
PERSONA DESIGN

PERSONALISING LEARNING WEBSITES

by Paul McKey

The majority of curriculum, system and human-interface design in online learning still revolves around the erroneous concept of an end-user. This mythical being is the recipient of one-size-fits-all design which works directly against the often intended goals of personalisation, individual learning outcomes and learning paths.

However it is possible to design for personalisation in online learning systems without incurring the enormous costs that many consider personalisation requires. A simpler method is to use Persona Design where attributes of typical users are modelled and then systems adapted to provide for each of these key personas. An example in a higher education environment would include 'typical' personas such as learner, student, customer and community. The teaching and administrative environments can

also be modelled to discover typical personas.

This paper will show the methods of persona discovery and their use in both business and learning environment design and development.

Personalised or Personal?

The concept of creating an 'end-user' to direct all your design focus is hardly unique to the software world. Authors have been grappling with concepts such as the 'reader' for centuries. Yet while an author can 'talk' to their reader, almost intimately, software and web developers often struggle to develop any form of intimacy or personalisation of their products. Not surprising considering that most software applications reflect their industrial age roots of a one-size-fits-all production ethos to allow rapid development, reduce set up and production costs and stan-

standardised operating environments, to name just a few reasons.

Personalisation, the holy grail for both marketers and many educators, is designed to induce greater engagement, satisfaction and, ultimately, knowledge of, and loyalty to, the material, the company, or the subject/product being used. Educators often talk of student-centred learning and of being able to personalise the learning material and of learning paths for each individual. The script runs something like this; a system interrogates a user profile for core and historical data; the system then interacts with the user and other environmental 'sensors' to add current and specific needs; the system then matches these against either a knowledge pool, or ontology web, to provide appropriate communication, information or learning materials; then the whole runs through an adaptive learning engine to provide a

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personalised learning experience. This dream of applying Electronic Performance Support Systems (EPSS) and similar systems

through personalisation has been around for at least twenty years (Gery, 1991, Sherry, 1996 et al).

Yet what is true personalisation? It has variously been described as, just for me, just enough, just how I like it and just in time. There are however some key assumptions in this little ditty. First, the system must know who 'me' is. Second, the system

knows what enough is, presumably by checking with my profile or portfolio. Third my preferences file would provide adequate data to ensure my likes and dislikes were considered. Then finally some form of interaction must take place to allow information flow which is timely, in context and desired or necessary. And, of course, just as in human relationships, the balance between privacy and intimacy is always going to be problematic.

Expanding on this theme, Bergeron (2000) puts forward the difference between personalisation - equivalent to printing your name on a T-shirt or coffee mug - versus personal - web sites and applications, that really do only carry personal and private information. Email applications, banking or student administration sites fall into this category where you know the data and interactions are unique and yours (with spam being the exception).

The development of impersonal software, standardised learning materials and cloned learning environments is by far the most cost-effective production method. Further the gains of personalisation have not been argued strongly enough to bring about major change. Personalisation is desired yet just not considered in most systems, for mainly economic reasons. Consider universities. The "massification of education" (Cochrane, 1995) has entrenched a business model that is dependent upon one-size-fits-all. How do you personalise a text book, the backbone of undergraduate education? How

do you personalise a lecture to 500 students, when they aren't allowed to ask questions or interrupt? Personalisation would cripple most education systems around the world since it would disrupt the low cost commodity-based, repetitive delivery model.

Ironically, the oft maligned 'impersonal' computer may hold the key to delivering greater personalisation to students and customers through on-line communication, learning and services delivery. By modelling your system on the researched and modelled requirements of your users, rather than just your available content and organisational model, could help you achieve personal services delivery without blowing the design and development budget.

Interaction Design

All users of web sites have goals. Many are just happy to browse. Others are more driven and they need to search for, or find, particular information to take specific actions and complete tasks. From a design and usage perspective these interactions both define and are defined by the site. The closer the design of a web site or a task-based application is to a user's goals the more useful it will be to that individual.

Further, web sites are historically information centric and tend to be somewhat directionless and only provide for the 'browser'. Applications meanwhile have very specific suites of functions to match very specific tasks and goals that define the user's actions and outcomes very

narrowly. For instance we don't use a spreadsheet to write letters. Yet modern sites are a combination of browse-able information and goal specific applications (such as student registration, banking or job seeking etc.). In most cases these mixed purpose activities are now inseparable. So, if browsing and task-based activities require very different designs, how then can we accommodate a complex interaction with the simplistic concept of a narrowly defined end-user? The answer is you can't, but you can improve things greatly by designing for personas.

Alan Cooper first established the use of personas in software design in "The inmates are running the asylum" (1999) . Cooper uses a system of 'discovery' to unearth features and attributes and then even names his personas to assist and direct the design team. He defines a persona thus:

"A persona is a user archetype you can use to help guide decisions about product features, navigation, interactions, and even visual design. By designing for the archetype - whose goals and behaviour patterns are well understood - you can satisfy the broader group of people represented by that archetype. Defining functionality to satisfy the goals of a real person or role, rather than an abstract notion of "the user," enables you to avoid development roadblocks caused by personal preferences or biases." (Cooper, <http://www.cooper.com/>)

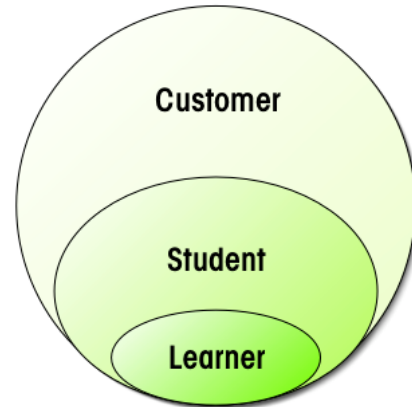
This approach can be both expensive and impractical. Yet somewhere between Cooper's very specific persona and his impersonal "elastic user who must bend and stretch to adapt to the needs of the moment" I consider there lies an intermediate use of personas which is a good first step in improving web site and web-based application design.

Persona Design

Persona derives from the Latin word for an actor's mask as worn in Roman and Greek theatres. The essence is that one person can play many roles or take on multiple personas. Most visitors to a typical web site have several such personas as they usually have several agendas. The art of site design is to avoid confusion between these personas as they strive to complete their goals and the tasks they are being asked to carry out. So in a sense to prepare the user for intricate tasks we must support their cognitive goals along the way. Hence we must ensure they consider they are in the right place by working with their dominant persona for that task.

After designing and building numerous university sites and applications I have settled upon three primary role-based personas which now form an integral part of any design conversation I have. These three personas are the customer, the student and the learner. (For a corporate intranet site you can substitute employee for student.) These roles are not based upon the usual psycho- or demographics of the person but the main objectives of their desired goals

and the interactions and tasks required to reach them. Additionally while we usually play one persona at a time it is human nature to switch between them constantly and quickly (usually in something less than pico seconds?) so fixed descriptions are insufficient.



The customer is the first persona to touch your site and is in the beginning phases of building a relationship with you. Like any other relationship they have to go through a process of introduction and familiarisation which will lead to either continuation or cessation (of the relationship). Further they are also doing a very quick aesthetic and cognitive scan of your site and what it is a window into, your organisation. Just as people size up people in the street we also quickly ascertain whether this site/organisation is a good fit.

If you win their hearts you now must win their minds. Just as we do when buying or selling a car. It may be the emotional attachment, the status or unexplainable desire which attracts us to one model over the other but we will quickly change persona to

accommodate the rationale requirements of power, speed, functionality and price etc. These two competing elements of the emotive versus the rational form a typical marketing strategy and are well understood. However the emotive and rational messages are often garbled and hidden causing the visitor to either frustratingly persist or leave. Persona design forces you to 'step outside' and view your site from another perspective. Instead of designing your information architecture around what

content you have available it forces you to consider designing your persona's interaction with your information. Why do they want it? Where and how do they want it? What are they doing here, what is their purpose?

One quick way to evaluate a persona is to list what they desire of your site or application, (their goals), against what they require (your services). The closer the match of these perspectives the more effective will be the site.

The Customer Persona

The customer is a critical persona to satisfy as they evaluate your site, your organisation and its purpose. Logically ordered and informative content is important yet making the customer persona at home is more so. The customer persona is the one who pays.

On many university sites that may mean the true customer is a parent or relative paying for the student's education. In the corporate world it is even more important to win the hearts and minds of employees entering your site. They have possibly been coerced here and if they are not convinced this site has something to offer they will not participate fully or even worse, actively ignore, leaving your corporate learning program in tatters.

Customer	Desire	Require
Remember, one click and they're gone!	Status Recognition Value Convenience	Personalisation Comparisons Visualisation Ease of access/ use
They say "Tell me the benefits of my time and money"	Accreditation Relationship Tomorrow state	Respect/Service Community

The Student/Employee Persona

This persona differs greatly from the customer persona. Having made the decision to work with your organisation they want the software systems to assist them achieve their goals and complete their tasks in a time efficient and flexible manner.

While the customer is typically happy to browse the student persona is far more task oriented. Using online systems provides a golden opportunity to reduce the administration, transaction costs and delivery time of many standard serv-

ices. Cooper says never make a fool of your user. I go one step further. When going through complex, time consuming or important procedures the cry of the task-oriented persona might be more

Student	Desire	Require
The task master! This persona means business. "Show me how this works. Can it help me? What do I need to do?"	Clear Tasks Goals All the facts Consistent services Flexible times, places Logical rules and procedures	Personal data Effective simple tools Study support maps Calendars/ Reminders Access to resources Functional systems All the facts

along the lines of "don't frustrate me" and "don't make me angry". We all book airfares and bank online so to get our custom these systems must be efficient and matched to our needs. It has been said that banks are now major players in the software industry since the average customer's main interaction with them will be through a software interface. University and corporate web developers could also heed this.

The Learner Persona

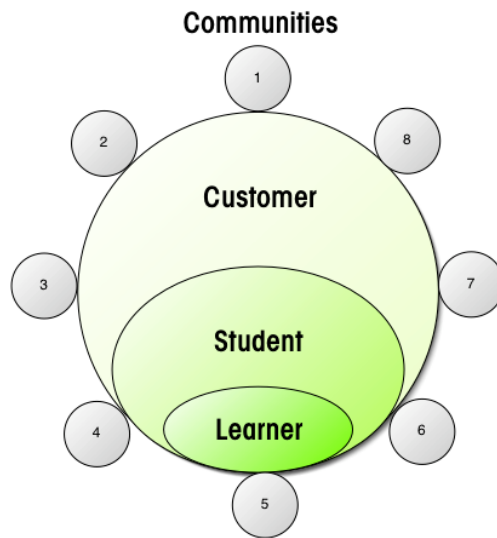
Learners love to learn. Once they have decided to study your program or enter your sales and marketing material you must keep them engaged. Any loss of interest will usually mean they either go elsewhere or become dissatisfied with the learning. Yet they are also continually questioning the learning they are receiving, for a match to their needs and interests as well as to the authenticity and validity of the material.

We are all learners. One of the greatest shortcomings of corporate and customer facing sites is to not consider their customers as learners. Providing, insight and inside knowledge through an engaging, quality, learning experience is a sure way to enhance loyalty and return custom.

Learner	Desire	Require
The raison d'être of any learning system. "Excite me with new knowledge". <i>All men by nature desire knowledge.</i> <i>Aristotle (384 BC - 322 BC)</i>	Knowledge Stimulation Excitement Intrigue Uniqueness Recognition Esteem Pleasure	Personal interaction Authentic valid info Easy access to experience Tools and attitudes for learning Interaction Collaboration

The Community Persona

While the above three personas form the core of any university or corporate learning site it is becoming increasingly common to expand this model and include both the covert and overt communities these personas belong to. In post-graduate and professional education it is important to include communities as part of the learning experience by allowing both interaction and collaboration.



System Requirements

The systems required to deliver appropriate environments for each persona will, ipso facto, be different. Interactive information-based web sites will satisfy the customer yet customer relationship systems will increase their effectiveness. User Information Systems and portals will be required for the student/employee to help them administer and track their learning and/or performance. Finally a Learning Content Management System with appropriate collaboration,

communication and assessment systems will be required for the learner (McKey, 2000).

Summary

One-size-fits-all education is now quickly becoming passé as universities compete for global students with increased capacity to shop around. Similarly confusing unfocused web sites, particularly those related to learning, are seen as a poor reflection of the organisations who design and host them. Persona design needs to be an integral part of the design process to allow both personalisation and more personal web sites that provide efficient services for their prospective and existing clientele.

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