

Eleven lessons: managing design in eleven global brands

Design at Microsoft

Microsoft, the world's leading supplier of operating system software, has completed a significant evolution in its attitudes to design. Having once been a technologically-driven organisation, Microsoft now uses design thinking to focus on developing products that answer users' needs. With management support, this focus on user-experience is also influencing Microsoft's organisational structure and culture.

Overview

Design is considered to be a core enabler of both current and future success at Microsoft. The need to deliver consistently high quality products has led to the integration of design thinking into user-led product solutions, which has influenced the culture across Microsoft.



Key elements of this strategy include:

- The management led support for a focus on user experience as a key differentiating factor in the development of Microsoft products and services
- Integrating designers with product development teams, fostering an environment of efficient collaborative working
- The establishment of central excellence groups, such as the User Experience Excellence group, to gather and disseminate best practice
- The use of intranet tools and templates to deliver best practice methods to designers
- The development of techniques for communicating design principles across the business
- Extensive use of user research methods with tight integration of user experience and test activities with product development teams.

Design challenges at Microsoft

As the dominant player in several of its operating areas, Microsoft has a user base of more than a billion people and supplies products in 130 languages. Its products often become de facto standards and, as such, can generate strong, vocal criticism



The rapid pace of development in the software industry and the emergence of new ways of working, which emphasise flexibility and the ability to work on multiple devices in different locations over the traditional dominance of the desktop PC, are also putting pressure on Microsoft to continue to evolve its offerings to maintain its strong market position.

In its productivity tool markets, Microsoft must combine increasing product complexity and sophistication with the need to maintain usability and improve user experience.

Its Word document-processing application, for example, had less than 50 individual menu items when it was first launched. Today, users can choose from nearly 300. This increase in complexity has required the development of different user interface paradigms.

The company also launches new products at an extremely rapid rate. It brings more than 200 new products to market every year, and over 360 internal product teams are also constantly engaged in a process of revising, improving and updating their products.

Thousands of companies also develop products for Microsoft platforms, and the company enters into collaborative relationships with a large number of other organisations.

History

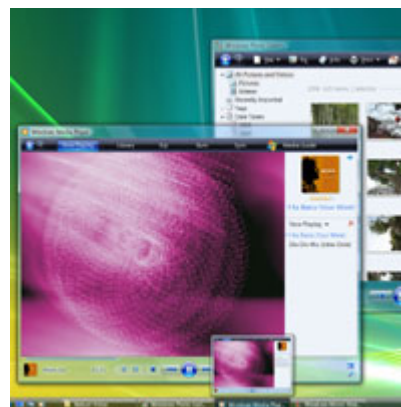
Microsoft was founded in 1975 to develop software for the nascent personal computer market. It was an extremely early entrant into this sector, beginning its business at a time when few believed that the PC would come to play a significant role in business or personal life.

Microsoft launched its first operating system (MS-DOS 1.0) in 1981 and entered the productivity applications market in 1989 with the launch of its Office suite. A year later, the company launched the first version of its Windows graphical operating system.

Designers at Microsoft

Designers at Microsoft operate in a multi-disciplinary environment. They are selected and trained for their ability to communicate and collaborate across disciplinary borders, and for their ability to understand the technology, business and user goals of their project and create designs that effectively meet those goals.

Microsoft integrates its design and product development teams totally, and design input takes place as part of the overall product development process. Each product team, such as Mail and Calendar, is comprised of representatives from programme management, test, development, design, user research, product planning, marketing, international project engineering, content publishing, and so on. These in turn draw on several key central resources, among which are the User Experience Excellence group, the Central User Experience Support Team, Microsoft Research and product design experts from across the company.



In more depth

Find out more about how [multi-disciplinary working](#) in the design process can lead to the development of new products and services

The User Experience Excellence group is central to the designers' ability to work in this way. Headed by Surya Vanka, this is effectively a group of 'culture change agents' who are engineering standards to create Microsoft products that provide customers with a high-quality user experience. They are responsible for the harvesting and dissemination of best practices to the designers and researchers operating within product development teams.

According to Surya Vanka, Manager of User Experience in Microsoft's Engineering Excellence Group, teamwork, humility and a user focus are key personality traits of designers in Microsoft.

Capability building

Designers' skills, training and career development are carefully monitored in alignment with the User Experience Excellence group's targets and a comprehensive capability building programme is implemented for Microsoft's designers, managed by the group in partnership with Human Resources. Developed and customised for each individual, online training programmes and modern delivery mechanisms such as on demand video archives are supplemented by a range of general development activities. These can include visiting lectures from leading academics and design practitioners, as well as regular and actively promoted discussion groups and ongoing internal product or innovation forums.

Peer to peer coaching is used to help transfer key skills and best practices across the design function. Designers receive training on integrating effectively with other engineering disciplines, which is required to effectively deliver their input to the rest of the development team.

In more depth

Find out how other companies in our study hire designers who demonstrate a [wider skill set](#) including: multi-disciplinary working, business acumen and strategic thinking

Status

In 2006, Microsoft employed more than 71,000 people worldwide and received net revenues of US\$ 44.28 billion. The company grew 11 percent last year.

Microsoft's headquarters are in Seattle, US and the majority of the company's activities are still based in the Puget Sound area of the US, with 33,000 employees at various facilities in the region. More than 50 percent of Microsoft's employees are US based, but the company has operating subsidiaries in more than 100 countries worldwide.

As part of the design process study, Microsoft's User Experience Excellence group and Windows Live Web Communications user experience team (comprised of design, user research, and technical writers) were interviewed to understand the context for design in Microsoft and how their processes integrate design into the product development process.

The evolution of design at Microsoft

Microsoft has transformed itself from a technology-centric to a user-centric organisation - and the role of design in this new paradigm has been central.

'In 1993 design was a luxury. It is now generally accepted that design is critical to our success,' says Brad Weed, Director of User Experience at Microsoft, who led the transformation of MS Office 2007 through a core set of design principles. Support for this new strategy comes from the very top in Microsoft, being driven by Bill Gates, the company's chairman and chief software architect.

Design process evolution

Microsoft's design process has evolved as the company realised it needed a more user-centred approach to product development.

A key element of this was the realisation that the growing capability of its technology brought greater complexity - and that this could adversely affect the way in which users responded to the company and its products. In response, Microsoft identified design as a critical method to quickly translate user needs into products.

Surya Vanka

Manager of User Experience Excellence, Microsoft Engineering Excellence Group

‘Technology can master complexity, but design must master simplicity’

The way design is considered in the role of product development has also changed in that time, with the design process moving from a ‘user interface’ to a ‘user experience’ paradigm. ‘It’s not just about real estate’, adds Erez Kikin Gil, Product Design Lead at Microsoft, pointing to the need to move the scope of design into experience, almost taking for granted that the necessary technology exists. This change is mirrored in Microsoft’s own shift in offer: and a company that was once entirely product focused now offers an increasing number of services to its customers.

Organisational position and influence

As design has taken on a more central role at Microsoft, so the company’s design function has become central in developing some of the key ideas for user centred product development. Today, design is represented in all product development teams.

In order to monitor the standards of excellence that Microsoft sets for its products and services, and for them to adequately reflect user needs, a User Experience Excellence group supports skills and expertise that are part of new product development, including design.

The central User Experience Excellence group, and indeed other Excellence groups covering other areas within Engineering, act as repositories of best practice and as agents for change. They encourage wider management to understand the power of strong design input and ensure the creation of a culture and the tools required to do this.

In more depth

Read more about how successful design companies need good [↳ leadership](#)

Innovation

New product introduction and product evolution are both key to Microsoft’s competitive position. The company has always pursued the development, acquisition and protection of innovation as a core part of its strategy. In 2006 Microsoft was granted its 5000th patent.

The Microsoft design process

Today, Microsoft is the world's largest supplier of operating system and productivity software and has greatly expanded its product offering to include a broad range of software for business and home use, as well as products for the video games and mobile technology markets.

Microsoft's new product development cycle will usually begin with a need identified by product planning or user research teams. These needs emerge as a result of extensive market and consumer research, conversations with customers and extended user research ranging from exploratory field research to usability lab studies to identify currently unfulfilled needs and opportunities.

A key element in the new 'user experience' paradigm, which draws heavily on the input of design methods, is that technology has moved away from being at the centre of the design process. Development teams proceed on the assumption that a technological solution to a given problem will be available, but the trigger to begin the development of such a solution has to be an identified and well-understood user need.

A user-centric product development cycle

According to Surya Vanka, Head of the User Experience Excellence group, Microsoft's new product development adheres to a five step cycle:

- **Understand** - A phase of research and information gathering intended to give designers a deep insight into the real needs, motivations and issues among the product's users. This phase often results in initial key observations: the 'ohs!'
- **Envision** - In this phase designers are encouraged to think broadly about what they might offer the users based on what they learned during the Understand phase. This phase often results in new insights and conceptual breakthroughs: the 'ahas!'
- **Specify** - In this phase designers and other members of the product development team establish a detailed specification for the product they intend to deliver
- **Implement** - The process of delivering a working product. A successful culmination of the Specify and Implement phases often produces 'wows!' from the customer
- **Maintain** - Software products undergo continuous evolution as new needs emerge, new capabilities are added and the wider environment changes. As a consequence, a product's design team will have continual input into modifications throughout a product's lifetime.

Project management

Multi-disciplinary teams and working is equally prevalent in the general project management of a design project. Periodic design cycle meetings allow the full range of project stakeholders to look at progress and check if a proposed design meets all the project's business goals. The whole development team attends these meetings, ensuring that they have a clear understanding of business requirements as well as user needs.

In more depth

Find out more about [project management](#)

Evaluation

Ultimately, says Kikin Gil, design is integrated so tightly with the rest of the product development process at Microsoft, that it is difficult to evaluate its impact separately. Nevertheless, the company makes extensive use of measures of product satisfaction and adoption rates as a key indicator of user experience success. On the principle that users who enjoy their interaction with a product or service will return to it, says Kikin Gil, this measure gives a robust indication of the success of the user experience design.

Testing

Once a proposed solution to a problem has been identified, this is prototyped quickly and taken to user test for evaluation. User testing is absolutely critical to product development at Microsoft. 'Our internal audience is hungry for user research as it proves product relevance,' says Kikin Gil. The company's user experience function is thought to be the third largest in the world, with more than 45 separate user experience teams and there is a total staff of more than 550 within these teams globally. This includes both designers and user researchers.

User experience teams will test prototyped products with sample user groups. They will also contribute to the design process at earlier and later stages through ongoing testing of existing products and long term beta test programmes with expert users. User experience teams across Microsoft will also be closely involved with new target markets, helping to determine the characteristics of particular new user groups, and assessing the impact of existing and proposed products in that context.

Microsoft has made strenuous efforts to make user testing feedback available as widely as possible throughout the organisation. Most user testing sessions can be viewed and accessed remotely via video link. Any observation of user testing in progress will be supplemented by a formal report on the outcomes from the user experience team, and the outcomes and other insights from this process will be fed back into the next round of product development.

In more depth

Read all about [user research](#) and how designer involvement can create a better result

Some of the general principles and approaches typically used by user experience teams at Microsoft include the following:

- Design decisions should be based on deep evidence of actual user behaviour, not assumptions on the part of the development team.
- Products must be able to scale to billions of users worldwide without losing intimacy with individuals.

- New paradigms are often essential to solve very different and far more complex new problems.
- Microsoft has a responsibility to help users learn and adapt to the new interfaces that it introduces.
- Continuous feedback from users forms a virtuous circle, helping to improve product performance, product team empathy and product quality.
- Bringing the user into the development process in tight iterative loops can deliver new insights. This type of approach is increasingly popular in the computer game space, where users can take an active role in shaping future products.
- Simplicity is difficult to achieve, but worth striving for.

Case study: design development of MS Office 2007

Microsoft recently saw its efforts in user-centred design translated into the successful update of one of its core software packages, namely MS Office 2007.



Since its initial launch in 1989, there have been several iterations and re-designs of the MS Office software. However, the launch of Windows 2007 in 2006 included the revised edition of MS Office products. This was a turning point because it implemented a substantial design shift rather than a small incremental change. In many ways this represents the centrality of design to the product development process at Microsoft.

For this major new version of Office, Microsoft's product team recognised that it had a major opportunity to drive the user experience forward, but that it also had to manage the experience and expectations of millions of users of the existing product.

Previous design changes to Office had been smaller iterations, conscious of user aggravation at changing functions and capabilities. However, faced with quantitative data that suggested that people were having usage problems and that Office purchases were trailing off, the development team, led by Brad Weed, established a set of design tenets to underpin the re-development of Office. These were:

A sense of 'mastery'

- People should be able to focus on the content they're working on in Office, and not on user interface. The design of Office should help people work without interference
- Choices should be reduced to increase the user's sense of mastery
- The efficiency of access to features should be increased
- The soul of the programme should be brought out and embrace consistency rather than homogeneity
- Features should be given a prominent home in a consistent location rather than activate a 'smart' user interface that guesses what the user needs

- Straightforward is better than clever – and promotes the feeling that this is still Microsoft Office.

Taking the 'big bet'

- Making a big change is difficult, but must be done
- Trust in users to learn a new way of working
- You must remove to simplify

The resulting design of these principles is felt to have delivered a product that feels 'different but familiar'. The development of Office 2007 took place between 2003 and 2006 and involved over 1,000 people at Microsoft. In addition, it involved more than 200 users who spent more than 400 hours with the new interface testing the experience of almost 30 new core tasks.

Adapting the design process for different products

Individual product teams at Microsoft work on the innovation and development of new and existing products, and while they use methods aligned to the wider user-centric design process, the groups have a degree of autonomy when it comes to the specific methods they use.

Erez Kikin Gil, Product Design Lead for the Windows Live Web Communications product team, described a user experience design process which the team follows to meet the specific needs of their target users and to best fit their individual product development environments.

In this case, the web communications user experience team for Windows Live, which is comprised of designers, user researchers, and technical writers, follows a four-phase process while developing individual elements of their products.



The process involves four phases: Understand, Ideate, Test and Communicate.

Understand

What is the challenge that needs to be addressed? The answer to this question is sourced from marketing, product planners, market research, ethnographic user research, and design research. The trigger is always user needs.

Ideate

This involves broad visioning, sketching, and building scenarios (such as 'a day in the life of a user', envisioning the impact of a design change on the user, and so on). Kikin Gil emphasises that everyone is a designer at this stage of development, including

researchers, developers and product executives. During ideation, it is common for the web communications design team to hold internal participatory design sessions, asking the product team members to imagine themselves in particular users' situations and designing products to meet those needs. User input is also critical during this stage, with researchers employing creative methodologies such as participatory design activities and story-book exercises to help users brainstorm new ideas and imagine themselves using the products in new ways to solve existing problems.

Test

User research sessions are conducted throughout ideation and product development, using a combination of observation, participation, videos, listening and viewing. All research is conducted either in-house or in the field, in the users' natural environment. Microsoft sites have purpose-built studios equipped to carry out such research to the highest standard, including living room set-ups for example. Researchers employ a variety of methodologies to ensure the concepts from ideation will meet users' specific needs and desires, such as comparison studies, benchmarks, and product usability. Some projects may go back to ideation at this stage, depending on user perceptions and reactions.

Communicate

The results are always communicated back to the stakeholders of the project. This is done through both informal and formal channels such as project meetings and intranets. There is no internal limit to who can view the results.

Tools and techniques at Microsoft

Microsoft makes extensive uses of tools to assist its designers in adopting best practice. A full time, three person 'practices harvesting team' works to identify and distribute best practices as they emerge. These practices are reviewed and included in a comprehensive methods bank, giving designers access to a broad range of tools.

The company has a User Experience Handbook, which is a frequently updated internal microsite containing details of current best practices in user experience design. The site is created and moderated by the User Experience Excellence group but can be contributed to by designers and researchers alongside their work, which further enhances the collaborative nature of the Microsoft working environment.

Extensive work has also been conducted to ensure that designers, software engineers and business teams have a common language with which to discuss product developments. The product development teams, which include designers, also has regular meetings to formally share best practices and research findings with each other.

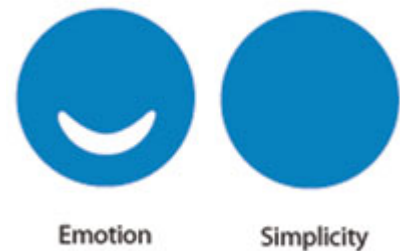
In more depth

Find out other [tools of the trade and methods](#) that designers use in the design process

Erez Kikin Gil, Product Design Lead for the Windows Live Web Communications product team, explains that Microsoft's overall user-centric product development cycle is supported by with some practical design principles, often visually represented by diagrams or icons.

Simplicity and delight

This is one of the underlying principles behind all Microsoft design activities. Following that principle is design for user emotions. Designing for both simplicity and emotion produces an experience that is efficient as well as user-friendly. These two reinforce each other as simplicity makes room for emotion and emotion influences the perception of simplicity.



The principle is that 'delight' and 'simplicity' follow on from each other. In designing their Mobile Messenger product, the web communications user experience team took this principle to heart, employing a range of methodologies in the lab to access users' emotions and reactions to specific visual and interaction design concepts while balancing it with their need for simplicity on the mobile device.

They compared user reactions and statements to the designers' explicit goals and analysed the different emotions each design connoted, ranging from more angular and boxy designs that were perceived as safe and secure, to more light-infused designs that were perceived as fun, playful and personal. They then compared this to usability results around simplicity and ease of use, and chose the designs that were the best balance of the two.

People-centric design

Designing software according to the way a user works is critical to the success of the web communications team.

Erez Kikin Gil uses the Edo clock, a timekeeping device that was used in Japan from the 17th to 19th century, as a great example of a people-centric design.



Unlike the Western analogue clock, the Edo clock showed the relative hours of daylight throughout the year. For people who rely on light, this technology and interface provided a clear way to manage their life and work.

‘So if you think about the way we design software today, says Kikin Gil, ‘instead of designing software that will make users adopt tools, we are designing software that adopts to the way the users work and perceive the world. ‘

This approach can be seen in design decisions the web communications team made for their latest release of Windows Live Hotmail. The team learned that while some users preferred to use checkboxes to successfully manage their mail, others wanted a system that was similar to Outlook. As a result flexible options were created for users to choose the interface that works best for them.

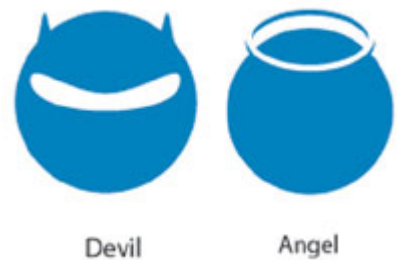
In more depth

Read about the benefits of [user research](#) within the design process

The Devil and Angel approach

This approach also focuses on simplification - this time about simplifying the options that are presented to users.

Choices are an important part of the experience design - narrowing choices to the absolute minimum makes it easier for users to make decisions which help them continue their interaction smoothly - instead of making the interaction about the selection process itself.



As Erez Kikin Gil explains it, this process is about ‘looking at what you’re designing and asking yourself, will the user be able to find what is bad or wrong here?’ This, he says, needs to be a yes or no question: ‘Is it an angel, is it a devil?’

For example, the web communications user experience team applied this holistic design principle when thinking about the best way to help users recognise and delete harmful messages from their Inbox.

Rather than providing five different choices for deleting, reporting, adding to contact list, and so on (and ultimately confusing users with all of the options), they chose to focus the user on one simple yes/no decision at a time. So if they are told ‘You do not know this sender’ they are given just two options: ‘Mark as Safe’ or ‘Mark as Unsafe’.

If the sender is unsafe, the Microsoft design team decided that all of the deleting and reporting of spam email addresses could be done at the back-end - so the users’ steps to solve the problem were minimised to the one yes/no decision.

'Eat your own dog food'

As part of their process, designers at Microsoft are encouraged to ‘eat their own dog food’ or ‘dogfood a product’. This means that developers and designers are encouraged "to use the product yourself that you are trying to sell to your customers." Wherever



possible, members of the design team should make use of their own products.

Making everyone on a development project use the product, even in its roughest state, enables everyone to:

- Flush more bugs out of the product.
- Encounter the same bugs and design flaws that users would see, thus giving designers incentive to fix them.
- Learn how products actually work, which is often than not exactly how we think they work
- Gain a reality check that the product is as good as they say it is, and proves to customers that the company believes in the product

And because Microsoft is such a large organization, this process can flush out problems that could not otherwise be found prior to full-scale rollout at launch.

With thanks to Microsoft

For the purposes of this study we spoke to Surya Vanka, Manager of the User Experience Excellence in Microsoft's Engineering Group and Erez Kikin Gil, Product Design Lead at Microsoft.

To find out more about design at Microsoft, visit [➡www.microsoft.com/design](https://www.microsoft.com/design)

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