better deal by working only with private listings. One of the system’s nice features is that users can exclude dealer listings.

**Those juicy local listings**

Recently, a dozen TV stations signed up as network affiliates. Classifieds2000 is a way for them to get a bite of the newspapers’ classified business they have always coveted but were unable to exploit. One station recently aired a funny ad promoting the electronic classifieds. A newspaper flies across the screen in slow motion, then lands in a mud puddle. The voiceover says, "Now there’s a better way to look for a car or apartment." You get the point.

Newspapers are conspicuously absent from Classifieds2000’s list of network affiliates. Some are starting to bite, but it is unclear what will happen. The Classifieds2000 model simply can’t offer them the large revenue streams that they’re used to. Many smaller newspapers have joined AdOne, which is tuned to their needs and procedures. For help-wanted ads, the largest papers have developed CareerPath, a site of their own (see page 16).

**Nifty features and design**

The system’s interface is well designed, makes clever use of dynamic HTML (e.g., if you click on a table heading, the table will re-sort on that field) and has most of the features you would want from online classifieds. Visitors can specify geographic areas in which to search. For example, the system can easily list all the Toyotas for sale within 100 miles of New York City, or all the camcorders available anywhere in the US. Users can also limit searches by variables such as price range, features, year made, brand name and type of seller.

Each product category stores different variables: PCs include processor type and speed; cars include mileage. Some markets require special features. Personals need an anonymizing system and employment listings require keyword search.

For all ads, it is critical that useless or phony ads never make it into the system. It is also important that ads be pulled from the system as soon as transactions have closed. Classifieds2000 employees proof ads before they are posted and the ads typically expire after four weeks, which helps.

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2 AdOne has attracted almost 500 small, local newspapers by developing a system that ties closely to newspapers’ existing publishing, telemarketing and support systems.
Visitors can bookmark items they’re interested in with a feature called Hot List. Another feature called CoolNotify lets visitors set up standing queries that will send them an e-mail message daily (in plain text or HTML) with items that meet their search criteria.

Leave things at hand

Often putting a generic button labeled "classifieds" on a site’s home page or navigation bar is not useful enough. Prodigy Internet will put links to classifieds near discussions of specific topics. Talking about photography? The road to buying a used camera starts right there, with a button that will take you straight to the camera ads -- eventually even the kinds of cameras being discussed. Now if someone would only invent a parser that could identify brand names and model numbers....

Classifieds2000 has integrated links to outside services, such as the Kelly Blue Book for used-car values, or insurance companies and escrow agencies for quotes. Many of these companies split banner-ad revenues with or pay per-lead fees to Classifieds2000 in exchange for the referrals. Of course, Classifieds2000 is only too happy to remind you via e-mail to get oil changes. Just fill out the form.

Wait; there’s more. Once you’ve found a car you like, would you pay an extra $20 to know if it’s ever been in a crash? There are links to VINGuard, a VIN (Vehicle ID Number) history service that can do that. Carfax can provide other information about your prospective dream-on-wheels for $12.50. Another $25 will buy you a CD-ROM with recall and repair tips from Alldata Corp. Services such as these, credit checks and escrow services (Classifieds2000 lists one, called Trade Direct) are natural elements of a market-maker's landscape.

By owner... or not

Classifieds2000 is particularly fascinating because it touches so many markets, including some of the ones we probe in more depth below, such as real estate and employment. How Classifieds2000 handles the visibility and roles of brokers and dealers will affect how online markets evolve -- and will feed back to the offline markets, too, as the online volumes grow.

For example, the Realtor.com deal will create Classifieds2000’s first category with only commercial listings. Given its technology, Classifieds2000 could drive the Web consolidation of properties that are for sale by owner, which are currently extremely fragmented. Whether, when and how Classifieds2000 enters that market and how it manages the relationship with Realtor.com will be good leading indicators of potential shifts in market dynamics.

It will also be interesting to see which markets thrive and which ones wither. Whatever happens, Classifieds2000 has a great head start.

HOUSING

Somewhat less than one-tenth of the people selling real estate want to avoid paying fees to agents. Properties for sale by owner are known as FSBOs (For
Sale By Owner, pronounced "fizz-boes"). In principle, the Net could help people do a better job putting their house up for sale and finding takers, but in reality, the online FSBO market is fragmented and hard to use.

The biggest FSBO site is Owners.com. Others abound, but it seems that each of them has only a dozen or two properties, half of which have already sold but are kept online to pad the listings.

Realtor.com represents much of the rest of the housing market, and it is far more organized. HomeShark doesn’t make markets in homes, but rather in home loans. It and Realtor.com are naturally complementary. They’re not doing anything together yet, but it seems like a good fit.

**REALTOR.COM: DINE OR BE DINNER**

You may not have known (we didn’t) that the word "realtor" is trademarked by the National Association of Realtors (NAR), the largest trade association in the US. You can’t call yourself a realtor unless you’re a member of the Association.

Of the roughly 2 million US real estate agents, 730,000 are realtors. The realtors are well connected: They run most of the multiple listing services (MLSs) and account for over 90 percent of the deals.

The NAR is actually a conglomeration of local, state, national associations. That such a complex, old-line trade organization would undertake an aggressive strategy to get itself on the Internet and open to the public seems surprising, but it did. Its leadership saw technology as vital and decided to move before others got to the Net first. But the NAR’s first Web efforts didn’t go well. The project managers didn’t have enough experience in Web startups. The project stalled.

At the time, Stuart Wolff was making new-media deals for TCI. The NAR database was one of the deals, and he knew it was stuck. Wolff thought there was huge underlying value in the multiple listings. He also felt the listings would be essential components for local-content Web services. Besides, TCI was just scaling back its new-media ventures. Wolff left TCI and joined the NAR effort. His first action was to separate the project from the NAR in a new company called RealSelect. In early December 1996, he closed funding from Allen & Co. and JH Whitney and was on his way.

**Obsessions that pay**

Wolff’s priority now is to be obsessive about unifying the databases behind Realtor.com. Bringing the listings from all the associations together and making them Web-accessible is a whopping integration project. It’s not as if the associations all used the same software or database schema -- or even hardware. And naturally, they are all on proprietary networks.

Wolff next wants to improve the service’s Web interface by offering useful decision-support tools to home buyers. That’s good, because the Realtor.com site is the least polished and most self-promotional of those covered in this issue (Yes, you really should use a REALTOR(tm)). After that, Wolff will work on community-building tools.
Realtor.com now has SQL access via the Internet to the 200 largest of the 1000-plus MLSs in the US, which represents roughly 870,000 home listings in 140 of the top 150 markets. Wolff expects to hit 1 million listings in September. That's not unrealistic, because some large associations are joining soon. The California Association of Realtors agreed to participate in Realtor.com only recently, closing a large gap in its coverage.3

Realtor.com already has distribution deals with AOL's Digital City, NBC and USA Today. Most recently, the company signed on as a commercial classified advertiser on Classifieds2000 (see page 5). Wolff expects that deal to go live in the next couple of months.

What's the business?

All of this automation and access is certain to change the real-estate market. The MLS printouts that realtors held close as a source of power are now out in the open. Will home buyers bypass realtors? Will new market-makers find a sweet spot that helps FSBOs get organized and take more of the market? What will Realtors do now?

Combined with services such as HomeShark (profiled next), Realtor.com could sharply affect the number of real estate agents and how they go about their business. Nearby markets, such as those for title searches and escrow management, may be especially vulnerable.

One of Wolff's major tasks is to manage the way realtors deal with those changes. He's right about the multiple listing services' value. As databases go, they are quite good; it's in every realtor's best interest that the databases be clean, deep and up-to-date. Strict guidelines govern what information is stored about a property and how it is described. When properties are sold, the listings are updated quickly. All of this makes the listing services extremely difficult to replicate, which is more of a lock-in than most businesses have moving toward the next millennium.

New value

The mix of services that real-estate agents offer will probably change, but the agents aren't likely to go away. They provide at least three kinds of hard-to-replace expertise. First is the brokerage and negotiation of what is probably a family's largest financial commitment, a task its members are not going to undertake alone lightly. Second is local expertise combined with personal judgment. That's the instinct that tells a great agent to play up the elementary school that's a block away, rather than play it down. Third, real-estate agents have the marketing expertise that can turn a mutt property into a sweet puppy.

Showing properties should improve. Online, agents can offer virtual tours and maybe even conduct open houses via videophones. If buyers know more and are further along their decision process when they need a realtor, the

3 Strangely (though not surprisingly, if you've ever tried to buy a property here) New York City has no dominant, official multiple listings service. New York City listings will be missing from the Realtor.com system.
realtors will have to innovate to offer more services. Their lives will speed up a lot, too.

"The important thing," says Wolff, "is to define yourselves in terms of a business, not a product." Realtors are in the business of helping people buy and sell real estate, not the business of creating and protecting the MLS or the business of running limousines to shuttle buyers between properties. Perhaps, over time, realtors will become negotiators and marketers for other goods.

**HOMESHARK: PATIENCE IS A VIRTUE**

Would you like to lower your closing costs substantially, get a better deal on a mortgage and maybe streamline the process in the bargain? HomeShark, launched only in mid-June, is betting that you would. In fact, Ned Hoyt, its co-founder, believes his company can permanently shatter many of the pricing conventions that currently rule US real estate.

On HomeShark's Website, potential home buyers can learn about the process, compare interest rates and shop for lenders, collect and store the information they need to apply for a mortgage and get feedback on whether they may qualify for the loan they want -- and what to fix if they don't.

Better still, they can get deeply discounted loan-origination fees. Buyers can save half the basis points, or between $1000 and $1500 on an average house purchase (considering that Internet home transactions have higher-than-average loan sizes). HomeShark gets paid only when visitors close loans with lenders that it has wholesale arrangements with.

The home buyer saves on closing costs and mortgage fees; the lender gets loans it might otherwise have missed, albeit at wholesale rates. HomeShark takes a bite of what it saved everyone by educating buyers and streamlining the process.

**Patience pays**

Buying a home takes time, and HomeShark doesn't get paid until the deal closes. But it can afford to be patient. Web time costs it little and giving reliable advice wins it long-term customers. Even after the deal is struck, HomeShark will send e-mail notices when it might be prudent for buyers to refinance, and it notifies them of nearby property sales so they can keep tabs on their property values.

Some big lenders like this formula and have signed on, including BankAmerica, Countrywide, Norwest, Fleet, NorthAmerican, Nationsbanc and Chase Manhattan.

Hoyt founded HomeShark with Jenna Marshall and Jim Stilwell, a friend since first grade, in October 1996. Hoyt is the ceo, Marshall and Stilwell are the vp of marketing and senior software engineer, respectively. Last February they got seed financing of $.6 million from Altos Ventures. The company now has 24 employees.

Hoyt had spent two and a half years in the real estate and financial institutions practices at McKinsey & Company, where he noticed that many of the
things he was advising his banking clients to do were impossible for them to implement quickly. Hoyt had also acted as an independent consultant to some companies about their Internet strategy, including Chicago Title and Excite.

**It's yours!**

One of HomeShark’s key features is the automated loan analysis, which is done using a loan engine based on HNC Software’s neural-network systems. The HNC system is trained on lenders’ underwriting guidelines and evaluates loan applicants in light of them. Today, getting an approval from the HNC system doesn’t guarantee you a loan. HomeShark is working to have lenders accept the ratings directly, but it faces a few obstacles. Some lenders’ loan-analysis systems are not as sophisticated as they ought to be; others’ are considered their company’s crown jewels.

Nevertheless, loan-evaluation systems such as HNC’s have improved considerably over the past decade and can now give clear answers within certain categories 60 to 70 percent of the time. The borderline cases between the clear "approve" and "decline" cases still require human attention.

**Barriers and efficiencies**

It’s expensive to build and maintain educational sites with such sophisticated tools at hand; few people have the experience and skills to do it. Hoyt is counting on those facts to keep other players from storming his playing field.

Like Realtor.com’s Wolff, Hoyt watches industry dynamics carefully. The market can change quickly. If only 10 percent of real-estate transactions go online over the next five years, that total will still be larger than any single player in the market today. It will also cause a significant shift in agencies’ often tenuous profit structures. Hoyt believes that inefficient real-estate agents will be weeded out over time. He envisions that the number of agents will drop by half over the next ten years.

Hoyt hopes that HomeShark and sites such as Realtor.com will help make surviving real-estate agents more efficient and profitable by cutting many of their costs. Agents spend a lot of time and money finding new customers and working with people who really aren’t ready to buy a house. Realtors should prefer to work with better informed buyers who are pre-approved for a loan and know what neighborhood they want and what houses appeal to them, all of which they can do on the Web. Finally, mortgage transactions cause most last-minute hassles. The integration and coordination that is already under way should streamline that process.

Hoyt also sees increasing referrals to, and marketplaces for, vendors in title insurance, escrow, realtors and buyers’ agents. Each group will have to give up some of its margin to participate in the network; each will probably see its costs reduced through better coordination. Much of the savings will probably go back to customers as better deals.

**INDUSTRIAL PARTS**

Of the four markets covered in this issue, the one FastParts is in is by far the smallest and least visible. It’s also the only one that didn’t really
exist before, because the parties involved were letting the parts sit or selling them off to brokers at deep discounts. FastParts has created its market from whole cloth.

FASTPARTS: TRUST WITH ANONYMITY

Open for business since May 1996, the FastParts Trading Exchange is a NASDAQ-like spot market for brand new, factory-sealed semiconductors and other commodity electronics parts. The idea for the company came to Gerry Haller, a longtime entrepreneur, in a saloon somewhere in Mountain View, CA, late on a Friday in 1991.

Haller overheard two Silicon Valley materials managers who worked for different companies. They were lamenting the loss of their just-in-case inventories to Just-in-Time (JIT) manufacturing and the way JIT was messing up their lives. On the one hand, they had surplus parts from canceled jobs, while on the other hand, they were expediting parts that weren’t in the period’s manufacturing plan.

Haller joined the conversation and suggested they should compare their long and short positions and perhaps trade some parts. But the business is too competitive; companies in it don’t trust one another. Sellers continually think, "Will I get paid?" Buyers are always thinking, "That fella’s gonna sell me junk." The managers agreed that whoever figured out how to get the parts traded while mitigating those risks would have a great business.

Anonymity comes in handy

Haller’s answer is FastParts, a trustworthy, efficient, open-outcry electronic marketplace for pre-qualified subscribers. FastParts, based in the Chicago suburb of Elmhurst, IL, creates the market venue and manages payments and shipments, but it doesn’t own or hold any inventory (see quote from FastParts’ FAQ file, page 2).

Here’s how it works (following the demo scenario on FastParts’ Website, which, we should note, is a model of clarity and functional, elegant design). Say a contract assembler needs 20,000 pieces of National Semiconductor part number NDT014, delivered in 48 to 96 hours. The assembler’s materials manager logs in to FastParts, enters the part number (or finds it with FastParts by looking up a phrase or part of the part’s ID) and presses one of two buttons: Click To Buy or Click To Sell.

This takes her directly to the FastParts trading floor, which shows all the "lots" of that specific part available to buy and sell. If she finds a sell lot she wants to bid on, she creates a matching buy lot (again, by clicking a button), which includes the quantity wanted and a bid price, which would be lower than the asked price if the buyer wants to negotiate.

Nibbles over e-mail

Any time the buy and sell lots don’t match exactly, FastParts sends a Nibble Alert over e-mail to all the parties with lots of that part for either purchase or sale, even if they don’t seem to have enough parts to cover the re-
quest. That lets the relevant parties know they might want to get in on the bidding. The next time the materials manager goes to the trading floor, her buy lot will be posted, tagged (in her view) with an asterisk to show it’s hers.

One seller decides to lower his price to a level the buyer finds acceptable. To close the deal, the buyer modifies her lot information to reflect the seller’s new price. Right away, FastParts takes both lots off the trading floor and starts a trade transaction, assigning it to a (human) trading assistant, who validates that both parties can play -- that the seller can ship as specified, and that the buyer has a valid purchase order and can cover the amount. The buyer and seller are subscribers, so FastParts and the subscribers already have all the payment-routing information they need.

Making it safer

The buyer wires funds directly to a special depository holding account at Bank of America that FastParts monitors electronically. When FastParts is sure that good funds are present, it directs the seller to ship the parts to FastParts’ trans-shipping location. FastParts is the consignee for the goods; the seller doesn’t know the shipment’s ultimate recipient.

FastParts takes a picture of the package to put in the shipment’s permanent record. Then it switches labels on the goods and ships them, collect, to the buyer, who has five working days to inspect the goods and complain if there’s a problem. If FastParts doesn’t hear from the buyer, the funds are disbursed from the clearing bank via wire transfer or check.

FastParts charges buyers between 1 and 6 percent of each completed trade; sellers pay between 3 and 8 percent. The more you transact via FastParts, the lower your percentage goes. So far, the average FastParts-hosted deal size is $11-12,000, well above the $3-4,000 that Haller and his colleagues expected. One deal was above $200,000.

This trading process gives the seller a credit-risk-free sale and the buyer time to inspect the goods and halt disbursement, without divulging either party’s identity. In fact, a fascinating side effect is that the market’s anonymity allows bitter rivals to trade parts, which they otherwise might never have done. FastParts helps make the market more efficient and fluid.

Market size

Haller estimates that there are roughly 11-12,000 companies in North America that put components onto printed-circuit boards. Of that number, contract assemblers form an important and relatively concentrated sub-market. There are 600 of them in North America; the top 60 have 80 percent of the contract-assembly business.

Generating trust and acceptance has been Haller’s toughest chore. Recruiting is slow, tedious and tough, he remarks; it takes personal visits and

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4 It doesn’t pay to tell everyone you have a million surplus CPUs lying around because you cancelled a project, so the quantities posted may not reflect the actual inventory held that you want to sell.
personal involvement in the industry. Nobody wants to be first. It’s easy to underestimate the work it takes to cause changes in markets with ingrained business practices. "You have to deal with a community you can get your arms around," says Haller. That's probably one of the major factors that did startup Nets, Inc. in after Jim Manzi came in as ceo: It tried to expand quickly beyond domains it understood relatively well.

To gain credibility and visibility, FastParts offers additional services to the electronics assembly industry, whose principal trade association is the IPC. Among other tasks, Haller helps OEMs find assemblers who meet special project needs. Because assemblers can work for most anyone, they want visibility in the market, rather than complete anonymity.

Escape velocity

The other issue, of course, is having enough players and goods to create and sustain the market. If you need a specific part and nobody’s posted it for sale, you may not come back.

Haller feels FastParts is close to achieving critical mass. He and his team thought it would take 400 to 500 subscribers; they are approaching 400 now and adding a little more than one per day (FastParts treats each company as one subscriber, even if it has multiple locations).

Haller loves the Internet’s global reach. FastParts has members all over the world, including five members in Poland and others in Croatia, Finland, Sweden and Australia. Customs and shipping slow international deals considerably, though, so FastParts is negotiating with freight forwarders to perform its trans-shipping function outside the US.

Because the FastParts market is anonymous, Haller won’t discuss specific member’s identities, with one exception driven by the nature of FastParts’ market: Intel is not yet a member. Clearly, its participation would legitimize the market and drive a lot of traffic. Haller is convinced that over time all of the commodity component makers will join the Exchange, because of the economies it offers them.

From and to

FastParts doesn’t charge a membership fee -- yet. Haller hopes that the company will follow the path of other exchanges, where at first seats are free or inexpensive, and then they gradually appreciate. In fact, in its early stages, FastParts was to be a private trading exchange, unrelated to the Internet. It wasn’t until Draper Fisher Jurvetson, a venture capital company, heard Haller’s pitch in late 1995 and told him to put it on the Internet that he quickly hand-built a convincing Web mockup that got the company its seed funding.

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5 The Institute for Interconnecting and Packaging of Electronic Circuits (sic) sets standards for solderability, packaging, documentation and more. Those standards play an essential role in making electronics assembly work easy to contract out -- another aspect of market-making.

Release 1.0 7 August 1997
Over time, Haller envisions opening other trading "pits" in FastParts for other goods, potentially including servos, fasteners and fractional-horsepower electric motors. If the company approaches them with the same care and intelligence that it used for semiconductors, it should do well.

CAREERS

Even though most people are familiar with the job-hunting drill, the many ways that it is manifest in systems can be confusing. There are jobs wanted and jobs offered, resumes and requisitions, private databases and public ones, and so on. At the simplest level, job seekers post their resumes to resume databases (where they are usually in full public view) or send them to potential employers directly (where they are supposed to be kept confidential). Employers post requisitions for jobs internally and to the public and then field resumes from applicants.

There are many audiences. New graduates looking for their first real job have different needs from workers looking to change companies, temporary workers, senior executives and workers who have been laid off. Hip job seekers also create Websites that act as their portfolios and show off their talents far better than any one-page resume can. Few executives take that path. Yet.

Sprouting like weeds

Job-hunting is such a natural Web application that career-building Websites have sprung up everywhere. Quite a few are large enough to be credible, such as NetStart, which offers job postings. Many others offer both resume and job-posting databases, including CareerMosaic, the Monster Board and the Westech Virtual Job Fair (Westech’s resume database runs on I-Search’s platform). JobTrak offers both, too, but it specializes in students coming out of college. Most of these sites feature employer profiles, resume tips and other useful services. Some offer discussion areas in specific fields, such as healthcare or technology.

The newspaper industry hasn’t been idle. CareerPath makes available the help-wanted listings from 35 US papers, including majors such as the New York Times, the Boston Globe, the Los Angeles Times, the Washington Post, the Miami Herald, the San Jose Mercury News and the Chicago Tribune.

I-SEARCH: NETTING A NEW JOB

Corporations that receive many resumes or have many sites (physical sites, not Web ones) have a tough time managing the hiring process. Managers need files sent across the country, faxes get illegible as they are sent and resent and nobody seems to have a top-level view of the process. They can buy a turnkey resume- and applicant-management system such as those from Resumix or Restrac, but then they still have to take responsibility for scanning and logging all the paper and fax resumes, and so on.

I-Search’s first two offerings, Private Reserve and Private Postings, are designed for exactly this audience. Both are private; think of them as complementary parts of an intranet application with an outside window that lets applicants see selected information. The Reserve is the resume bank; the
Postings database holds job requisitions. Both systems look different from the applicant’s and recruiter’s perspectives.

Although I-Search’s business model is similar to Classifieds2000’s, with one large database serving all the client companies, several things are different. For one, there is little pooling effect yet. The 350,000 resumes in I-Search’s Private Reserve databases are, of course, kept separate. For another, only recently have I-Search’s client companies begun to integrate the system with their own hiring systems and Websites.

In the open

I-Search also hosts public databases such as the Westech Virtual Job Fair. Two semi-public systems are of special note. They are run by Lee Hecht Harrison and Drake Beam Morin, two of the largest US outplacement firms -- downsizing specialists. These I-Search databases have slightly different rules: Only members (outplacement candidates from either company) can post to the database, but anyone can search it.

The resumes on I-Search are getting attention. Visitors to LHH and DBM download them six to 10 times, on average, each month. The company is focused on creating more public databases, particularly in association with affinity groups such as trade associations and schools.

The employment domain has markets within markets. Each company’s private hiring system is a mini-market between managers with positions to fill and internal and external job seekers. The larger public systems have the same structure and perhaps many of the same participants, but they serve different purposes. Then there are neighbor markets, such as project-staffing systems.

Alas, paper

Where I-Search shines is in handling traditional resumes and in making all its information accessible in powerful ways over the Web. The paper-handling function is enough to make you grateful to outsource this application to them. (Companies such as Resumix do this well, too, but their customers normally deal with the equipment on their own premises.)

Internet revolution or not, some 50 to 90 percent of all resumes submitted in the US are still on paper. I-Search can integrate paper, fax and electronic submissions. It scans and stores the paper ones, then runs them through five different OCR (Optical Character Recognition) engines that use voting algorithms to bring error rates from the typical 2 percent to below 1 percent.

Then I-Search applies its DEFT (Data Extraction From Text) technology, which parses fields, extracts and normalizes data and enters it into an Oracle database. This is the heavy lifting that Classifieds2000 and other job-related Websites will probably avoid. John Reese, the company’s president, CEO and founder, used to build state-of-the-art image- and document-processing systems at TRW.

The parsing and extraction technology is important because conventional search tools aren’t strong enough. As resume databases grow, it gets in-
creasingly difficult for recruiters to find the information they want. Reese will continue to focus the company on better pre-processing of resumes. The natural trend toward resumes as Web portfolios will probably influence the direction of that research.

Plenty of features

In their effort to make the system useful (and less expensive than client-server systems), I-Search's designers created sophisticated Web-based search screens that let hiring managers specify multiple criteria, stating whether each is mandatory or merely desirable. When the system returns from a query request with hits from the database, it also presents the query in normal English sentences, so there will be less confusion about what is going on.

Each applicant's information goes into a virtual portfolio, which includes the scanned, recognized and parsed text from her resume, a GIF image of the actual resume and a PDF version of the original for higher quality printing. The virtual resume is salted with internal page links so that key words can take users to the relevant section of the resume. A fourth "page" in the mini portfolio lets each reviewer add notes about the candidate.

I-Search's job posting service, Private Postings, allows authorized staff to create and manage their database of job listings worldwide. This migration toward self-service could transform the relationship between line managers and their human resources departments. It should also help distributed units coordinate their efforts better.

There are bells and whistles for applicants, too. To submit their resumes, they select the requisitions they want to apply for, then enter their user name and password and hit submit. Applicants can even map where their prospective jobs are located and see what their commute would be.

Origins

Before the document-imaging projects at TRW, Reese worked at Citicorp, where he led the development and construction of ATM networks, home-banking systems and the payment systems in self-serve gas stations.

Reese founded I-Search in February 1995. In late 1996, the company got funding from Softbank Ventures and Experian (formerly the credit division of TRW), plus some private investors, notably Simon Ramo (the R in TRW and the Ramo in Bunker Ramo). Softbank and TRW are more than investors. They hope to use some of their direct-mail and credit experience to help I-Search.

AFTERTHOUGHTS

It's a bit early in the Internet commerce race to declare winners or to define difficult criteria such as "critical mass." Nevertheless, it is possible to draw some lessons -- or at least refine some questions -- from the early efforts. Here are a few.

6 GIF is CompuServe's Graphics Interchange Format; PDF is Adobe's Portable Document Format, part of Adobe's Acrobat product.
Lower friction, lower margins?
In Economics 101, perfect information and negligible transaction costs lead to perfect markets. That's what seems to be developing on the Net. Do efforts to create more efficient markets lead to lower margins for all the participants? Is that trend offset by natural growth in the markets? If so, how will lower profitability affect the value chains and business relationships in different markets? Or are we just fooling ourselves about information becoming perfect?

Speed and size
Now that it seems to have a large audience, Classifieds2000's commercial deals are closing. Realtor.com has a huge database that probably can't be replicated if the company puts it on the Web before others do. Are Net markets for the quick and agile? Does scale (e.g., audience size and brand awareness, market size and transaction volume) lock competitors out? If distribution is the bottleneck, does it give the first competent market entrant long-term advantages? Are some markets natural monopolies?

Brands and commodities
Market-makers that make good markets may shift buyers' awareness from the unique attributes of premium brands to the venue where those brands are competed into commodities. In other words, efficient market-makers may commoditize the products sold through them and achieve significant brand awareness of their own. Buyers may care less about having a Compaq computer than they do about having gotten a good deal on it at Classifieds2000. Will brands shift from their existing holders, the product companies, to the services that help buyers make their decisions? Will more products be commoditized?

Boundaries, value and survival
As markets heat up and shift around, players that don't add substantial value or that impose artificial bottlenecks should be squeezed out. Who is really adding value? What new services are being created? What happens to the boundaries between companies? Is it essential to own your customer's profile? Where should that information reside?

Complications
After all those questions, we haven't even touched important second-order issues, such as what recourse buyers have when things that they got in cyberspace break and who pays taxes, where. Courts and legislatures have barely begun to tackle the interstate and international implications of Internet commerce.

Finally, the ease with which communications can be hidden on the Net and the ability for nearly anyone to try to start a market may cause some markets to go underground. However, there's a curious countervailing force: As markets get more efficient, their costs go down, and the cost of avoiding the law gets closer to the cost of complying with it. Long run, black and gray markets may not be economically viable in a loosely regulated, well-enforced, open, fluid cyberspace.
RESOURCES & PHONE NUMBERS

Michael Demetrios, Aleph, (415) 512-1112, fax, (415) 512-1121, michael@aleph.com

Sani and Karim El-Fishawy, Classifieds2000, (408) 748-9696; fax, (408) 748-9939; sani@classifieds2000.com, karim@classifieds2000.com

Gerry Haller, FastParts, (630) 993-5345; fax, (630) 993-5346; ghaller@fastparts.com

Ned Hoyt, HomeShark, (415) 908-6422; fax, (415) 908-6430; ned@homeshark.com

John Reese, I-Search, (310) 641-1600 x206; fax, (310) 641-1676; jreese@isearch.com

Stuart Wolff, Realtor.com, (818) 879-5800; fax, (818) 879-5800; stuart.wolff@realtor.com

All Websites follow the form www.companyname.com, unless otherwise noted.

IPC (components trade association) http://www.cssinfo.com/info/ipc.html

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COMING SOON

- Identity management.
- Online governance.
- Handling the info-flood.
- Market-based security.
- And much more... (If you know of any good examples of the categories listed above, please let us know.)

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Release 1.0 7 August 1997
### Release 1.0 Calendar

#### 1997

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Aug 9-10</td>
<td><strong>Extro 3: Extropy Institute's Third Conference on the Future</strong> - San Jose, CA.</td>
<td>Organized by Extropy Institute. Find out how far our bodies can be extended with technology. Call Tanya Jones, (310) 398-0375; <a href="mailto:more@extropy.org">more@extropy.org</a>; <a href="http://www.extropy.org/extro3.htm">www.extropy.org/extro3.htm</a>.</td>
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<td>Sept 7-11</td>
<td><strong>Fifth European Conference on Computer Supported Cooperative Work (ECSCW '97)</strong> - Lancaster, UK.</td>
<td>Sponsored by Apple, Lucent and Holden Computer Services. From community networks to social agents and learning systems. Call 44 (1524) 593-041; fax 44 (1524) 593-608; <a href="mailto:ecscw97@comp.lancs.ac.uk">ecscw97@comp.lancs.ac.uk</a>; <a href="http://www.comp.lancs.ac.uk/computing/research/cseg/ecscw97/">www.comp.lancs.ac.uk/computing/research/cseg/ecscw97/</a>.</td>
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<td>Sept 8-11</td>
<td><strong>Internet Commerce Expo (ICE)</strong> - Los Angeles, CA.</td>
<td>Organized by IDG. Covering commerce from all sides, with keynote from Sun's Ed Zander and Netscape's Marc Andreessen. Call (800) 667-4423; fax, (508) 370-4325; <a href="http://www.idg.com/ice">www.idg.com/ice</a>.</td>
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<tr>
<td>Sept 8-11</td>
<td><strong>Electronic Commerce World '97</strong> - Philadelphia, PA.</td>
<td>Sponsored by Giga and CommerceOne. Yes, yet another Internet commerce conference. Call (800) 336-4887 or (954) 925-5900; fax, (954) 925-7533; <a href="mailto:ecworld@ix.netcom.com">ecworld@ix.netcom.com</a>; <a href="http://www.ecomworld.com">www.ecomworld.com</a></td>
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<tr>
<td>Sept 8-14</td>
<td><strong>Telecom Interactive '97</strong> - Geneva.</td>
<td>Sponsored by ITU. With Esther Dyson. Call Fernando A. Lagrana, 41 (22) 730 5542 /5179; fax 41 (22) 730 6444; <a href="mailto:fernando.lagrana@itu.int">fernando.lagrana@itu.int</a>; <a href="http://www.itu.ch/TELECOM">www.itu.ch/TELECOM</a>.</td>
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<td>Sept 14-16</td>
<td><strong>The Telecosm Conference</strong> - Palm Springs, CA.</td>
<td>Organized by Forbes Magazine and George Gilder. Invitation only, with Scott McNealy, Marc Andreessen and Carver Mead. Call (212) 205-5521; <a href="mailto:telecosm@forbes.com">telecosm@forbes.com</a>.</td>
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Release 1.0 7 August 1997
Sept 15-17  Online World Conference and Expo - Washington, DC. Sponsored by Online Inc. Call (203) 761-1466 x521; hillaryd@onlineinc.com; www.onlineinc.com/olworld.

Sept 15-17  MPG '97 - San Francisco, CA. Sponsored by Miller Freeman. Immerse yourself in multi-player gaming, with all the industry players present. Call (201) 256-0205; fax (201) 256-0205; info@iqpc.com; www.iqpc.com.

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Sept 24-26 The Educational Technology and Telecommunications Markets Conference (EdNET '97) - Scottsdale, AZ. Organized by the Heller Reports. Call (847) 441-2920; fax, (847) 926-0202; ednet@hellerreports.com; http://hellerreports.com.

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Oct 8-10  Private & Wireless Show - Dallas, TX. Organized by National Satellite Publishing. Find out what everyone that isn't at a major phone or cable TV company is up to. Keynote by Eddy Hartenstein of DirecTV. Call JoAnn Vysocky, (800) 555-0224 or (713) 975-0030 x27; fax, (713) 974-0909; show@nspub.com.

Oct 13-16 Microprocessor Forum '97 (10th anniversary) - San Jose, CA. Sponsored by MicroDesign Resources. Michael Slater and his crew plot the future of chips. Contact Leslie Hunsiker, (800) 527-0288 or (707) 824-4001; fax, (707) 823-0504; lhunsiker@mronline.com; www.mronline.com/mpf.

Oct 24-26 *The Camden Conference on Telecommunications: Reshaping American Communities - Camden, ME. Organized by Bob Metcalfe and John Sculley. With Esther Dyson, George Gilder, Ted Leonsis and Ira Magaziner. Call Tom DeMarco, (800) 673-4855 or (207) 230-6211; fax, (207) 230-6211; info@camcon.org.

Nov 8-14 ACM Multimedia '97 - Seattle. Sponsored by ACM. Make multimedia hum, from interactive documents to virtual realities. E-mail Wayne Citrin, citrin@cs.colorado.edu; www.acm.org/ sigmm/MM97.

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Nov 9-12  Strategic Solutions '97 - Rancho Mirage, CA. Sponsored by CommerceNet and ITAA. Call Corinne Moore, (415) 858-1930 x202; fax, (415) 858-1936; moore@commerce.net; www.commerce.net.


1998


February 4-7  Interactive Newspapers '98 - Seattle, WA. Sponsored by Editor & Publisher. Call Michael Troxler, (212) 675-4380 x285; michaelt@mediainfo.com; www.mediainfo.com.

February 7-11  Milia '98 - Cannes, France. Sponsored by Reed Midem. Content in Cannes. Call Diana Butler, (212) 689-4220; dianab@compuserve.com; www.milia.com.

February 18-20  *CFP '98 (Computers, Freedom and Privacy) - Austin, TX. Hosted by the ACM and the University of Texas. Send inquiries and suggestions for conference content to Mark Lemley, mlemley@mail.law.utexas.edu; www.cfp.org.

March 22-25  **PC (Platforms for Communication) Forum - Tucson, AZ. Sponsored by us. You read the newsletter; now meet the players. Call Forum Director Daphne Kis, (212) 924-8800; fax (212) 924-0240; daphne@edventure.com; www.edventure.com.


July 20-24  INET '98 - Geneva. Sponsored by the Internet Society. Every four years; over 3000 people expected. Call Mark Measday, 41 (22) 345-64-64; fax 41 (22) 345-92-58; measday@josmarian.ch; www.isocgva.ch.

* Events Esther plans to attend.
@ Events Jerry plans to attend.

Lack of a symbol is no indication of lack of merit.
The full, current calendar is available on our Website (www.edventure.com).
Please let us know about other events we should include. -- Robyn Sturm

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