Statement Of Purpose

In India as of 2013, only 4 out of 10 kids who study in Govt Schools get effective education. This rate deteriorates further when we start including kids with learning disabilities. I have been on the endeavor to provide quality education at Teach for India for the past one year. Our biggest obstacle was how to identify these special children, thereby giving them the required attention. In a country like India, I had to come up with a very cost effective answer. As a possible solution, I have started an independent research to study the behavioral patterns for few learning disabilities (Autism, Dyslexia). I plan to utilize these patterns in designing interactive digital applications (Games,Stories) which will empower teachers to diagnose the possibility of a learning disability by simply allowing kids to play with them.

Experiences like the ones stated above, undergraduate study in Human Computer Interaction and working in the field of User Interface Design for the last two years has fueled my longing to pursue Masters in IST with concentration in Human Computer Interaction at Pennsylvania State University.

Motivation

Losing my father at an early age, instilled a sense of self learning in me. At junior high school, I was introduced to Web designing. The 'Do-it-yourself' nature of the web allowed me to acquire the skill on my own. My seniors gave me the opportunity to harness this new interest to design and freelance e-commerce websites for startups. My teacher, Mrs.Latha who helped me design and improve my projects, suggested me 'W3C standards for designing web application' specification & 'Design of everyday things' by Don Norman. Looking back, I think, Web Development was my first tryst with design.

Academic Preparation

I wanted to follow up on Web designing further as part of academia, therefore joined Bachelors of Information Technology at SRM University in 2009. During Freshman lectures, Prof.[name removed] gave a talk on Dr.Vannevar Bush's paper "As we may think ". Predictions about futuristic applications and ubiquitousness of camera with such accuracy, left me puzzled. As a possible place to find answers Prof.[name removed] initiated me to a new field called Human Computer Interaction. This subject was not offered in the University until the Senior year. I ended up gaining appreciable knowledge in the subject much before my peers because of practical exposure in various projects like designing 3D bone density projections using processing from scanned X-rays, designing geo-spatial maps using QGIS for the rural areas.

That summer, I got an opportunity to work on a satellite research project which was a joint initiative between the Indian Space Research Organisation and SRM University under Prof.[name removed]. This project proved a major challenge as I entered the new domain of data visualization. My responsibilities included designing optimal transitions for animations between different visualizations which puts least amount of cognitive strain on the data

scientist. The project helped me find maturity in visualizations, animation techniques and evaluating cognitive strains when interacting with interactive visualizations.

My interest in animation persuaded me to apply for an internship in [name removed], an animation and Visual effects company. My team worked on two new projects - [names removed]. Our creative team director wanted us to develop unique User Interface elements for the Heads up display for aircrafts and the ground Head Quarter controls in various scenes. I had to study real time flight control panels to understand their purpose and usage. We then combined the usability of touch interfaces with the functionality of traditional switch based controls to come up with radial node designs where each node had button functionality while radial touch controls provided usability. I learnt how to to innovate, modify and deliver within strict deadlines.

Having gained exposure in Animation, Visualization and Web Designing I was nominated by Prof.[name removed] for Teaching Assistantship at the HCI lab. During this period, I gave student lectures on various 'Field methodologies employed while doing Contextual designs' (*taken from my commentaries on Usability in practise: Field methods evolution and revolution by Judy Remmie*), 'Moulding Human Computer Interaction to achieve design problems' (*Inspired by paper Design oriented HCI by Daniel Fallman*). Guiding my juniors proved to be a fruitful learning experience. They were all full of ideas and being with them helped me look at things with a broader perspective. During my final year, I was within the top 1 percentile in the entire University in my major which assisted me in gaining scholarship from the university.

Always a proactive person, I took joy in organizing and conducting events and competitions in college. As the publicity head and ambassador of the [name removed] students Chennai, I had the opportunity to head the Webmaker Party events in collaboration with [name removed]. These were aimed at providing basic web literacy to high school children in the nearby government schools. I saw conducting these events as opportunities to grow and work on my drawbacks thereby developing multifaceted personality with strong interpersonal skills.

Work Experience

This teaching experience left me with equal longing for both teaching and industrial exposure. I gravitated towards industry to gain more practical experience. Unlike my colleagues, I was very particular to work in the domain purview of Design. I was inclined towards [name removed], as it was the only company that offered a position in UI designing. The company being highly selective, gave a single offer that year. It felt ecstatic to secure that only offer. My prior knowledge on designing applications and visualizations was stretched to new limits as I was working on creating new internal tools and widgets of the web-Dashboard. The visualizations were aimed to provide company analytics to Product Managers worldwide in a simple and efficient manner.

My expertise also increased in the field of user-centric design. From requirements gathering, to product delivery, I was trained to design keeping users in perspective. Our production users process highly sensitive financial data which has productivity count in milli-seconds. This proved to be a major confrontation as the applications had to be highly simplistic and functional in nature reducing process overhead as much as possible. I spent maximum amount of time with

our users doing everything from contextual enquiry to user-acceptance testing. This exercise gave me various visual insights to improve the application design.

Seeing my experience in research, Mr.[name removed] (*Project Lead*) guided me towards few of the experimental and ambitious research projects which the company was handling in the field of visualizations and business workflows. I innovated the design of new complex business workflows which helps our production users to collect data much faster with better timeliness for our clients. Parallely, I also successfully experimented with Big Data visualizations and combined social collaborations within visualizations so that our production users can brainstorm on timeliness and accuracy issues.

I worked across 3 teams to provide efficient business designs for various financial products spanned across multiple platforms. My work was appreciated by both [names removed], resulting in promotion within one year.

Future career goals

Reason for taking up roles such as Teaching Assistant and a teacher at [names removed] was my love for teaching. Having worked in both the environments of Industry and University, I feel more inclined in pursuing my future in the latter because of the amount of freedom it provides. Ten years from now, I would like to see myself working as a professor contributing to research in the below mentioned research areas.

Academic plans, Research interest and why Pennsylvania State University

Over the years, I have come to embrace the strong impact that Information and Technology have on human lives. The subject Human Computer Interaction gave me means to both, create an impact and also evaluate that impact created. During my third year of college, Prof. [names removed] introduced me to various papers which motivated me to take up projects and research aimed on creating (or) evaluating that impact. “In order to learn: How the sequence of topics influence learning” by Dr. Frank Ritter need a special mention amongst such papers as it produced new ideas for ongoing independent research at [name removed]. My current research interests lie in using design to (1) solve various educational handicaps existing in developing countries, specially in the area of learning disabilities. (2) To understand and build better collaborative systems. (3) Lastly, I am also interested in interactive visualizations and how meaningful data can be presented through them to a society as a whole. I have followed the work done by Dr. Frank Ritter in the lab of Applied Cognitive Science and Prof.Michael McNeese very closely and wish to undertake my work under them as a Doctoral student in the coming future.

Given the chance, I feel I will do justice to the program and perform with utmost diligence in the research areas I have mentioned above.