

## A Digital Ecosystem in Jordan: October 2002

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Amid talk of war, I am an American visiting Jordan to join a conference on the digital future of Jordan and the Middle East: a delicate, organic future of some fragility. I have discovered a vibrant community of entrepreneurs, with values strikingly similar to those I know in Austin,



Boston, Silicon Valley, Atlanta, Northern Virginia and other centers of innovation in the United States. Most heartening, I have been welcomed warmly not only by Jordanians, but by Syrians, Palestinians, Saudis and other Arabs. A number of American Jews are present with me at the conference, and they tell me they feel personally appreciated, comfortable and respected in this setting. Moreover, my hotel is host to a number of



Israelis who have come to vacation in Jordan, in part because they perceive it to be a safe and peaceful place. I need not emphasize how remarkable all this is, in a world riven with strife and polarization, particularly now on the eve of possible war in Iraq, just a few hundred kilometers from this city.

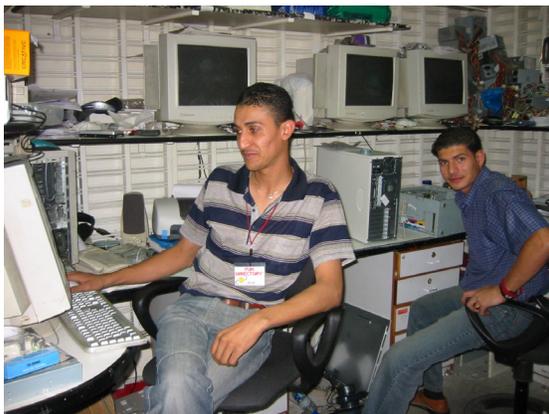
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A Digital culture ecosystem is expanding rapidly here. Public and private universities are producing large numbers of graduates in computer-related fields, and constantly expanding their offerings and student population. Internet cafés by the hundreds have sprung up in college districts, combining traditional Arab coffee culture with cyber access to the world. Software developers abound. In Amman there are over 250 small companies assembling personal computers on demand, selling to the digerati. In a store I visited, I could specify any one of 6 different Intel chips, among the fastest available in the world.



I find myself especially interested in the values of the people who make up this community. Consider the role of women. I was moved by the presentation of Jordanian Director of Information and Communication Technology Policies, Ms. Dima Anani, about the need to create “inclusive technology” and transform society by changing the roles of women, both in the workforce and in villages. Ms. Anani described a woman who attended a local community center, and learned computer skills despite the fact that she had not previously completed primary education, though she could read and write. Now she has a job doing data entry, which she performs at night, and is continuing her studies in the day. In her own words “the best thing about the experience is that my father treats me differently, with more respect, now that I make more money than him.” Money may not assure happiness—but in the developing world it goes a long way toward ensuring freedom from exploitation. Such changes in status, replicated by thousands of women across the society, can have a substantial influence on the future social structure of the nation and region.

To succeed in technology, traditional values like trading must be combined with openness to ideas and to change. Thus digital trade in ideas as well as goods is changing the landscape in adjacent countries like Syria. I had a conversation with a warm and gracious man who runs a PC assembly company in Syria. The act of acquiring components links him with the world. Parts are paid for in dollars, purchased through companies in Bahrain, and for the most part are manufactured in the Far East or the United States. He had freely traveled to Jordan for the conference--which in itself I found notable. The reason for his trip: the



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only way he can keep up with the innovation of technology is to seek out and adopt new ideas. He and others describe extensive cross-border flow of people, goods, and ideas among the creative high tech players in the region. Positive seeds of open culture are being carried from valley to valley.

Most striking to me is how the digital culture taking root and establishing itself in Jordan and surrounding Arab nations is broadly continuous with digital culture around the world. I study the phenomena of digital culture in far-flung parts of the world. I've observed a rich global cross-fertilization of shared values, with digital culture leading local cultures in being open to innovation and new ideas, being socially inclusive and generally youth-orientated, and celebrating a diversity of worldviews and lifestyles. This worldwide interchange is enabled by the Internet, and mirrors its structure: eclectic, peer-oriented, fast-changing.



The attraction of this culture is everywhere evident in Jordan. Stores and cafes are hotbeds of tech talk and excitement. The newspapers are full of tech business developments. One of my favorite new acquaintances is a Palestinian-Russian, born in Algeria, now Jordanian software engineer. As he said, "The Internet connects us all. If I want to know something, almost anything, I go there. And in going there, I meet others. This is how we make our future." Within this global community of know-how, a new culture is emerging.

The government is encouraging this vibrant, open, and somewhat chaotic digital ecosystem. The King of Jordan attended the conference, delighting in the Jordanian entrepreneurs, in the social initiatives, as well as in digital wizardry highlighted by keynoters Craig Barrett, CEO of

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Intel, and John Gage, Chief Researcher of Sun Microsystems. The local technology industry association, Intaj, sponsored the conference and is partnering with the government to promote digital development in Jordan.

The digital culture of Jordan is receiving seed stock and support from many quarters. Cisco Systems is sponsoring technical training for women, in cooperation with the United Nations. Intel has opened a research center for digital innovation at the University of Jordan. Microsoft has invested in a local systems integration company, and is helping to make the firm a major contributor in the middle east. Qualcomm just announced that its regional headquarters will be established in Amman. A major Open Source Software Conference is scheduled for December.



With the help of American aid money and expertise, as well as assistance from Canada, Europe and Japan, Jordan is making digital progress available throughout society. A USAID-led health care information technology project is connecting hundreds of health centers. A Canadian team is creating a broadband network linking 3000 local schools. Community education and connection centers have now been established in more than forty poor areas around the nation, with more underway.



What we have here in Jordan, today, is about as close as one gets to a success of American foreign policy and American aid. Jordan is a fertile valley for progressive ideas, and winds carry seeds of change throughout the region. This is an achievement that is likely to bring a harvest of economic and social benefits far into the future.

Of course, the potential for a US-led invasion of Iraq is having its effect. Some here support the effort. As one of my drivers observed—"If the US wants to spend the billions of dollars needed to eliminate Saddam, why should we object? In the long run we will benefit." But many more, including supporters of the US presence in Jordan, are quite concerned. To them the US seems narrowly focused on the war effort, and less aware of the need to protect the rich bed of relationships and trust that have been established in digital Jordan. The threat of war is already having a strong negative effect. One harbinger of trouble is the ripples through the currency trading system, so necessary for global business relationships. My Syrian acquaintance noted that this is a hard time in business in Syria, "The uncertainty

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over the possibility of war in Iraq is driving currency values to fluctuate daily--like a bourse." In the event of actual war, currencies will become untradable, making exchanges with Bahrain and Taiwan impossible, not to mention cutting air and sea-based product deliveries.



But of course this is just the beginning. Commercial travel will be stopped, and cross-valley emissaries of technology like my Syrian traveler will be called back to their homes. If events follow the Gulf War of 1991, Americans and Europeans will be evacuated from Jordan—and both commercial and humanitarian projects will be severely disrupted. Even in the event of a short war, restoring momentum, relationships, and trust will take time.

There is also a real possibility of direct collateral damage. Jordan is a small country sandwiched between Iraq and Israel, Syria and Saudi Arabia. In peace, this is what makes Jordan such an attractive cultural bridge. In war, it makes it exceptionally vulnerable. If Iraq attacks Israel, Jordan is in the flight path. If chemical or biological weapons are used, Jordan is in the wind path. In addition, like a forest fire out of control, the war may expand across the region. For example, in the past few weeks rockets have been moved into southern Lebanon and are poised to be unleashed at Israel.

On an individual level, there is the personal threat to Jordanians who work in the technology industry, especially those who work on US-funded projects or with US companies. Many are educated in the US, and are noted progressives here. They are concerned about whether they will be adequately protected by the US, in the event of a backlash against them by anti-US elements in Jordanian society.



There are already boycotts against American products, and there were anti-American street protests during the summer, until the Jordanian police moved forcefully to stop them. In the event of war, our friends in Jordan believe that they likely will be blacklisted and prevented from working, and may be targeted for more violent retribution.

I believe that the dynamic high technology ecosystem emerging in Jordan can survive a war, but I also think it can be severely damaged. I hope that policy makers both in Jordan and the US will make a special effort to support digital culture in this time of uncertainty and worse. People in Jordan are engaged and the society is being transformed. I am concerned that policy makers assume that this rich, open culture can be taken for granted. On the contrary, it is as fragile as shoots of new spring growth. We must strive to make sure that hot war does not consume trust across the region, and does not poison a digital future that is bringing great hope to people today.



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