Summer Internship Project-1

“The First Fifteen Minutes on the Learning Tracker“

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My Project guide Pavithra Vikram (Manager, Research and Development, VEPL) and my mentor Anand Kannan (Managing Director, VEPL). Their experience in the vast domain of R&D and Business development of learning and mobile applications helped me greatly in my short tenure at Valued Epistemics Private Ltd. (VEPL).

My R&D team members and also members from different teams in VEPL for their continuing support throughout the six weeks at VEPL.

And lastly, I would like to thank all my professors at IDC who helped me in building my skills that I got to apply during this internship.

Shaswath V
IDC, IIT Bombay
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Abstract

IDC gave me the platform to sharpen my skills and now it was time to put it into effect and I rightly chose a start-up company (VEPL) because it gave me all the opportunities to explore and experiment in a short period of six weeks as a summer intern.

My main project was to understand and improve the first time user's experience on the company's software named Learning Tracker and at the same time explain the service model to the user. Apart from this I also explored website design, advertising, mobile based applications etc. I was exposed to how all the teams in their organization function and interact with one another.

I was in the Research and Development team of VEPL. It was a great experience to work alongside the developers as each time I thought of a fancy solution or idea I had to consider the feasibility aspects as well. They always motivated me to think beyond the box as they were ready to make it work one way or the other. That showed the spirit in them and brought out the freedom in me to innovate.

I feel design gets better only through experience and putting to use whatever we have learnt.

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1. Introduction

The following sections give a walkthrough about VEPL (Valued Epistemics Pvt. Ltd.), the people behind it, the products and services they provide and my project brief for the summer internship.

1.1 About Valued Epistemics

Valued Epistemics is a new generation technology company based in Chennai. It specializes in mobile systems and application technologies. It is a start up founded and managed by technology professionals from top institutes like IIT, IISC, IIM, Purdue, Stanford, along with experience in R&D and Business Development from top mobile companies like Nokia and Motorola.

The company is intensely research oriented both in core engineering and algorithm development aspects and in end user behaviour and utilization aspects. *"Making Knowledge Useful"* is the motto of the company.

The company provides GRE aspirants with learning packages and services in two mediums – Mobile Phone and Website (GREedge.com). The package consists of intense and in depth training of GRE related material and the services include counselling sessions by student counsellors (SC), student monitoring by millisecond technology and detailed feedbacks on student's performances and online support by Student Facilitators and Analysts (SFA)

1.2 About the people behind VEPL

Anand Kannan (Managing Director) has a B.Tech degree from IIT, Madras, and MSc. (Engg) degree from IISc, Bangalore, and PhD from Purdue University. He has worked with Nokia as part of its Research Centre in Irving, Texas for several years as Research Engineer and then as Manager, New Business Development.

Yogish Lavanis (Director and Co-founder) has a B.Tech degree from IT-BHU, Varanasi and MSc (Engg.) degree from IISc, Bangalore. He has worked in companies such as Tata-Elxsi and C-DoT as Research Engineer, with a particularly long stint at Motorola in protocol engineering, architecture and design for GSM, UMTS, WAP technologies in senior technical and project management roles.).

1.3 About GREedge.com

GREedge is the online academy (a product of VEPL), that offers adaptive learning program, in an attempt to boost an individual's GRE score using Millisecond technology with the help of a Personal coach/ Student Facilitator and Analyst (SFA).

Learning Tracker is an application that manages the different packages that are offered by GREedge for different enrolled students and at the same time provides the interface for learning for the individual.

It was my job to re-design the interface of the Learning Tracker in the tenure of the six weeks that i was with VEPL.

1.4 Why VEPL ?

I took this opportunity of doing a summer internship in a start up firm to explore different areas related to design and at the same time apply the knowledge that I gained during the one year at IDC.

I chose VEPL, because it gave me a chance to work in a company which is sincere in its work and do it at a quick pace.

It was an experience worth gaining at VEPL as it was a completely new territory I ventured into, having no prior experience in an industry before doing my post graduation. I got to be extremely formal, had to meet deadlines, report to my seniors and brief them about the day's work every day, and communicate through mails every day. At the same time it was fun having the leisure and freedom to innovate.

This report lists out all the work that I did at VEPL, the challenges that I faced and the experience gained out of this internship.

2 Design Process

2.1 Design Goals

My project was titled "The first fifteen minutes on the Learning Tracker".

My design brief was to redesign the Learning Tracker and understand and improve the first time experience on it by making it more interactive and addictive.

I started out with the following design goals for the Learning Tracker

- To be unique
  Must stand out from the other competitive sites

- To be addictive
  Application must keep the students hooked on it after the first fifteen minutes.

- To be personalized
  Application adapts to the requirements of the user. It must put the user in full control while using the interface.

2.2 Process flow in VEPL

The first and foremost task that was carried out was to understand the process flow in VEPL and about its product GREedge.com

Although Learning Tracker forms the bridge between the candidate and the GRE program, the support is given by the student counsellors, Student Facilitators and Analysts and the student monitoring system which form an integral part of GREedge.com and hence while re-designing the Learning Tracker I had to keep in mind all the aspects surrounding the Learning Tracker.

The other aspects to consider were the marketing aspects which are very crucial from the business point of view and hence it was expected of me to look at the marketing angle as well while re-designing the Learning Tracker.

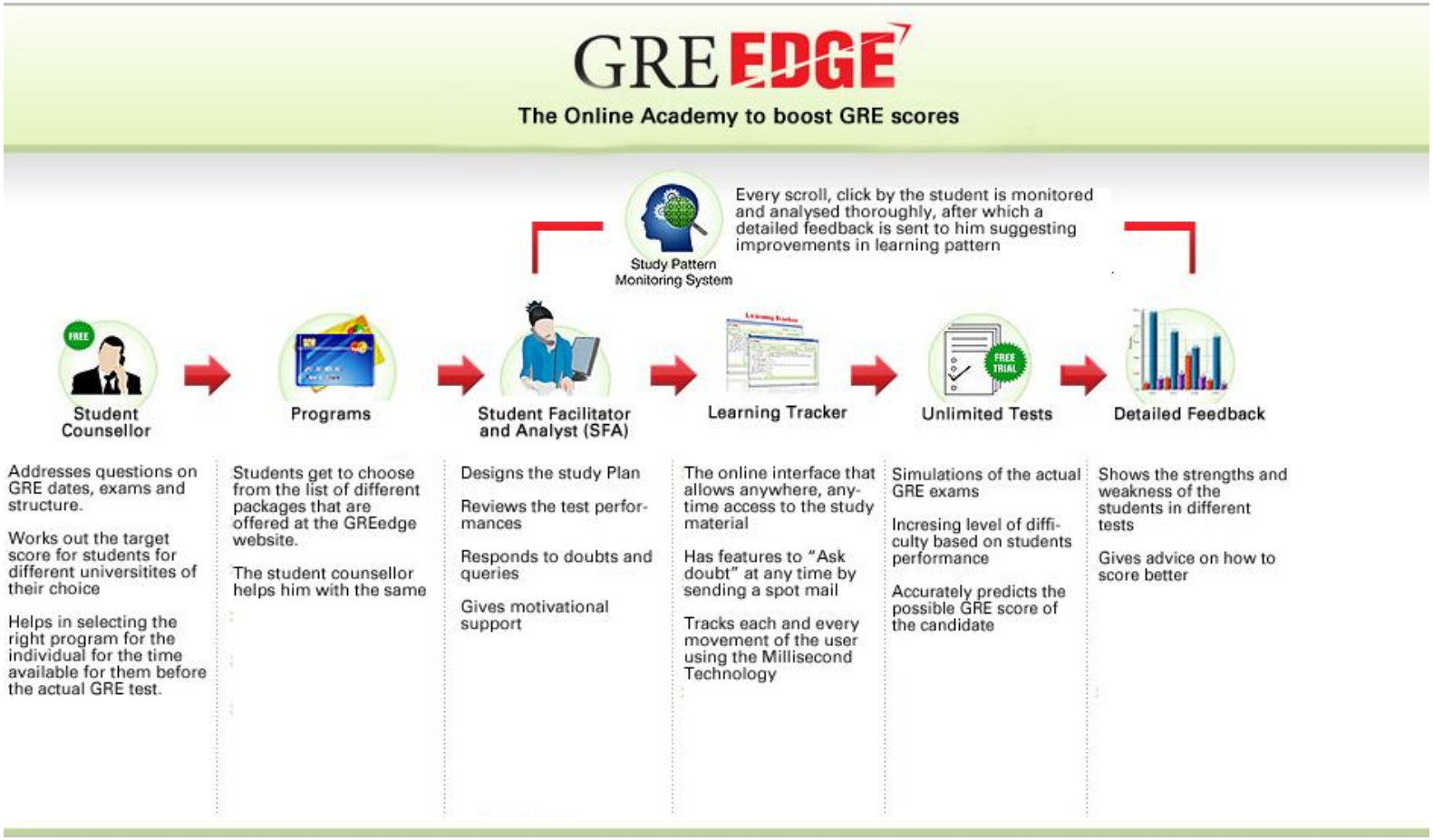

Fig 2.1 The process flow of GREedge.com

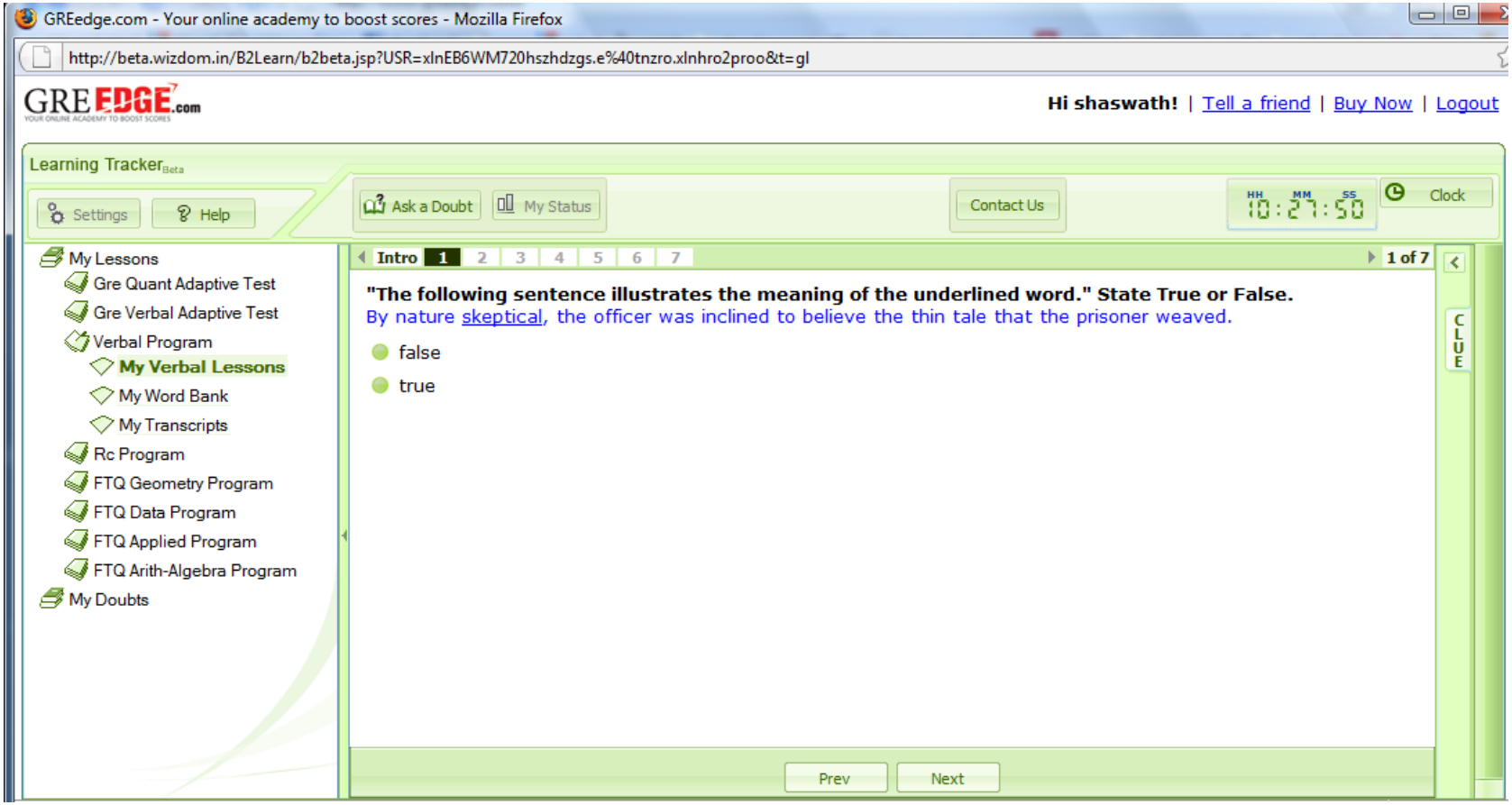

Fig 2.2 The Learning Tracker

2.3 Heuristic Evaluation

I started out with Heuristic Evaluation of the Learning Tracker to understand the different features of the interface and to test whether it satisfies the initially set goals which covered these areas:

- Visibility of system status
- Speak user's language and keep consistency and standards
- User control and freedom
- Error prevention
- Recognition rather than recall
- Flexibility and ease of use
- Aesthetic and minimalistic design
- Help and documentation

The findings were presented as a series of screen shots to the concerned teams. Along with the problems, suggestions were given and priority was set depending on the severity of the problems. If the candidate was not able to make a move inside the Learning Tracker at a certain stage then that was considered to be the most severe problem.

Fig 2.3 Heuristic Evaluation of Learning Tracker

2.4 Collation of problems

Ideas, suggestions and problems regarding the current Learning Tracker's interface given by members of different teams were collated categorically and priority to complete was set based on the severity of the issue.

This collation of viewpoints of different members of different teams helped in bringing out many hidden problems to surface and helped in better understanding of what improvements need to be made.

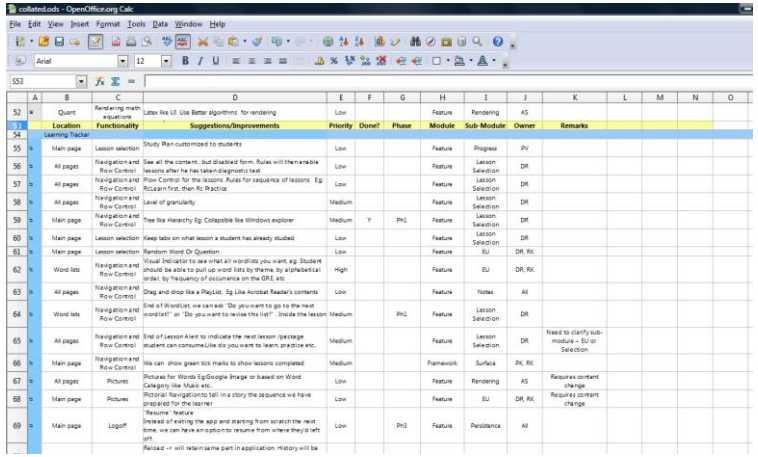

Fig 2.4 Collation of viewpoints

2.5 Brainstorming

Members from different teams were invited for a brainstorming session for the topic "Learning tracker". There was active participation from people with different backgrounds within the company which helped in getting different viewpoints regarding the Learning Tracker. Two rules were followed during the session

1) No critically evaluating someone's viewpoint
2) No hesitating while expressing one's ideas.

Fig 2.5 Brainstorming session

Following categories emerged out from the Brainstorming session

widgets, personalization, social networking, compete, alerts, post GRE, Entertainment, Alumni, Motivation, User Interface, Features, Customer Satisfaction, Automation, Help, Support, Analytics, Vocabulary, Content Media, Study Aides

2.6 Mind Map

Once the brainstorming session ended and the different keywords categorised, a mind map was drawn out based on those categories to further explore for ideas and build relationship within the different categories.

A separate mind map was chalked out for the front end as well as for the backend. This is to ease out the interpretation for the people working in the front end and backend of the Learning Tracker.

Fig 2.6 Mind Maps for front-end and back-end

2.7 Counselling and Orientation Calls

A prospect is identified based on his active participation in the demo version of the Learning tracker. A student Counsellor then calls up the student and explains him/her the different packages they have to offer and also explain how the Learning Tracker functions. These calls are recorded for internal evaluation. I listened to some of these calls to get an idea of the features that the users are looking for in the software and how the interface is explained to them by the student counsellors.

Once the student enrols he gets an Orientation call by the Student Facilitator and Analyst (SFA) who explain him/her the pattern followed in GRE and also makes a schedule for them to study and how to approach for the exam in the time left. I listened to some of these calls to get an idea of how the content is organised inside the Learning Tracker for ease of explaining for the SFA's.

2.8 User's viewpoint

Initially I set out with conducting contextual inquiry to get the users viewpoint but due to the lack of time I myself was made the user. They enrolled me as a student of GREedge. I got my own SFA and orientation calls and I gave the actual GRE exam in a week's time. It was a great experience as I got to feel what a user feels when he is enrolled with this website. Also I got to experience the environment in which I wrote the exam, the kind of interface that is used in the actual GRE exam. I listed out my findings and revamped my design goals.

2.9 Initial concepts and Prototypes

Once initial research regarding the Learning Tracker was established I set out making paper prototypes combining different ideas which I had collated earlier. Some of the key ideas that were implemented are:

Use of widgets
Frequently used tools like Dictionary, scheduler, Calculator can be developed as widgets and brought into the Learning Tracker.

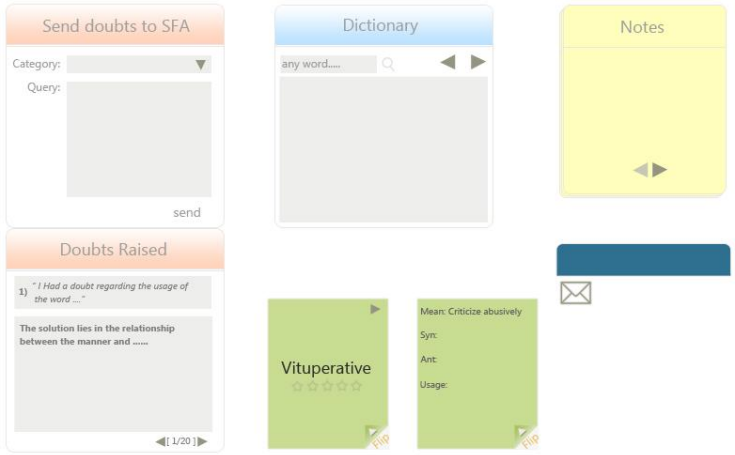

Fig 2.7 Widgets

It can be personalised such that the user can choose what kind of widget he wants to display frequently. The user can also simultaneously add and hide widgets. Also from backend point of view, many such widgets can be developed and released at a suitable without the need to update the Learning Tracker interface every time.

Use of four key sections

1) Profile section to display the messages and doubts clarified by the candidate's SFA, performance chart for their recent tests, list of universities they wish to join, their content completion stats etc.

2) Study section to house the current Learning Tracker. It will have all the necessary study materials based on the package that the candidate has enrolled for. It will also house the individual personalized widgets on the side.

3) Compete section to bring about challenges with friends (using GRE content). It will have games which use GRE words and test the speed and accuracy of the user in completing the tasks.

4) Lobby section to help users socialise. It will have articles posted by various users, help topics on GRE, well written essays on GRE topics and also chat section to chat with likeminded people.

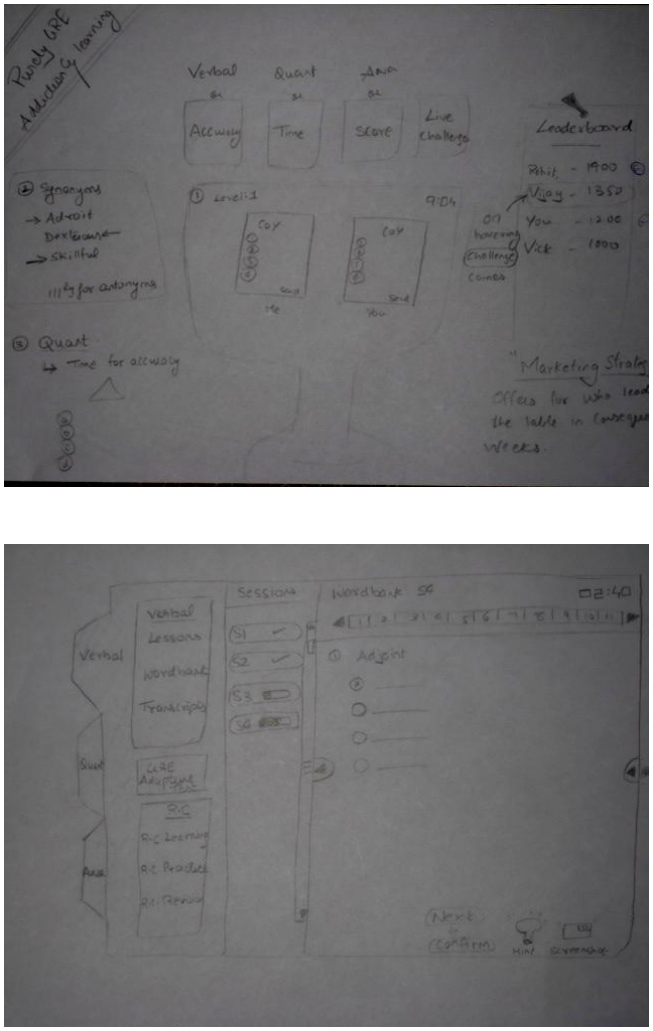

Fig 2.8 Paper Prototypes

Use of a Dock and icons

Dock is used to seat the icons. They are categorised in three ways

1) What People get (Content)
2) What People See (Messages)
3) What People use (Tools)

Icons serve similar use as the widgets for the backend people developing as individual icons can be developed separately and released anytime into the market without affecting major changes in the Main interface

Fig 2.9 Dock and icons

Change the way content is displayed

The learning process is to be made more intuitive, interesting and fun for the user.

The learning process should go through the four stages of Kolb's Cycle which are

Teach – Gaining an experience
Flash – Recollect from memory
Test – Abstraction
Use – Make use of the experience that is gained

To bring out the feel of an online academy

One step in bringing out the feel of an online academy was to make the interface look like an academy itself. Several attempts were made in this regard. After a series of frequent discussions with my seniors, final set of prototypes were made in Adobe Photoshop.

First layout involved in keeping the layout very simple without any flashy colours and choosing appropriate icons for the study, compete and lobby sections.

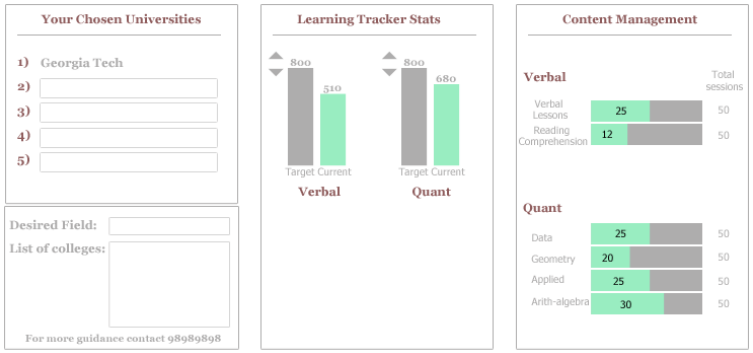

Fig 2.10 Layout 1 for the Learning Tracker

Second layout aimed at showing the necessary information for the user in the first screen itself (for e.g., to choose between verbal, quant and AWA) by making use of tabs and at the same time colour codes were used for the profile, study, compete and lobby sections.

Widgets occupied a separate corner of the screen on the right hand side and could be added and removed by the user based on their convenience.

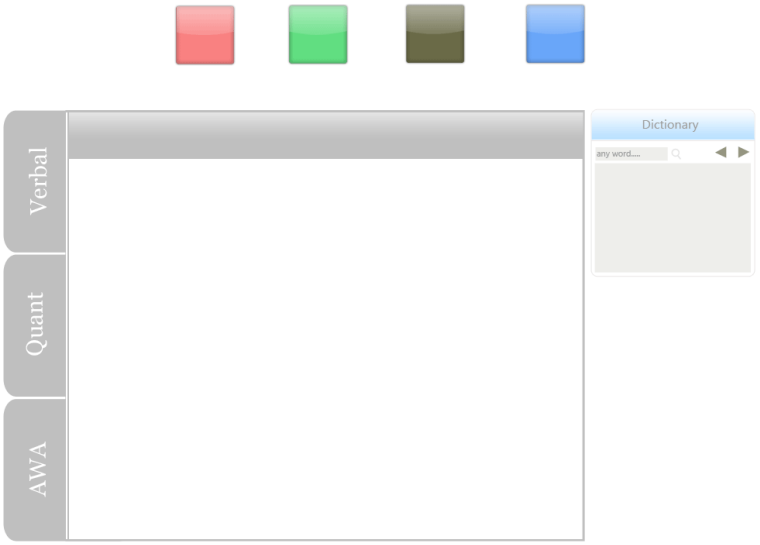

Fig 2.11 Layout 2 for Learning Tracker

Third layout aimed at incorporating the dock and the widget features. The dock consists of a bunch of icons which can be added or removed based on the user's convenience. At the same time colour codes were used for the profile, study, compete and lobby sections.

When more widgets were added, it behaved like an accordion wherein widgets keep stacking up and only one is maximised at any point of time.

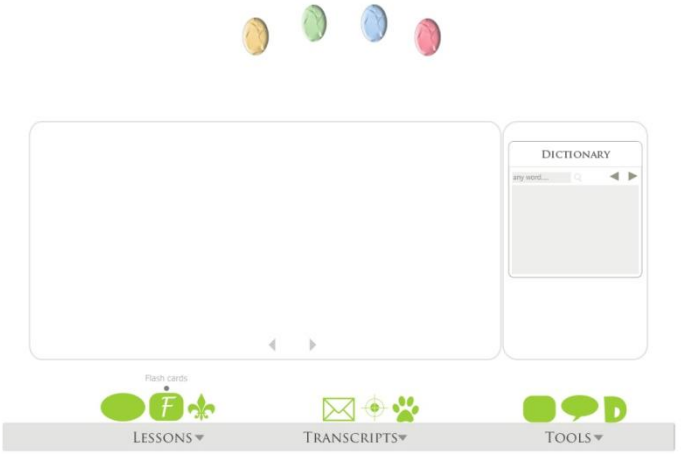

Fig 2.12 Layout 3 for the Learning Tracker

Fig 2.13 Final Layout - The Online Academy

Final Layout brought out the appeal of an online academy. It incorporated all the previously discussed ideas. A permanent hint/clue section was assigned to the right window for the questions that required the same. Aesthetics was kept in such a way to reflect the theme of an academy.

Additional features included quick use icons for adding notes.

Fig 2.14 Layout 4 – Quick use icons

The above layout was finalised by the company and was given the go ahead for doing the coding part.

2.10 Future Scope

Now that the interface is finalised and also rechristened "The Online Academy", future work lies in building a working prototype using softwares like Adobe Flash and then conducting a "Think Aloud" on it to test its usability.

Some of the other immediate features that can be added are

1. Skins can be changed anytime.
2. Alerts can be easily displayed.
3. Widgets can be added any time and many such widgets (user personalized as well) can be developed separately without having to depend on the interface.
4. Same interface can be used for both front end as well as back end
5. Fireworks can be displayed on successful completion, additional effects, seasons can be changed, birthday wishes and lot more
6. New icons available for download

3 Other Work at VEPL

I explored some other interesting design areas while at VEPL. This was a great time for me to enrich my knowledge and skills in these domains as well.

Website Layout: I contributed in bringing out different web layouts for their main website greedge.com. Shown below is one of the layouts.

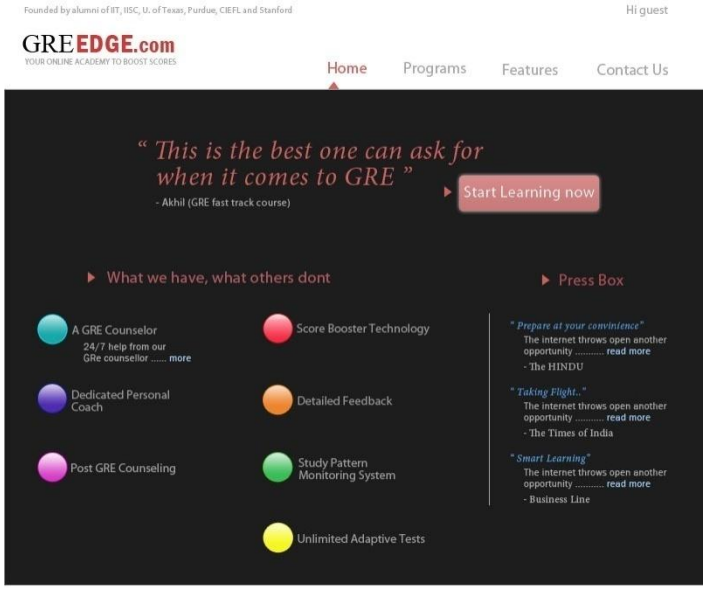

Fig. 3.1 Main website layout

Usability evaluation for mobile application: There was also the mobile version of Learning Tracker which needed revamping. I performed a heuristic evaluation on it and listed out the findings along with suggestions for improvement.

Fig. 3.2 Mobile version of Learning Tracker

Advertising: I also actively participated in the advertising campaigns for the company proposing design ideas which could help the marketing of the product.

4 My experience at VEPL

The first notion that I get out of this experience is that it is a fast paced world out there and people strive to complete their tasks within the deadlines and that is a big challenge as the expectations are high, the work to be finished is challenging and the time is always not sufficient enough. Although I got the freedom to explore different areas, follow a process that suited me the best, use the resources available for my tasks, bring out suggestions and find problems on every possible occasion, it's the results that mattered in the end and the output was what that was needed out there.

I got to understand that innovation and feasibility must mix and blend because at the end of the day if the design is great but it will take years to implement it, it is of no use especially for a start up firm which is always looking at quick results and rapid growth. So I had frequent discussions with my manager and the R&D team about the technical feasibility of my design ideas and how long it will take to implement it.

The work atmosphere in my company was great, which added to the enthusiasm of working with the company. I am looking forward to many such endeavours in the future to gain valuable experience, as it is with experience that a designer blooms.

5 References

Papers

- Cunningham, I. (1999). The Wisdom of Strategic Learning: The Self Managed Learning Solution, Gower Publishing.
- Boekaerts, M. & Boscolo, P (2002). Interest in learning, learning to be interested, Learning and Instruction, 12, 375-382.

Books

- The art of changing the brain - *Kolb*

Calls

- Recorded student's orientation calls at VEPL
- Recorded Student Facilitator and Analysts(SFA) calls at VEPL

Websites

- Advanced Personalized Learning – www.engineeringchallenges.org
- www.google.com