

An HFI White Paper

A Conversation with Eric Schaffer CEO and Founder Human Factors International

"I know a newly-graduated UX practitioner who was advised to work first as a free-lancer and then later go into a company. That's the opposite of what you want to do. You want to find an organization that has a mature UX practice and a strong team of practitioners that you can work under, so that you can learn from them."

What's the ideal career and educational background for a UX professional?

There's a very specific background that works for a UX professional. People come from computer science, visual design, marketing, and even architecture. But they need to have, or obtain, a solid background in psychology, particularly applied psychology and with as much content in cognitive psychology as possible. That foundation really makes a difference between a quality professional and somebody who's just guessing.

"Being able to understand human behavior has always been at the core."

We want people to understand how a human being sees, how a human being makes decisions, how a human being moves, how a human being remembers things. There are a number of additional areas that are always useful – areas like motivational psychology, environmental psychology, consumer psychology. Being able to understand human behavior has always been at the core.

That foundation really hasn't changed over time. It was true for the generation before me and it's true for my generation. It's true for the next. Understanding how people function is what it's all about. And if you don't understand that, you're not going to be very good. You're going to be guessing. So the requirements for the field are pretty much stable.

Now, certainly as we proceed, you need to learn specifics of going from physical products to software to websites to mobile devices back to the physical devices and the Internet of Things. We will need some special skills when we help design space stations and implantable neo-cortexes. But those specialties are not the core of what it means to be educated for the UX field. Those are specifics that will change over time.

No matter what the background, what skills and knowledge does someone need to do advanced UX work?

First of all, we need to be able to do the core work. And the core work is – how do I make it so that I build systems and equipment that are easy for people to use. We measure that in terms of speed and accuracy, minimal training requirements or self-evidency, satisfaction and safety. That's the basic bar. And that bar is now, to some extent, a given – today users expect that you have designed a usable piece of software.

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You differentiate today based on more advanced things. More advanced things means a good UX strategy. And so being able to differentiate by creating an ecosystem solution where all the parts fit together, just like for Apple—the iPod and iTunes and the genius bar and everything fits together and it makes a coherent solution.

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So we differentiate on strategy. We differentiate on innovation – coming up with ideas for products and services that are based on a deep understanding of the ecosystem of cultural context of our user population. And we differentiate based on emotional design or persuasion engineering. How do we make something that's fun to use? How do we make something that's compelling?

These are the real differentiators in the field that go beyond just making it easy to use. Because, as I've I said, "Usability is no longer enough."

Are there advanced topics that are important for a practitioner or manager to understand?

The advanced topics that I was talking about, strategy, innovation, persuasion, are all very critical. Beyond that, we have to learn how to operate in a large-scale organizational environment. We need to work as an integrated part of an organization and build a sustainable mature practice. A sustainable practice is not just about craftsmen rushing in and doing some wireframes. It systematically builds a culture of customer-centricity and an overall solution within that organization that routinely does it right. It requires executive support, governance, infrastructure, and the right organizational structure that is supported by sufficient staffing. It needs to be baked into the organization's culture.

In your work, how have you seen UX professionals progress their careers from practitioners to management-level thought leaders?

The first thing is to have a solid foundation. And the better your foundation is, the more likely it is that you can really succeed. So if you're just guessing, you're not going to be a thought leader. You need to have the foundation in as much cognitive psychology, and in as many of the specific methods in the UX field as possible. Getting your foundation right is the first order of business.

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On top of that, it's very important to be able to motivate, to communicate, and to gain management skills. Each of those qualities are a journey into themselves. People who are good communicators certainly make a great difference. And then, if you can be in an environment where you have mentors, that will help you move ahead.

I feel terrible for the sole practitioners who end up working in an organization alone. I was told recently by a newly-graduated UX practitioner that they had been advised to first work as a free-lancer and then later they could think about going into a company. That's the opposite of what you want to do. The first thing you need to do when you get out of school is find an organization that has a mature UX practice, that has a strong team of practitioners that you can work under, so that you can learn from them.

Once you have that foundation, then you can move ahead and be a free-lancer, or maybe run your own organization. But personally, I wouldn't be where I was if not for a set of four or five really great mentors that I had back in the days when I was in AT&T and Bell Labs. They taught me the real requirements of the field and helped me to hone my skills. Getting that mentorship early on is very important.

At HFI, we build that into the organization's structure. Mentoring is an essential part of a sustainable UX practice. We bring people in and give them advanced training. I personally help give weeks and weeks of training to the new people that join our global team. But then day to day on projects, working on design, completing research, we need to guide people so they can be stronger. We must help them see their blind spots so they may learn how to work in the field more effectively.

We also need to help practitioners grow in baseline capabilities. Many practitioners need to learn how to write better for the platforms they are designing for, and develop a capability for how to design mobile devices and physical products that are safe, effective, and embraced by the market. Our industry needs to expand its capability to work with advanced tools and knowledge management.

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When you're working with HFI Global clients, what skills are they frequently seeking to bring into their organization? How are they evaluating candidates?

There is a huge demand for UX practitioners. And one of the problems is, as we predicted 10, 12 years ago, people have trouble assessing people's qualifications to work in the field. So, for many of our clients, the people who are making hiring decisions may not be able to tell who is skilled in the field and who isn't. They may also not have time to sort out who has those baseline skills.

That's why we developed our certification program. It gets rid of that qualification question right away. Somebody who has a CUA or the more advanced CXA certification, is not going to be clueless about the field. They're going to understand the language and concepts. They have a framework for their success, and that's an important kind of baseline. That's primary.

"The UX field is a great place to be working. And it's a place where we're seeing tremendous growth."

Employers are looking for people with skills in the field. Beyond that, they're quite rightly concerned and often have trouble getting people who can work effectively in an organization AND have managerial leadership skills. So, beyond the practitioner's capabilities, it's the soft skills of being able to work in an organization.

Finally, what is the career development trajectory of UX professionals over the next 10 years?

The UX field is a great place to be working. And it's a place where we're seeing tremendous growth. Currently, there may be 50,000 people globally who have any kind of serious capability in the field.

Interestingly, we've seen that over 300,000 people say on their resume that they have some user experience capability. But saying that you have that capability and having it seem to be very different. So, realistically, you have about 50,000 people who can really do the work. And that number is growing.

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But if you look at how many people you really need – you probably need about 7 million people doing UX work. That is the number of people you need to have 10% of the development work being done by UX practitioners—it's roughly 7 million. There's a real dearth of people who can do this kind of work. So if you have demonstrable and recognized skills, then you can't help but say that it's a great field to be in.

"There's a real dearth of people who can do UX work. So, if you have demonstrable and recognized skills, then you can't help but say that it's a great field to be in." If you can develop solid capabilities, this is one of those fields which is really not threatened by automation trends like robotics. It fits in very well with all our future models which say that as the world evolves, we're going to need to integrate technology so that it's accessible to people. We're going to be integrating technology into different cultures, into different kinds of environments. The UX field will be very strong.

Certainly today we're busy working on websites and mobile devices. We're soon going to be working more and more on wearable computers. And even trans-humanism where we build computers into people. We'll be designing digital neo-cortexes which will need very complex human computer interface considerations, as those interfaces have to function inside your body. At the same time, we see technology expanding to the internet of everyday things where we need to look at how technology builds into all kinds of devices. So as we re-engineer what it means to have a human life today, the UX field needs to be there making sure that technology is accessible and effective for people and fits into their ecosystem.

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About Eric



Dr. Eric Schaffer Founder and CEO Human Factors International

Eric is the world's thought-leader on mature and industrial strength user experience (UX) operations – with methodology, tools, standards, training, certification, and cost-effective staffing. His book *Institutionalization of UX: A Step-by-Step Guide to a User Experience Practice* provides a roadmap for companies to follow in order to make usability a systematic, routine practice throughout their organization. He co-developed The HFI Framework™, an ISO-certifiable process for user-centered design, built on principles from human-computer interaction, ergonomics, psychology, computer science, and marketing.

In the last three decades, Eric has become known as the visionary who recognized that usability would be the driving force in the "Third Wave of the Information Age," following both hardware and software as the previous key differentiators. He foresaw that the most profound impact on corporate computing would be a positive online UX. Also, he has more recently asserted that "Usability is no longer enough," pushing ahead UX strategy, innovation, and persuasion engineering.

Dr. Schaffer is a member of the Human Factors and Ergonomics Society and a Certified Professional Ergonomist. He earned his PhD in Applied Psychology, specializing in Human Performance, from Stevens Institute of Technology. Before cofounding HFI in 1981, he worked at CL Mauro Assoc, AT&T Long Lines, and Bell Labs.

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