Greater Austin Software Industry Report 1993

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Abstract:

Report benchmarking the demographics, infrastructure, business and technology characteristics of Austin area software development firms in 1993. Includes a timeline of Austin's development as a technology center and a directory of 359 software firms in the region.

Keywords: Austin, Texas; software industry



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Greater Austh Software Industry Report 1993

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Greater Austin Software Industry Report

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August 1993

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The statistical analysis, design and layout for this report was done by Cherie Long on a Macintosh using MS Excel, MS Word, Aldus Freehand, Aldus Pagemaker and Photoshop. The Greater Austin Software Industry Report 1993 benchmarks and identifies significant demographics, infrastructure, business and technology characteristics of Austin area software developers which are considered most likely to contribute to sustaining and expanding software development activities in the Austin area in the coming decade.

Demographics

Austin's emergence as a major technology center began in 1955 (with the founding of Tracor, Inc) and progressed slowly over the next 20 years through company relocations, expansions, and start-ups. From 1975 to 1983 technology-based growth gained momentum - peaking in the mid-1980s with the arrival of MCC and 3M. Beginning in 1985, Austin suffered a severe economic downturn, however by the late 1980s Austin was experiencing steady growth with the expansion of technology-based firms leading the way.

More than 72% of Austin's 359 software firms are clustered within a "software loop" which circles the city and includes eleven zip code zones. The core area encompasses seven zip code zones which contain 215 firms. The greatest concentration of software developers are located in the 78759 zip code zone which is also the location of many of Austin's largest hightechnology employers.

The majority of Austin's software development firms are start-ups and have under five employees. More than 87% have fewer than 100 employees. The 100+ employee firms are the major employers of full-time and contract software professionals. The largest percentage expansion in sales and employment is anticipated by the 1-5 employee and 6-10 employee firms. The majority of programmers in the Austin area have more than ten years' programming experience.

Infrastructure

The important infrastructure factors to Austin's software developers growth are: having a national/international reputation for producing quality, reliable and secure software; a clear vision of Austin's emergence as a national/international software development center; a productive locally-based R&D environment; and UT-trained computer science professionals. Respondents ranked as superior the availability of quality hardware and software professionals and the quality of life, cost of living, cost of doing business and technology research.

Other important infrastructure factors to Austin's emergence as a software development center include a pro-active and networked group of local software professionals, leveraging and networking local software companies and support services, and the growth of locally-based hardware and software firms. The perceived importance of linking to international software standards increased with firm size.

Austin's software development firms were most satisfied with regional labor and personnel; legal and accounting services; training; software services; and hardware technical support. Respondents were less satisfied with regionally-based marketing, management, public relations, international expertise, banking, and venture capital support services.

Austin software developers were most satisfied with UT Austin's educational impact on their company's growth. They were least satisfied with K-12 and vocational/technical education services.

Business Operations

All but the 100+ employee software development firms have used personal savings/income, consultation fees, friends and relatives, and personal and family property as sources of start-up financing. Venture and investment capital were noted by all but 100+ employee firms as not being sufficiently available in the Austin area.

The principal method of marketing for Austin's software developers is direct sales followed by telemarketing, mail, periodicals, and point of sale. For 100+ employee firms the principal method of distribution is company offices and direct distribution. For 1-5, 6-10 and 11-100 employee firms the principal method of software distribution is retail and distributors.

The majority of Austin's software development firms distribute their products in Austin, throughout Texas and the United States. However, a significant number of all firms distribute to foreign countries.

Austin's 1-5 employee firms face the most competition from Austin area developers while 6-10, 11-100, and 100+ employee firms face the most competition from California. The strongest international competition for 100+ firms is from the Pacific Rim, Middle East, Indian Subcontinent and the Far East. 11-100 employee firms listed Canada as a location of significant competition while 1-5 employee firms listed New Zealand, Canada and the Far East.

The major revenue generators for Austin's software developers are prepackaged and custom software applications.

Technical Operations

Desktop systems and workstations provide the largest percentage of current revenue for all sizes of software development firms. Mainframes are expected to decease as revenue generators for all but 11-100 employee sized firms.

DOS is the predominant operating system for all but 11-100 employee firms. By 1995 all but 100+ employee firms expect to be using DOS less and UNIX more.

Desktop systems show the strongest current and future use, The 386/486 architecture is the most popular architecture and is expected to remain strong into 1995. All firms anticipate an increase in the use of the RS/6000, Motorola 680xx and SPARC.

Scientific research and engineering software are the strongest markets now and in 1995 for all sized software development firms.





Computer-based technology is dramatically altering the shape and direction of society and the way people think and act. The rapid increase in and diversity of new technologies is changing the nature of economic competition. How communities, regions, and nations anticipate and respond to this competitive environment will largely determine the health and viability of economies and the quality of life that is sustainable.

IC² Institute

Austin's emergence as a high technology center began in 1955 with the birth of Austin's first home grown Fortune 500 company, TRACOR¹. Over the next fifteen years, high technology growth gradually progressed with the arrival of IBM in 1967, TI, Radian (a TRACOR spin-out) and Continuum in 1969. During the 1970s and 1980s, Austin experienced steady growth in technology-based company relocations, foundings, and expansions including Motorola, National Instruments (an Austin based start-up), AMD, EDS, Schlumberger, Tandem, Fisher Controls, CompuAdd (an Austinbased start-up), Abbott Labs, Westinghouse, Xerox, and Lockheed.

In 1983, the nation's first major for-profit R&D consortium, MCC (the Microelectonics and Computer Technology Consortium) chose Austin as its headquarters after a major and public site selection process among some of the most visible high-tech centers in the United States.² Soon after MCC came to Austin, 3M announced that it would locate a major R&D division in Austin. The area experienced an unprecedented wave of high technology related economic growth due to the perception that it had suddenly become a major technology center. Austin made world-wide headlines as the next "Silicon Valley".

Between 1984 and 1987, Austin experienced an economic downturn revolving around a general economic recession in the state, cutbacks in higher education, anti-growth local government attitudes, and a speculative development cycle. By 1986 the price of oil fell from a high of \$32 in 1980 to below \$10 a barrel in 1986. The plunge in oil prices combined with declining farm and beef prices and changing tax laws and savings and loan foreclosures caused a major economic downturn in Texas. The oil and gas industry lost approximately 150,000 jobs and the Lone Star State was faced with budget deficits. Austin's emergence as a major technology center gained a significant boost in early 1988 when the nation's semiconductor industry, after a national competition, chose Austin as the location for the industry's new research consortium of 13 member companies (SEMATECH). Following SEMATECH's location in Austin came expansions of Motorola and IBM and the relocations and foundings of Pencom Systems, Trilogy, Applied Materials, Tadpole Technologies, Apple Computers and Lotus Development Corporation.



^{&#}x27;The seeds of TRACOR were spun-out of The University of Texas at Austin by Frank McBee and three other faculty who were working on federally-sponsored research at UT's Balcones Research Park. The life cycle of TRACOR came full circle in 1990 when a leverage buyout of TRACOR and subsequent cutbacks in the U.S. defense industry led to a downturn for the company. Many of the spin-outs of TRACOR, however, and the spin-outs of these spin-outs continued to grow and prosper in Austin. However, as of 1992 TRACOR was restructuring and beginning to emerge as a profitable company once again.The case of TRACOR and the companies which have spun-out of this parent company, exemplifies the linkage between the University, federally-funded research, and the development of Austin-based small, medium, and large technology companies (Smilor, Gibson, and Kozmetsky, 1988; Dietrich and Gibson, 1990).

² For more on how Austin was chosen as the site for MCC, see Gibson and Rogers, 1988 and 1994.

Critical Events in Austin's Development as a Technology Center

955	TRACOR founded (Austin's first homegrown Fortune 500 company)
967	IBM establishes Austin division producing IBM selectric typewriters
968	Continuum begins Austin operations
	TI opens Austin division
	Radian (a Tracor spin-off) begins Austin operations
970	Wayne Systems/Dresser Industries begins Austin operations
071	wayne systems biesser mudstnes begins hustin operations
9/1	Xerox opens Austin division
	Westinghouse opens Austin division
972	Arab oil embargo
974	Motorola opens Austin division
	Hart Graphics begins Austin operations
	Eaton Corporation opens Austin division
1976	National Instruments an Austin-based start un instrumentation comments founded
1977	EDS begins Austin operations
1979	AMD opens Austin division
1980	Schlumberger Well Services begins Austin operations
	Oil sells for \$32 barrel
1981	CompuAdd founded (an Austin-based start-up)
	Tandem begins Austin operations
	Fisher Controls begins Austin operations
	Rolm Systems begins Austin Operations
	Dun & Bradstreet begins Austin operations
1983	Microelectronics and Computer Technology Corporation (MCC) selects Austin for headquarters
1984	Start of Texas Recession
	3M opens Austin R&D division
	Crystal Semiconductor founded
	MCI Services opens Austin division
1985	DELL Computers founded
1000	SAS Institute opens Austin division
1988	Semiconductor inductor inductor in the inductor in the inductor in
1000	DELL Computers access will
	TRACOR soes private in leveraged human
1989	Austin Technology Incubator begins operation
1990	Applied Materials opens Austin operations
	Origin Systems opens Austin operations
	DELL Computers becomes a Fortune 500 company
1991	Apple Computer Inc. relocates national customer support center to Auri
	TRACOR declares Chapter 11
1992	AMD announces \$700 million plant expansion in Austin
	Lotus Development Corp. relocates customer service center to Austin
	Trilogy founded
	Apple/IBM/Materials alligner and black in the state of th
1993	IBM PC Software Division relocates to Averia
F	
4	THE GREATER AUSTIN SOFTWARE INDUSTRY REPORT, 1993

Purpose of the Study

In March 1991, the IC² Institute published the Austin Technology-Based Industry Report which benchmarked the region's four major technology industries: (1) semiconductor, electronics, and logic modules; (2) software; (3) bio-technology; and (4) computers and peripherals. The report presented descriptive data that documented the growing number of small, mid-sized and large firms in each industry category. In addition, the report presented an overview of R&D funding at The University of Texas - Austin and survey data from a group of Austin area business and academic leaders who rated software as the most important industry for helping the Austin area grow in the 1990s (see chart below). The report concluded that "the Austin area was becoming a major center for software development, especially UNIX-based software."¹

The Greater Austin Software Industry Report identifies key business issues and technologies which are considered most likely to contribute to sustaining and expanding software development activities in the Austin area in the coming decade. The report describes:

- the public/private infrastructure components of Austin's emergence as a major software center.
- facilitators and inhibitors in the emergence of Austin as a world class software engineering center.
- established and emerging software products and services of Austin based software development firms.
- competitive competencies of Austinbased software development firms in terms of the national and global marketplace.
- the unique capabilities of Austin's software research base and the most promising areas of future software development.

Organization and Methodology

The Greater Austin Software Industry Report is divided int four sections: Demographics, Infrastructure, Business Operations, and Technical components.

Primary data sources for the report are two surveys conducted over a year and a half. Phase 1 questionnaires were mailed in late 1991 and early 1992 to collect baseline data an compile a directory of the total population of Austin area software development firms. 154 surveys were returned of which 125 were from software developers. Based on the information received in Phase 1, a more detailed questionaire was developed and mailed in August 1992. The Phase 2 mailing list was compiled from the Phase 1 survey, companies listed with the Greater Austin Chamber of Commerce, records at the Texas Comptroller's Office, and Dun & Bradstreet. From the response to Phase 2, 29 new companies were added to the Phase 1 data and a total of 80 companies to Phase 2 data. A directory of 359 Austin area software developers was compiled and verified in June 1993. The survey data deals with actual (1992) and projected (1995) information about Austin's software industry. For the purpose of this study, software developers are defined as companies whose core activities are software development as well as companies who develop software for their hardware components.

The survey data is presented in graphic and tabular form. Percentages and mean scores are grouped by company size: 1-5 employees, 6-10 employees, 11-100 employees and 100+ employees. The data represented are based on 3 sample sizes: the 359 firms listed in the directory, 173 responses to Phase I survey (48% response rate), and Phase II's 80 survey responses, (22%).

¹ Austin Technology-Based Industry Report, D. Gibson, R. Smilor and G. Kozmetsky, IC² Institute, The University of Texas at Austin, 1991.



The Importance of Eighteen Technology-based Industries in Helping Austin's Economy Grow in the 1990s



T . 0.4	# Firms*	Zip Code	# Firms*	Zip Code	# Firms*
Zip Code	3	78730	11	78749	3
78701	15	78731	35	78750	22
78701	15	78732	2	78752	7
78702	11	78733	4	78753	4
78704	17	78734	5	78754	2
78705	7	78735	2	78755	2
78714	2	78736	3	78758	12
78716	5	78737	2	78759	59
78720	10	78739	3	78761	4
78722	2	78741	2	78763	2
78723	4	78744	3	78765	3
78727	7	78745	18	78767	3
78728	6	78746	49	78768	1
78729	6	78748	5	78786	1

The geographic location of Austin's software development firms was established using the zip code addresses of the software development firms listed in the Appendix at the end of this report. Over 72% of Austin area software development firms are clustered in the 11 zip code areas illustrated below. Fifty-nine software development firms are located in area 78759. The area with the next highest distribution of software development firms is 78746 with 49 software development firms located in this zone.

*Data is based on the firms listed in the Appendix

AUSTIN'S SOFTWARE LOOP









	Number of Firms	% of Total	Cumulative %
Type of Firm		72.35%	72.35%
Startup	125	8.82%	81.18%
Relocation	15	4.12%	85.29%
Spin-Off	/	9.41%	94.71%
Diversification/Expansion	16	5 20%	100.00%
Other	9	5.29%	
Total	170	100.0078	

Based on a sample of 170 software development firms, the majority of firms surveyed are start-ups (72.35%) followed by diversifications/ expansions (9.41%), relocations (8.82%), other (5.29%) and spin-offs (4.12%).

Over 87% of the software firms surveyed have 100 or less employees and more than 50% of the firms are composed of 5 or less employees. 54% of 1-5 employee firms have 4 to 5 employees.

Austin Area Software Companies

Size Firm	No of Firms	Percent of sample	Cumulative Percent
1-5 Employees	41	51.25%	51.25%
6-10 Employees	12	15.00%	66.25%
11-100 Employees	17	21.25%	87.50%
100+ Employees	10	12.50%	100%
			n

Year Founded	No of Firms	Percent of Total	Cumulative Percent
1966-1970	4	2.3%	2.3%
1971-75	3	1.7%	4.0%
1976-1980	22	12.7%	16.7%
1981-1985	46	26.6%	43.3%
1986-1990	85	49.1%	92.4%
*1991	13	7.6%	100%

Foundings of Austin's software development firms (based on a sample of 173 firms) has been steadily increasing since 1966.

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Yearly Foundings By Firm's Origin 1966-1991 Based on Sample of 170 Austin Area Software Firms



As the above chart illustrates, the emergence of Austin as a major center for software development began to build steadily starting in 1975 with the number of software startups and a steady increase in diversifications/expansion, relocations and spin-offs continuing to present day.

Based on the sample of 170 firms, from 1980 to 1989, 86 of the start-up firms were founded. From 1980 to 1991, 14 diversifications/expansion firms relocated to Austin. The majority of expansions, 11 firms came to Austin between 1985 to 1991. From 1985 to 1991, 12 firms relocated to Austin.

During 1990 and 1991, 10 Start-Ups; 4 Expansions/ Diversifications; and 3 firms have relocated to the Austin Area.



Annual Growth of Austin's Software Firms 1965-1991

Based on Sample of 173



An overview of software firms relocations, expansions and founding in the Austin area reveals that the majority occurred in the 1980s. Of the 173 firms, 147 (85%) were founded in the 1980s, 111 firms (64%) were founded since 1985.

Austin Area Software Firms Employment

Size Firm	No of Firms	Total Austin Based Employees	Full Time Software Professionals	Contract Software Professionals	Total Software Professionals
1-5 Employees	41	135	61	30	
6-10 Employees	12	93		30	91
11 100 5 1	-	15	45	12	57
11-100 Employees	17	623	372	20	
100+ Employees	10	25040*	572	28	400
Projees	10	23709"	1640	490	2130

Based on 80 Austin area software development firms

*number based on survey data plus additional sources

The sample of 41/1-5 employee software firms employ 135 employees in the Austin area, of which 61 are full time software professionals and 30 are contract software professionals.

The sample of 12 firms with 6-10 employees employ 93 employees. 45 are full time software professionals and 12 are contract software professionals.

The sample of 17 Austin area software firms with 11-100 employees 623 employees. There are 372 full time software professionals and 28 contract software professionals. Firms with 100+ employees employ 25,969 employees (this number is based on survey data plus additional employment figures provided by The Austin American Statesman and the companies themselves). 1640 are full-time software professionals and 490 are contract software professionals.

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The majority of the programmers employed have more than 10 years programming experience. The exception to this is in the 6-10 employee sized firms in which the majority of programmers in this category (49%) have 2-5 years programming work experience in contrast to the 31.58% with more than 10 years. In 100+ firms, 30.70% of programmers have 6-10 years experience and 29.29% have more than 10 years experience.

Work Experience of Programmers								
Size Firm	<2 Years	2-5 Years	6-10 Years	>10 Years				
1-5 Employees	5	18	19	35				
6-10 Employees	5	28	8	18				
11-100 Employees	27	99	91	125				
100+ Employees	187	259	654	624				
Total	224	404	772	802				

Employment Growth By Size of Firm 1993-1995								
1-5 Employees	57	35	29					
6-10 Employees	35	34	35					
11-100 Employees	108	167	191					
100+ Employees	2466	2401	2142					

The largest expansion in employment (42.28%) is anticipated by the 1-5 employee software development firms.

Firms with 6-10 employees also expect over 36% annual employment expansion between 1993 and 1995.

11-100 employee firms expect employment growth to be slower in 1993 (17.35%), 1994 (26.76%), and in 1995 (30.70%).

100+ employee firms predict 20% employment growth for 1993-1995. However, in terms of actual number of employees hired, it is the largest firms that will provide the greatest employment opportunities.

The greatest percentage sales growth (65.99%) is anticipated in 1993 by 1-5 employee firms which corresponds to expected employment growth.

In 1994, 46.47% sales growth is anticipated by 11-100 employee firms.

In 1995, the greatest growth (45.95%) is anticipated by 1-5 employee firms.

All but the 100+ firms expect 40% or greater growth in all three years. However, the 100+ firms expect annual growth of approximately 30% for the next three years.

T

% Sales Growth by Size of Firm							
Size Firm	1993	1994	1995				
1.5 Employees	65.99%	44.27%	45.95%				
c 10 Employees	40.42%	39.58%	44.17%				
1.100 Employees	38.24%	46.47%	41.76%				
100+ Employees	28.70%	29.50%	32.00%				

Once again, in terms of actual sales growth, it is the largest firms that have the greatest overall impact on the Austin economy.



The challenge of technological innovation in the new globally competitive era can be stated as follows: How can each organization, region, and nation, individually and in concert with others, manage technology creatively and innovatively to reap the benefits of sustained economic growth? Those organizations and regions most able to accomplish this objective will play key roles in resolving the paradox of global competion and cooperation.

> George Kozmetsky, Director IC² Institute

Technology commercialization in the coming decades will be realized by meeting the challenges presented by a hypercompetitive global marketplace in the post cold war era. To prepare for the twenty-first century, the nation and its communities as well as federal agencies and corporations will have to implement innovative technology transfer strategies in order to remain globally competitive and to maintain an affordable high quality of life, to maintain a high standard of living, to create high value jobs, and to address the considerable economic challenges facing the United States.

America's strength has always been grounded in the nation's ability to be scientifically creative, technologically adept, managerially innovative, and entrepreneurially daring. An important factor in fostering and sustaining regionally-based technology growth is a coordinated effort by public and private sector entities to foster technology-based development. Austin has positioned itself to meet these challenges.¹

Austin is one of the country's "hot regions" for new economic growth based on high technology and emerging technologies. According to U.S. Census Bureau figures, Austin was the 8th fastest growing metro area in the United States over the past decade. The boom has been attributed to the alliance among state and local government, businesses and The University of Texas. According to *Fortune*, almost two thirds of Austin's output is high tech related. Austin's jobless rate is 4.5% - approximately 55,000 jobs are provided by Austin's 450 technology based companies.² Area software recruiters rank it in the top 95th percentile in the nation for UNIX development capability.³ In addition, Austin is home to two of the largest entrepreneurial computer companies Dell and CompuAdd as well as several major companies alliances such as: the Apple-IBM-Motorola alliance, and IBM's Entry System Division which makes IBM clone for other companies.



¹ Kozmetsky, George; Gibson, David V; and Kilcrease, Laura. NASA (Field Center Based) Technology Commericalization Centers, IC² Institute, The University of Texas - Austin, 1993.

² Fortune Magazine, November 2, 1992

³McDow, Tony. "UNIX, Open Systems and the Austin Technopolis: Prelimary Study of the Austin UNIX-based Software Industry".

Austin's Software Industry Infrastructure

A stable work force of people willing to work hard, is one of the advantages we have versus Silicon Valley. Our work force is much more stable, where they run up and down in the Valley out there, with a drop of the hat almost. It just took us a little longer than Silicon Valley to start getting the spinoffs. Texas Instruments



TECHNOLOGY

When asked to rate the importance of Austin's software industry infrastructure factors to their company's growth, the clear vision of Austin's emergence as a national/international software development center and Austin's national/international reputation for producing high quality, reliable and secure software were rated as most important to business' growth by all groups. Also rated as important by all groups was a pro-active and networked group of local software professionals and the leveraging and networking of local software companies and support services. The rapid growth of Austin's hardware and software firms was also considered important. The importance of linking to international software standards increased with the size of the firm.



RESEARCH & EDUCATION

All groups rated a productive locally-based R&D environment as important to their firm's growth. All except the 1-5 firms rated the quality of education for computer science professionals at UT as important to their firm's growth.

BUSINESS

Austin's central location, the availability of start-up capital and improved local business zoning codes received the lowest rating by all groups as being important to their firm's growth.



Importance of Austin's Institutions/Organizations to the Growth of Austin's Software Development Firms



"SEMATECH has proven to be an important investment for the industry and the nation. It has helped improve semiconductor manufacturing technology...and improved communications betweeen users and suppliers. MCC is developing an information infrastructure, which will enable businesses to develop, manufacture, deliver and support products and services with superior speed, flexibility and quality"



In terms of their firm's growth, software developers were asked to rank the importance of existing large, mid-sized, and small computer companies, state government, UT-Austin, and the highly visible organizations - SEMATECH and MCC.

None of the categories received a rating of 6 or 7 (most important). UT/Austin was the only category to receive a rating greater than 3 by all four groups.

1-5 employee firms rate large, mid sized computer companies, small computer companies, and UT/ Austin as being most important to the growth of their company.

6-10 employee firms report the most dependence on Austin's institutions and organizations. These firms gave the most favorable ratings to large computer companies, UT/Austin, state government and MCC. 11-100 firms considered UT-Austin and large and midsized computer companies as being most important to their firm's growth

100+ employee firms are the least dependent on Austin's institutions and organizations, however they did rate UT/Austin as most important to the growth of their organizations.

When asked what their top sources were for recruiting software, sales and marketing professionals, UT/Austin was mentioned as a strong source of recruitment by all sized firms.

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The Greater Austin Software Industry Report, 1993

BUSINESS PROFESSIONAL RESOURCES



SUPPORT SERVICES

Respondents were asked to rate their satisfaction with specific support services as they related to their company's growth.

While none of Austin's support services received unanimous praise, Austin's labor and personnel, hardware technical support and software services received favorable satisfaction scores by all but the 11-100 group.

PROFESSIONAL SERVICES

Austin's legal and accounting services were rated as most satisfactory by all groups. As expected, venture capital received the lowest ratings followed by low satisfaction ratings for Austin's banking services which corresponds to results from start-up financing.





BUSINESS SERVICES

Austin's software developers are least satisifed with the area's marketing, management, public relations, business and international expertise. 100+ firms rating international expertise as satisfactory is attributed to their in-house expertise.



EDUCATIONAL INFRASTRUCTURE

"The university is a massive asset. If you look at the people in the company, the people right out of school are sort of an infrastructure of critical mass for companies." Michael Dell

7.00 11-100 Employees ■ 100+ Employees Most Satisfied 6-10 Employees 1-5 Employees 6.00 5.00 4.00 Least Satisfied 3.00 2.00 1.00 0.00 K-12 UT/Austin Local **Continuing Education** (Not UT)

Respondents were asked to rate their satisfaction with Austin's educational infrastructure as it related to their company's growth. K-12 and local vocational/technical received the lowest satisaction scores. The category to receive the highest rating of satisfaction was The University of Texas at Austin. On the other hand, the majority of respondents expressed dissatisfaction with the university's lack of accessible courses for the area's business professionals. When asked what they would change about Austin, every group mentioned the availability of continuing education at UT. Strongly emphasized was the need for an evening school division at UT. "Current practices make it nearly impossible to teach/attend".



COMMUNITY INFRASTRUCTURE

Austin does have a unique atmosphere, slower in day-to-day pace than other high-tech centers, but increasingly savvy, open to change and capable of responding rapidly to challenges.

Washington Post 1992



QUALITY OF LIFE IN AUSTIN

I

This section received the most favorable ratings of all the categories. All of the categories in this section received a rating of acceptable or better.

Austin's quality of life received the highest ratings by respondents as did the availability of a quality work force, reasonable cost of living and the cost of doing business in Austin.





POLITICAL VISION

11-100 Employees

Political vision and support at the national, state and local level received a modest score as did the business attitude of the city council.

100+ Empl

Access to quality software professionals received acceptable ratings from respondents and access to hardware professionals and technology research. However, access to the University of Texas course offerings received ratings of unacceptable by all groups except the 6-10 group. Executive Education offerings were also rated as unacceptable by all but 1-5 firms.

T.



G-10 Employees

1.5 Employees

Sources of Startup Financing									
	1-5	6-10	11-100	100+	National Financing Sources	1-5	6-10	11-100	100.
Local Financing Sources	66.03%	27.14%	16.15%	-	Government Contracts	2	12.86%	5.38%	20.00
Personal Savings/Income	9.31%	10.00%	12.69%	-	Banks	-	*	6.15%	2.5%
Consultation rees	2.07%	15.71%	7.69%	-	Parent Firm	-			50.009
Romonings Personal/Family Property	6.72%	-	4.23%	10	Venture Capital		-	-	9.23%
Parent Firm	۰.	-	4.62%	-	Consultation Fees	-	7.86%		-
Banks		-	10.15%	-					
Venture Capital		02	7.69%	-					

According to the U.S. Census Bureau's 1987 survey of business owners, more than half of all small businesses are started with less than \$5,000.00.

While sources of start-up financing varied widely for Austin's software development firms there was a definite pattern to the type of financing based on the size of the firm. All but 100+ firms had some type of local start-up financing. The majority of financing came from personal savings/income 66.03% in 1-5 firms, 27.14% in 6-10 firms and 16.15% in 11-100 firms.

For 6-10 firms, the second most common source of start-up financing came from friends (15.71%). 11-100 and 1-5 firms relied on consultation fees to provide sources of financing. Additionally, 11-100 firms were the only group to list banks and venture capital as a source of local financing with 10.15% of their funding coming from local banks and 7.69% from venture capital.

100+ firms had no source of local financing, 1-5 firms had no national source of start-up financing. 100+ firms had the most sources of national financing, with 50.00% of their financing coming from parent firms. Government contracts were also listed as a significant sources of financing: 20.00% for 100+ firms, 12.86% for 6-10, and 5.38% for 11-100 firms.

When respondents were asked to specify the one thing they would change about Austin's business climate to facilitate their business' growth, all groups of firms mentioned financing and access to capital particularlythe willingness of Austin's banking institutions to lend capital.

When respondents were asked what services/products they considered most important to their company's growth and which were not readily available in Austin, all groups mentioned banks willingness to lend to businesses. All but the 100+ groups also mentioned venture capital and investment capital as services which were not sufficiently available in the Austin area.

PRINCIPAL METHOD OF SALE



The principal method of sale for Austin's software developers is direct sales. Telemarketing and periodicals are also a preferred method of sale for Austin's smaller software developers. In addition to direct sales, 1-5 employee firms also use mail (24%) and other methods (24%) to distribute their software.



For Austin's 1-5 and 6-10 employee software developers, the primary methods of distribution are direct mail (39%) and (50%) followed by retail (32%) and (17%). 11-100 firms primary methods of distribution are distributors (11.76), direct (11.76%) and company offices (17.65%). The primary method of distribution for 100+ employee firms is company offices (70.00%).

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SOFTWARE DISTRIBUTION TERRITORY

	1-5	6-10	11-100	100+
DISTRIBUTION	Employees	Employees	Employees	Employees
TERRITORY	Employ	CE 67%	70.59%	70.00%
Austin	70.00%	00.01 /0		
Other Toyas	70.00%	66.67%	64.71%	70.00%
Uther Texas	co 20%	66.67%	88.24%	60.00%
Other USA	08.25/0			
Canada	29.27%	41.67%	52.94%	60.00%
Canada Far Fast	9.76%	16.67%	47.06%	50.00%
rar casi Niddlo Fast	14.63%	0.00%	41.18%	50.00%
Milulie Last	14.63%	16.67%	41.18%	50.00%
South America	12.20%	8.33%	17.96%	20.00%
Central America	17.07%	16.67%	35.29%	40.00%
Mexico	4 88%	0.00%	11.76%	20.00%
Africa	19.51%	25.00%	43.75%	30.00%
Australia Non Zooland	9.76%	8.33%	25.00%	10.00%
New Zealand	9.76%	16.67%	37.50%	50.00%
Pacific Kim	9.75%	8.30%	31.25%	50.00%
England	9.75%	8.30%	25.00%	50.00%
Germany	7 31%	0.00%	18.75%	30.00%
France	2 40%	0.00%	6.25%	0.00%
Samitzarland	2.40%	0.00%	0.00%	20.00%
Soutzenand	4.87%	0.00%	6.25%	10.00%
Rolaium	2.40%	0.00%	6.25%	10.00%
Poland	0.00%	0.00%	6.25%	0.00%
Hungary	0.00%	0.00%	6.25%	0.00%
Austria	0.00%	0.00%	6.25%	0.00%
Netherlands	2.44%	0.00%	0.00%	20.00%
n=80	*italics represent wri	tten in responses		

The majority of Austin's software development firms distribute their product in the United States. From 60% (100+ firms) to 88.24% (11-100 firms) of Austin's firms distribute in the United States. 65-70% of all software is distributed in Austin and/or Texas.

In addition to national sales locations, respondents were asked to specify their world-wide sales locations. In the table above, areas in italics represent written-in responses. A large portion of the 100+ firms and 11-100 firms distribute to foreign countries. Suprisingly, a significant number of the smaller firms, while not as large a percentage as the larger firms, also distribute world-wide.

All groups distribute to the following foreign locations: Canada, South America, Mexico, the Far East, Australia and the Pacific Rim. 60% of 100+ firms distribute to Canada, 50% to the Far East, Middle East, Pacific Rim, England and Germany. 40% distribute to Mexico and 30% distribute to Australia and France.

52.94% of 11-100 firms distribute to Canada, 47.06% to the Far East, 43.75% to Australia, 41.18% to the Middle East and South America, 37.50% to the Pacific Rim and 35.29% to Mexico.

41.67% of 6-10 firms distribute to Canada, 25% to Australia, and 16.67% to the Far East, Mexico, and the Pacific Rim.

29.27% of 1-5 firms distribute to Canada, 19.51% to Australia, 17.07% to Mexico, 14.63% to the Middle East and South America, 12.20% to Central America and 9.76% to New Zealand, the Pacific Rim, England, and Germany.



LOCATION OF SIGNIFICANT COMPETITION





Austin's smallest software developers (1-5 employee firms) face the most significant competition from the Austin area, while 6-10, 11-100, and 100+ firms face the most competition from California. Other Texas cities were also seen as the location of significant competition for Austin's software developers. Boston, MA was considered an area of significant competition for Austin's largest firms.

Respondents were asked to write in additional areas from which they faced significant national competition. The response varied widely by group, however, all groups consider New York as an area of significant competition. All but 6-10 firms listed Colorado as an area of significant competition. Alabama and Atlanta were listed by 6-10 and 11-100 firms, Washington, DC was listed by 1-5 and 11-100 firms and North Carolina was listed by 11-100 and 100+ firms as an area of significant national competition.

International Competition

Respondents were also asked to indicate where their most significant international competition was located. 100+ firms listed 4 areas as providing the most significant international competition: the Pacific Rim, Middle East, Indian Subcontinent, and Far East each receiving a 10% response rate. Canada (12.5%) was listed as the location of international competition for 11-100 firms. 6-10 firms listed Europe with a 6.67% response rate. 1-5 firms listed 3 areas as significant locations of international competition : New Zealand (8.33%), Canada (5.0%) and the Far East (2.5%).



PERCENT REVENUE FROM SERVICES/PRODUCTS	1-5 Employees Current 1995		6-10 Employees Current 1995		11-100 Employees Current 1995		100+ Employee	
Prepackaged Software Applications	32.10%	41.59%	23.83%	30.83%	41.76%	27.65%	22.60%	1995
Custom Software Applications	24.05%	21.10%	39.58%	32.92%	33.24%	17.65%	13.80%	16.60%
Retail/Marketing	0.73%	1.83%	5.00%	6.25%	7.06%	7.65%	0.00%	10.00%
Software Integration Services	2.07%	2.20%	4.25%	5.00%	15.88%	12.94%	8.00%	0.00%
Subcontract Programming Services	2.71%	3.24%	5.00%	2.92%	7.94%	6.18%	14.00%	10 00%
Consultation Services	14.85%	10.73%	8.83%	8.33%	7.12%	11.76%	2.00%	2.00%
Training/Education Services	6.22%	5.02%	1.75%	3.33%	4.47%	8.53%	1.50%	3.500%
Data Processing Services	2.78%	4.27%	5.50%	6.25%	2.35%	0.06%	2.70%	4 500
Reselling	6.76%	6.20%	6.67%	7.08%	2.65%	3.24%	4.10%	3.60%
Outside R&D Services	3.90%	1.71%	0.00%	0.00%	11.41%	9.41%	8.50%	6.500%
Other n=80	10.61%	10.73%	9.17%	9.58%	0.88%	1.18%	10.00%	9.00%

Respondents were asked to indicate the percentage of their present and estimated future (1995) revenue from software services/products. Revenue from prepackaged and custom software applications account for the majority of revenue generated for all sized firms. Revenue from prepackaged software is predicted to increase for 1-5 firms (10%) and 6-10 firms (7%), but decrease for 11-100 firms by 13% and 100+ firms by 6%. Percent revenue from custom software applications is predicted to decrease by 3% for 1-5 firms, 8% for 6-10 firms, 16% for 11-100 firms and 4% for 100+ firms. Other services/products areas were either constant or have modest increases or decrease from 1992 to 1995 in terms of revenue generation.



As a result of the high demand for smaller more powerful computers, the Computer and Business Equipment Manufacturers Association (CBEMA) predicts that software will remain the high-margin growth area, with two digit sales increase through 1996.

In these recessionary times, businesses have been hesitant and reluctant to spend on new equipment - except on computers. Dataquest estimated worldwide computer sales of all kinds totaled \$104.5 billion in 1992. ¹

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The Stanford C. Bernsetein brokerage firm estimate that by 1996 the number of PCs in American homes will grow by over 25% to 15 million. PCs have become a commodity. While the cost of computers continues to decline, not all consumers are pocketing the savings; many are buying bigger, better and more expensive machines. Dell Computer reported that revenue per order was up 10% after the company reduced its PC prices in June 1992.

Domestic computer shipments are expected to jump 14.5% in 1993, vs 8.3% in 1992. However dollar sales will rise only 8% on top of 0.9% in 1992. U.S. sales of portables are predicted to increase over 50% in 1993. Workstation sales are expected to increase 1,000% by 1996. Mainframes sales accounted for 21.6 percent of computer sales in 1992, compared to 24.9 percent in 1991. The Computer and Business Equipment Manufacturers Association (CBEMA) estimates sales growth of mainframes and minis will creep along at 2% a year for the next decade. Buyers are shifting to less expensive desktop workstations. "It is expected that the shift in buyer preference away from mainframes will continue to erode the mainframe's share of the total worldwide computer systems market" according to Dataquest.² The outlook for midrange systems - those costing \$5000,000 to \$1 million, such as IBM's AS/400 and DEC's VAX series - isn't much better. IDC expects sales to increase only 2%. The trend appears to be towards the cheaper more powerful PCs and away from large expensive systems.

¹Dataquest, 1992 ² Ibid



Desktop/Workstations have the most developer support by all groups. This platform is expected to continue to be the platform of choice into 1995. Following the national trend, mainframes are predicted to continue to decrease as revenue generators, except for 11-100 employee sized firms.



OPERATING SYSTEM CURRENTLY USING

As of 1992, DOS was the predominate operating system for all but the 11-100 group where UNIX was the predominate operating system.

By 1995 all but the 100+ firms expect to be using DOS less and UNIX more. Use of Windows and the Mac OS were predicted to increase for all sized firms.



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As of 1992, none of the firms were doing any services or products for palmtops or pen computers.

However, all groups expect to be doing creating some services and/or products for this platform by 1995.



The shift toward UNIX follows the national trend as reported by Forrester Research Inc of Cambridge, Mass. which has tracked the downsizing in the computer industry. The firm says 80 percent of the Fortune 1000 corporations it interviewed are seriously looking to move away from a dependence on mainframe computers. The shift toward downsizing for many companies involves a shift towards UNIX. According to Dataquest, projected sales of UNIXbased computers will top \$44 billion in 1996 compared with \$18 billion in 1991.

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COMPUTER ARCHITECTURE CURRENTLY USING

Desktop systems show the strongest current and future alligence by all firms. The 386/486 is the dominate architecture and it is expected to remain strong into 1995. All groups, also anticipate an increase in the use of Motorola's 680xx architecture.

In line with national market predictions, workstation architectures are expected to increase significantly. 6-10 firms expect a substantial increase in minicomputers by 1995. The RS/6000 has a strong current base with 11-100 firms and is expected to have a stronger showing in all sized firms by 1995, especially 1-5 sized firms.



COMPUTER ARCHITECTURE PLAN TO USE BY 1995

As of 1992, large computer systems have a strong advocate in 100+firms. All groups expect to increase their use of DEC's Alpha architecture by 1995 which is accompanied by an anticipated decrease by all but the 11-100 group in their use of DEC's VAX architecture.



SOFTWARE MARKETS: PERCENTAGE FIRMS CURRENTLY TARGETING/PLAN TO TARGET BY 1995

Software Markets	1-5	Employees		6-10	Employees		11-100	Employees		100+	Email	
% Change from 1992-1995	Currently Targeting	Target By 1995	% Change	Currently Targeting	Target By 1995	% Change	Currently Targeting	Target By 1995	% Change	Currently Targeting	Target By	% Change
Federal Government	17.00%	24.00%	41.18%	25.00%	16.67%	-33.32%	35.29%	47.06%	33.35%	40.00%	40.000/	
State Government	24.00%	24.00%	0.00%	25.00%	16.67%	-33.32%	35.29%	29.41%	-16.66%	40.00%	50.00%	0.00%
Local Government	10.00%	15.00%	50.00%	8.33%	0.00%	-100.00%	29.41%	29.41%	0.00%	20.00%	20.00%	25.00% 0.00%
Marketing	12.00%	12.00%	0.00%	25.00%	25.00%	0.00%	11.76%	11.76%	0.00%	0.00%	0.00%	
Manufacturing	37.00%	34.00%	-8.11%	25.00%	25.00%	0.00%	35.29%	47.06%	33.35%	40.00%	40.00%	0.00%
Finance/Accounting	27.00%	17.00%	-37.04%	25.00%	25.00%	0.00%	35.29%	17.65%	-49.99%	20.00%	20.00%	0.00%
Desktop Publishing	12.00%	15.00%	25.00%	8.33%	8.33%	0.00%	5.88%	5.88%	0.00%	0.00%	0.00%	0.00%
Legal	15.00%	17.00%	13.33%	16.67%	16.67%	0.00%	5.88%	17.65%	200.17%	0.00%	0.00%	0.00%
Oil/Gas/Chemical	20.00%	29.00%	45.00%	16.67%	8.33%	-50.03%	23.53%	29.41%	24.99%	30.00%	30.00%	0.000
Utilities	10.00%	10.00%	0.00%	16.67%	8.33%	-50.03%	29.41%	23.53%	-19.99%	10.00%	20.00%	100 00%
Medical/Health Services	29.00%	24.00%	-17.24%	33.33%	25.00%	-24.99%	11.76%	23.53%	100.09%	10.00%	20.00%	100.00%
Insurance	22.00%	20.00%	-9.09%	8.33%	8.33%	0.00%	29.41%	11.76%	-60.01%	20.00%	10.00%	-50.00%
Scientific Research	20.00%	22.00%	10.00%	41.67%	25.00%	-40.00%	17.65%	29.41%	66.63%	40.00%	30.00%	.75 0.04
Engineering	32.00%	29.00%	-9.38%	25.00%	33.33%	33.32%	41.18%	47.06%	14.28%	40.00%	30.00%	-25.00%
Academic/Education	20.00%	20.00%	0.00%	16.67%	25.00%	49.97%	17.65%	29.41%	66.63%	10.00%	20.00%	100.005
Training	17.00%	7.00%	-58.82%	16.67%	25.00%	49.97%	23.53%	29.41%	24.99%	20.00%	10.00%	-50.00%
Entertainment	5.00%	10.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other	39.00%	29.00%	-25.64%	0.00%	8.33%	#DIV/0!	11.76%	0.00%	-100.00%	10.00%	0.00%	-100.00

Respondents were asked to indicated which software markets they were currently targeting and which markets they plan to target by 1995.

Government Market

The only group with plans to increase participation by 1995 in the state government market was the 100+ firms (25%). 6-10 and 11-100 firms plan to decease participation in the state governemtn software market. Increased participation in federal government is planned by 1-5 firms (41%) and 11-100 firms (33.35%), 6-10 firms plan to decease (33%) by 1995. 1-5 firms plan to increase participation in local government software markets while 6-10 firms plan to decrease participation. No change is anticpated by 11-100 and 100+ firms.

Business

1-5 firms anticipate a decrease in manufacturing and finance/accounting software markets, an increase in desktop publishing and legal software markets and no change in the marketing software market by 1995. 6-10 firms anticipate no significant change in business software markets by 1995. 11-100 firms anticipate an increase in manufacturing and legal markets, a 50% decrease in finance/accounting and no change in marketing and desktop publishing software markets by 1995. 100+ firms anticipate no significant change in business software markets by 1995.

1-5 firms were the only group to anticipate an increase in the desktop publishing software markets by 1995, all others anticipate no change. All groups expect no change in the marketing software market by 1995.

Utilities

1-5 firms expect to increase participation in the oil/gas/chemical software markets, no change in utilities software and a decrease in medical/health services and insurance software markets by 1995. 6-10 firms anticipate decreases in all but insurance software markets where they anticipate no change by 1995. 11-100 firms anticipate increases in oil/gas/chemical and medical/health services and a decrease in utilities and insurance software markets by 1995. 100+ firms were the only group to anticipate an increase in the utilities software markets, they also anticipate an increase in medical/health services, a decrease in insurance and no change in oil/gas chemical software markets by 1995.

100+ firms were the only group to anticipate an increase in the utilities software market by 1995. All groups anticipate that the insurance software market will decrease or remain constant (6-10 employees) by 1995.

Scientific

1-5 firms plan to increase their participation in scientific research and decrease in engineering by 1995. 6-10 firms anticipate a decrease in scientific research and an increase in engineering markets. 11-100 firms anticipate increase in both markets. 100+ firms anticipate a decrease in both markets by 1995.

Education/Entertainment

All but 1-5 firms anticipate an increase in the academic/education markets by 1995. Only 1-5 firms anticipate an increase in the entertainment market all others anticipate no change by 1995. 1-5 firms and 100+ firms anticipate a decrease and 6-10 and 11-100 firms anticipate an increase by 1995 in the training software markets.



PRODUCT APPLICATIONS: HAVE DEVELOPED/UNDER DEVELOPMENT

aut Applications	1-5 Have	Employees Under Development	% Change	6-10 Have Developed	Employees Under Development	% Change	11-100 Have Developed	Employees Under Development	% Change	100+ Have	Employees Under	% Change
ue.	Developed	10.00%	42.86%	8.33%	0.00%	-100.00%	5.88%	5.88%	0.00%	Developed	Development	vi onange
laf	7.00%	24.00%	-29.41%	33.30%	16.67%	-49.94%	19.65%	17.65%	-10 18%	10.00%	0.00%	0.00%
Processing	34.00%	20.00%	17.65%	0.00%	0.00%	0.00%	11.76%	11.76%	0.00%	20.00%	10.00%	0.00%
base authomatical	17.00%	12.00%	71.43%	8.33%	0.00%	-100.00%	0.00%	0.00%	0.00%	20.00%	20.00%	0.00%
nadsheet Analysis	7.00% 27.00%	10.00%	-62.96%	25.00%	0.00%	-100.00%	29.41%	23.53%	-19.99%	0.00%	10.00% 20.00%	0.00%
counting/Payron		20.00%	-16.67%	8.33%	33.33%	300.12%	29.41%	23.53%	10.000/	10.0001	10000000000	
	24.00%	7 00%	250.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-13.39%	30.00%	30.00%	0.00%
aphics publishing	2.00%	5.00%	-50.00%	8.33%	0.00%	-100.00%	0.00%	11 76%	0.00%	0.00%	0.00%	0.00%
esktop Public	10.00%	5.0070						11.7078		30.00%	30.00%	0.00%
Automedia	10.000	10.00%	-16.67%	33.33%	33.33%	0.00%	17.65%	17 65%	0.00%	30.000/		
. instific	12.00 /	12 00%	-40.00%	8.33%	0.00%	-100.00%	23.53%	17 65%	34 00%	30.00%	30.00%	0.00%
science M	20.007	17 00%	6 70.00%	8.33%	16.67%	100.12%	5.88%	0.00%	100 001	20.00%	20.00%	0.00%
Langing Systems	10.005	17.007					010070	0.0078	-100.00%	10.00%	20.00%	100.00%
filmeo	7 009	5 00%	-28.57%	8.33%	16.67%	100.12%	23.53%	23 53%	0.00%	30.009/	20.000/	
Telecommunications	5.00	2 00%	-60.00	8.33%	6 0.00%	-100.00%	23.53%	17.65%	24 00%	10.00%	20.00%	-33.33%
Groupware	3.00	% 2.00	% 0.00%	0.009	6 0.00%	0.00%	0.00%	5 88%	-24.33%	10.00%	10.00%	0.00%
Audio Expert Systems	12.00	0% 15.00	% 25.00	% 8.33	% 8.33%	0.00%	11.76%	17.65%	50.09%	20.00%	20.00%	0.00%
	2.0	0% 10.00	400.0	0% 0.00	% 0.00%	0.00%	17.65%	6 17.65%	0.00%	0.00%	10.00%	
Virtual Reality	5.0	0% 7.00	40.00	0.00	% 0.00%	6 0.00%	23.53%	6 23.53%	0.00%	20.00%	20.00%	0.00%
Simulation	10.0	00% 5.00	-50.0	0% 0.00	% 0.00%	6 0.00%	0.00%	6 0.00%	0.00%	0.00%	0.00%	0.00%
Other	24.	00% 22.0	-8.3	3% 25.0	0% 25.00	% 0.00%	35.299	% 23.53%	-33.32%	30.00%	20.00%	-33.33%

Respondents were asked to indicate which product applications they have developed and which product applications they have under development.

The number of firms doing database applications development significantly decrease for 1-5, 6-10 and 11-100 firms while 100+ firms remain constant. Accounting/ payroll/tax applications development decrease for all but 100+ firms. While 100+ firms have not developed accounting/payroll/tax applications they do have such applications under development.

Graphics applications development decrease for 1-5 and 11-100 firms, increase for 6-10 firms and remain

constant for 100+ firms. The only group to increase product applications development for desktop publishing is 1-5 firms all other groups show no change. Multimedia applications development increase for 11-100, decrease for 1-5 and 6-10 firms and show no change for 100+ firms.

Scientific applications under development decrease for 1-5 firms and remain constant for the other groups. CAD/CAM applications development decrease for all but 100+ firms whose CAD/CAM applications development remain at 20%. Imaging system applications under development increase for all but 11-100 firms.

Groupware applications development decrease for all but 100+ firms. 11-100 firms are the only group to increase development in audio applications. 1-5 and 11-100 firms increase product applications development in expert systems while 6-10 and 100+ firms remain constant.

Virtual reality applications under development increase for 1-5 and 100+ firms. Simulation application development shows no significant change for all groups and 1-5 firms are the only group to increase animation applications development. 1992 Software Industry Business Practices Survey. Price Waterhouse 1992.

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Directory Austin Area Software Development Firms

August 1993

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A Personal Comptroller, Inc.* 5808 Balcones Drive, Ste. 105 Austin, TX 78731 458-8171

Aardvark Development Labs

#4 Red Bud Cove Austin, TX 78746 327-2255

ABM Data Systems, Inc.*

9020 Capital of Texas Highway North, Suite 540 Austin, TX 78759 345-6900

Academic Computing Systems

5524 Bee Caves Road Austin, TX 78746 327-4320

Accelerated Drafting Service*

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Addressing Your Needs Inc.*

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C-Graph, Inc

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FASTMAN, Inc. 12707 Pond Wood Road #2013 Austin, TX 78729 219-6699

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Financial Software Innovations* 7718 Wood Hollow Drive Suite 200 Austin, TX 343-1385

FINLE Technologies* P.O. Box 162712 Austin, TX 78716 327-3781

First Market Research Corp

2301 Hancock Drive Austin, TX 78756 451-4000

FormFill, Inc.* 3409 Executive Center Drive, Suite 212 Austin, TX 78731 343-7991

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Haystack Laboratories, Inc.* 8920 Business Park Drive, Suite 270 Austin, TX 78759 343-2552

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Hill Country Software* 600 W. 10th Street, Ste. 640 Austin, TX 78701 472-2003

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IBM Corporation 11400 Burnet Road Austin, TX 78759 832-0000

Impact Resources 6306 Amberly Place Austin, TX 78759 338-9505

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Tymlabs Corporation*

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9390 Research Boulevard Bldg 2 Suite 200 Austin, TX 78759 343-7297

Uniworld Systems, Inc.* 11612 Hidden Quail Drive

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4926 Spicewood Springs Austin, TX 78759 346-5781

Video Telecom Corp.*

1901 West Braker Lane Austin, TX 78758 314-2700

Wasatech Educational Services

4003 Sidehill Path Austin, TX 78731 346-4114

Wesson International, Inc.*

500 S Capital of Texas Hwy., Suite 5-200 Austin, TX 78746 328-0100

Westlake Data Corporation

P.O. Box 1711 Austin, TX 78767 328-1041

Windy Hill Software Company Inc.

11629 River Oaks Trl Austin, TX 78753 459-7460

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5808 Balcones Drive, Suite 202 Austin, TX 78731 454-0679

Xerox*

6836 Austin Center Boulvard Suite 300 Austin, TX 78731 343-5645

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13706 Research Blvd. Austin, TX 78750 258-1062

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9111 Jollyville Road #211 Austin, TX 78759 343-8433

Zycor Inc. (Landmark)*

220 Foremost Drive Austin, TX 78745 282-6699

To be Added to the Directory Pleas contact:

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[∗]designates Phase I and/or Phase II respondents



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