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1. Introduction:

1.1 About LearningMate

LearningMate is a leading provider of end-to-end online learning solutions to the education industry. They help client organizations implement strategic initiatives related to the creation, management and delivery of high-value interactive learning content.

A team of experienced professionals including instructional designers, project managers, content specialists, graphic designers, creative visualizers, programmers, and quality control specialist's work together to deliver relevant, robust solutions at a price point significantly lower than industry benchmarks.

1.2 Why LearningMate

E-Learning as a domain had always attracted me. Learning through a digital media is a form of challenge as it contradicts the conventional way a user learns. Even then this field has emerged and flourished in the business domain.

I wanted to explore this area where I could actually see learning and technology combine forming a common platform. I had a keen interest to study the industry application of this area.

LearningMate is the leading provider of e-learning solutions to serve the knowledge needs of people, across the globe.

Also LearningMate is known for its excellent work culture and consistency and efficiency in the quality of learning solutions they provide.

2. Work and Responsibilities:

2.1 Work Assigned

I was assigned two of the major projects in LearningMate both of which were Learning Management Systems (LMS)

1. Learning eXchange
2. QuAD (Question Authoring and Delivery tool)

My role as an Interaction Designer was to review these products in terms of their usability and ease of use to the target users.

2.2 My Challenges

E-learning was a new domain and I had no knowledge about the modes and methods that were used in this field. I also needed to make myself familiar new terms like LMS, VLE, etc. I had to understand the way how these learning tools work and also study their relation with the end user.

Usability was a field that was not yet explored and worked on in the organization. My role as a designer was to create awareness about this subject and its importance and also to create a realization about the importance of the user in the development of any product.

3. My Approach:

3.1 Setting Timelines

I was on an internship period of 2 months. Thus I had ample amount of time to understand the products that were developed and also research some of the existing applications.

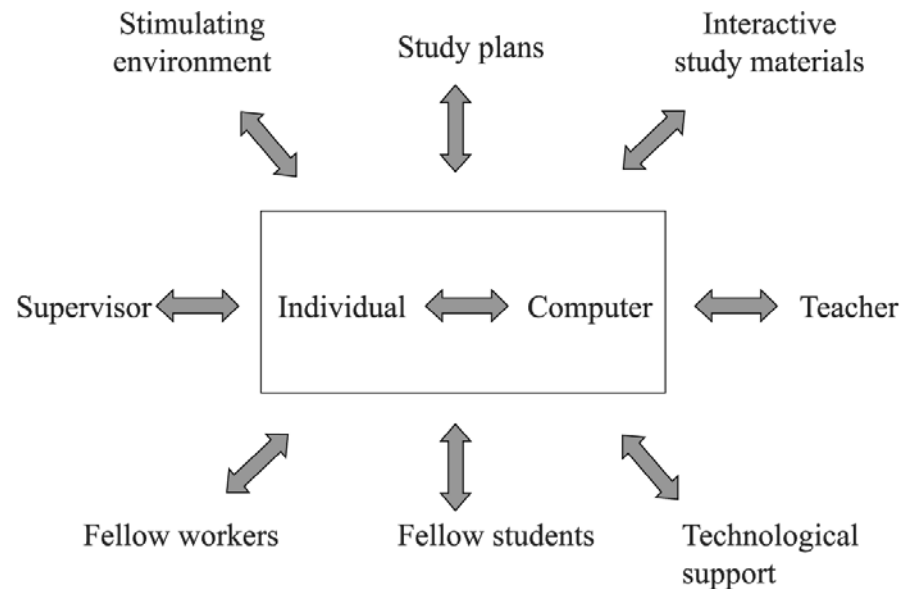
I started off with setting timelines for myself. These timelines were coordinated and synchronized with the rest of the team so that the work in progress was not affected.

The initial week was dedicated to strong ground work and making my basics strong with relation to the field of e-learning, its terms and technologies and also the way this domain functions in the industry. The next step was to understand the two products which were assigned to me in detail their goals and target audience. Understanding the products helped me decide upon the type of usability tests that could be applied to test them in terms of usability. Once these were decided the remaining weeks were devoted to recruiting the users, performing the test and then analyzing the results of the tests.

4. Study and Research

4.1 e-Learning

Learning that is facilitated by the use of digital tools and content. Typically, it involves some form of interactivity, which may include online interaction between the learner and their teacher or peers.



4.2 LMS (Learning Management Systems)

A Learning Management System (or LMS) is a software package that enables the management and delivery of learning content and resources to students. Most LMS systems are web-based to facilitate "anytime, anywhere" access to learning content and administration.

At a minimum, the LMS usually allows for student registration, the delivery and tracking of e-learning courses and content, and testing, and may also allow for the management of instructor-led training classes. In the most comprehensive of LMSs, one may find tools such as competency management, skills-gap analysis, succession planning, certifications, virtual live classes, and resource allocation (venues, rooms, textbooks, instructors, etc.). Most systems allow for learner self-service, facilitating self-enrollment, and access to courses.

LMSs are based on a variety of development platforms, from Java EE based architectures to Microsoft .NET, and usually employ the use of a robust database back-end. While most systems are commercially developed, free and open-source models do exist. Other than the most simplistic, basic functionality, all LMSs cater to, and focus on different educational, administrative, and deployment requirements.

Examples:

1. BlackBoard
2. WebCT
3. Angel
4. Moodle

5. Project I – Learning eXchange

5.1 About LX

LX is an application which allows taking online courses as well as facilitates authoring. It performs both the functions of delivery and authoring. The highlighting aspects of LX are the various forms of interactions that it provides its users while taking or creating a course. The miscellaneous features that it provides are messaging, groups, blogs, notes, tags etc.

5.2 Target Audience

LX has a target audience divided into two broad categories:

1. Learners

These are the people who use LX for the purpose of taking a course. Their main aim is to use LX as a Delivery tool and use its features to enhance their interactions with their fellow learners.

2. Authors

These are people who create content using LX for the learners. They mainly associate with the authoring part of the application.



Fig 5-1 Log In page

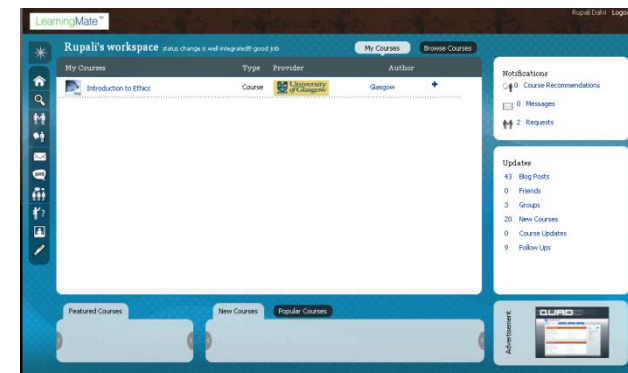


Fig 5- 2 Home page

5.3 Usability Tests

LLX has three major activities that it promises to perform:

1. Taking a Course
2. Interactions with the miscellaneous features
3. Authoring

“Heuristic Evaluation” was done with respect to the target audience.

“Think Aloud” was performed to get better results and findings.

5.3.1 Heuristic Evaluation – LX

Heuristic Evaluation was done for LX after studying the product in detail and understanding the product goals and requirements.

Approach followed:

1. Setting of Heuristic Goals for the product
2. Understanding the target audience
3. Understanding the product requirements
4. Evaluating the product based on its target audience
5. Output in the form of Usability Issues
6. Design Solution to make improvement

Different user scenarios were considered and the product was evaluated based on these scenarios.

The following activities were taken into consideration

1. Taking an Course
2. Interactions with different miscellaneous features- blogs, messaging, notes, groups, etc.
3. Authoring – Creating a course content

The different scenarios which were considered related to both advanced beginners and novice users. The final output was a list of usability issues. These issues were then analyzed according to their priority i.e. High, Medium, Low and design solutions were suggested for the same.

Each of the above mentioned activities which LX offers were analyzed with respect to the users and the various situations they encounter while they perform these activities.

The Heuristic Results were presented mainly in 4 categories

OB – Observations

IN – Insights

BR – Breakdowns

DI – Design Ideas

A few of the examples encountered during the heuristics are mentioned alongside.

The figure alongside shows the changing toolboxes of LX. There is a sudden change in the toolbox which goes unnoticed by the user. Also the Sun Symbol, which is a means of going to the main tool box, is not consistent in its functionality. It is not interactive on the home page whereas it is interactive on the course page.

Similarly many other issues were encountered and listed with the design solutions

An overall conclusion from the Heuristics of QuAD was then presented.

Positives

- Exploration Possible
- Good for Advanced Beginners
- Many features provided
- Layout

Negatives

- Contradicts the Usability slogan – “Less is More”
- Less Intuitive – specially “Blogs” and “Groups”
- User requires to remember the navigation
- No guidelines for first time users

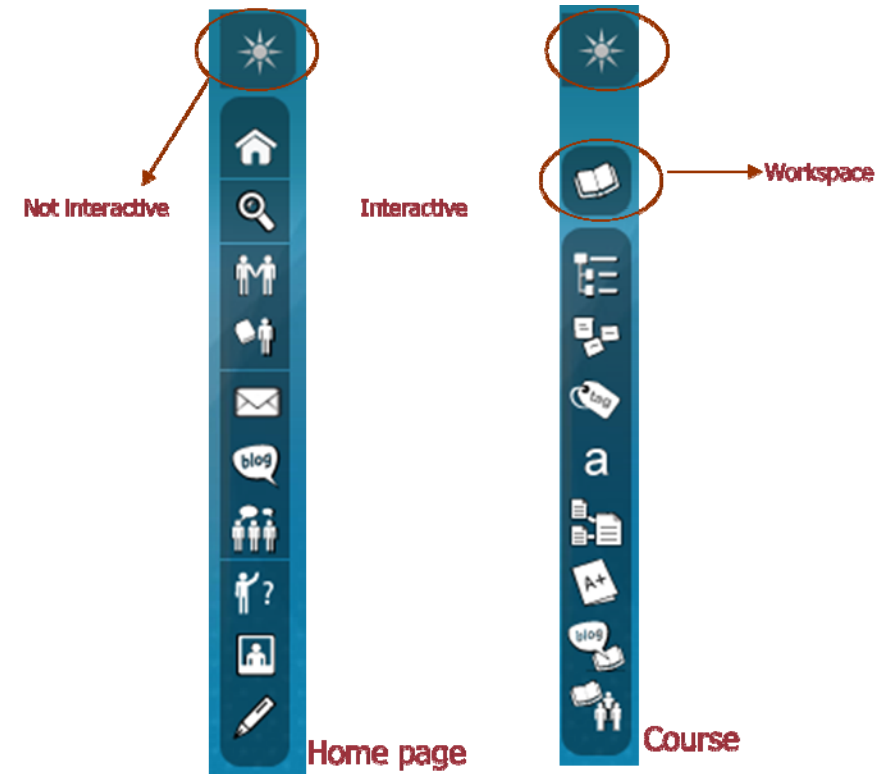


Fig 5 – 3 Toolbox (Home)

Fig 5 – 4 Toolbox (Course page)

Screenshots of LX



Fig 5 – 5 Message Compose

BR: The "To:" field is not very intuitive. The user needs to know what type of address he needs to enter i.e. Name of the receiver, his email address etc.

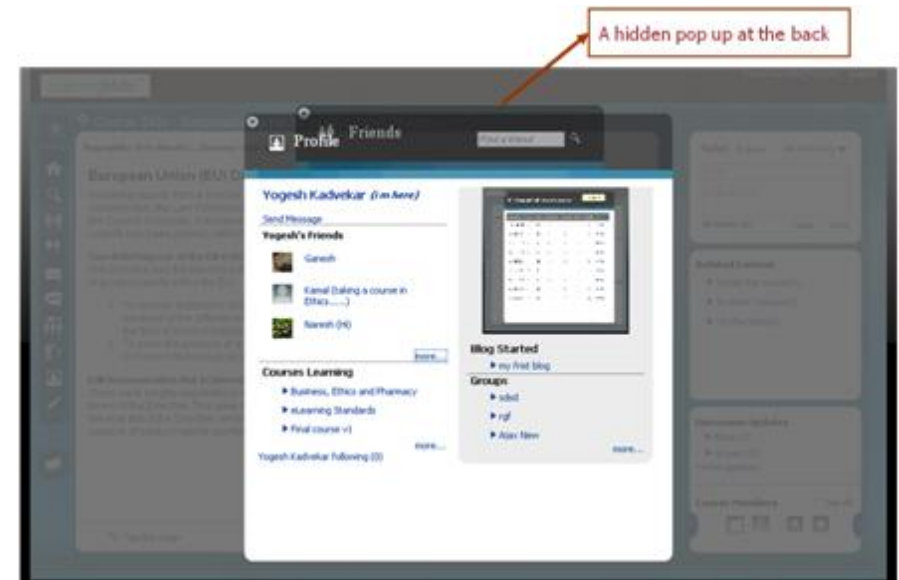


Fig 5- 6 Friends

BR: Hidden pop up behind the newly opened pop up

5.3.2 Think Aloud Protocol

LX is a market product and offers many interactive features. These additional features though have a wide scope contradict the Usability slogan “Less is more”

LX has miscellaneous features but these features are an add on to the actual task which LX is supposed to perform i.e. Creating a course and authoring.

A Think aloud helped to evaluate these features which are designed specially to give added value service to the users.

The following approach was maintained:

1. Understanding the users.
2. Preparing a Screener – This helped in recruiting Users as per the requirement.
3. Preparing a Protocol – The protocol consisted of a set of 6 tasks which the user was supposed to perform.
4. Think aloud test
5. Analysing the results and coming up with design solutions.

A set of 6 users were recruited and tests were performed for LX based on the tasks.

A balance was maintained between the Advanced Beginners and Novice Users.

The tests were conducted in a Testing lab where the user was first familiarized with the process of Think aloud with the help of a warm up exercise.

As the users performed the set of tasks their feedbacks were recorded and then analysed to confirm the results found in the Heuristic Evaluation.

The data gathered was then documented similarly as done in the Heuristic evaluation and Design solutions were provided.

The results of Think aloud confirmed most of the issues which were encountered during the Heuristics as well as introduced totally new issues from the point of view of the user.

The test allowed to look at the product directly from the user’s point of view and also helped realize the strengths and weakness of the product.

A final analysis of LX based on the Heuristic Evaluation and Think aloud Test was presented to the development team and also to the Senior Management Team.

The development team was handed over a list of usability problems related to LX from the user’s point of view and the product was modified accordingly.

6. Project II - QuAD

6.1 About QuAD

QuAD is a Question Authoring and Delivery tool. It is an assessment portal which allows author to create assessments, questions, question banks etc. Different types of Questions like Multiple choice single select, Multiple choice with Media, Fill in the Blanks, Sorting Containers etc.

6.2 Target Audience

QuAD has a unique target audience:

1. Authors, Editors, Instructional Writers

These are the people who use QuAD for the purpose of creating an assessment and delivering it to the end user.

These people use QuAD for creating Questions, Banks, and Assessments.

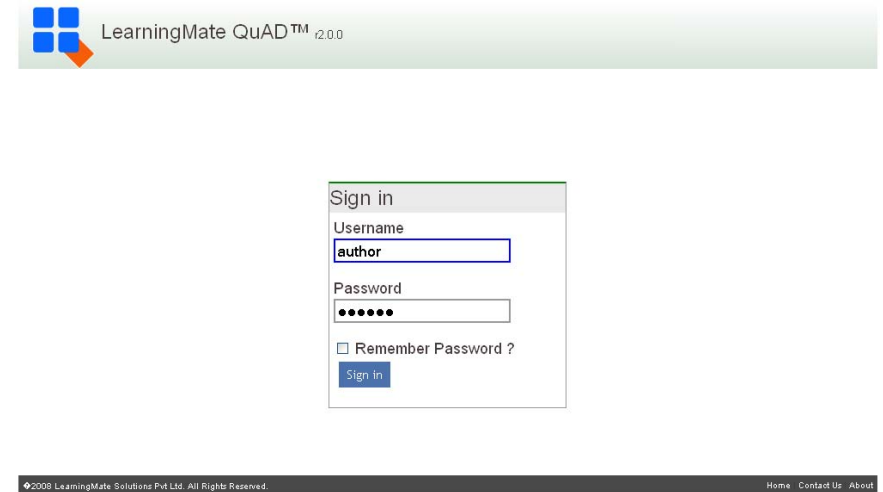


Fig 6 – 1 Log in Page

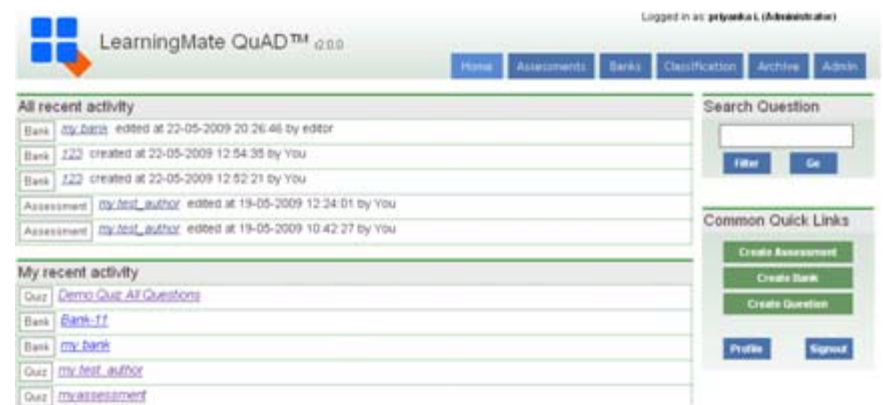


Fig 6 – 2 Home page

6.3 Usability Tests

QuAD has a major activity that it promises to perform:

1. Authoring – Creating an Assessment

“Heuristic Evaluation” was done with respect to the target audience.

A heuristic for QuAD was sufficient as QuAD was just a small part of LX.

6.3.1 Heuristic Evaluation – QuAD

Heuristic Evaluation was done for QuAD after studying the product in detail and understanding the product goals and requirements.

Approach followed:

7. Setting of Heuristic Goals for the product
8. Understanding the target audience
9. Understanding the product requirements
10. Evaluating the product based on its target audience
11. Output in the form of Usability Issues
12. Design Solution to make improvement

Different user scenarios were considered and the product was evaluated based on these scenarios.

The following elements of QuAD were considered independently based on the specific functions they provide to the user

1. Assessment
2. Banks
3. Questions
4. Media

The different scenarios which were considered, related to both advanced beginners and novice users. The final output was a list of usability issues. These issues were then analyzed according to their priority i.e. High, Medium, Low and design solutions were suggested for the same.

The Heuristic Results were presented mainly in 4 categories

OB – Observations

IN – Insights

BR – Breakdowns

DI – Design Ideas

An example encountered during the heuristics is mentioned alongside.

The figure alongside shows the Assessment Page. This page consists of the list of Assessments which are created by the user along with the assessments which are assigned to him. There is no clear differentiation between the two types of assessments.

The newly created assessment gets added in the middle of the list. This makes it difficult for the user to identify the newly created assessment.

Similarly many other issues were encountered and listed with the design solutions

An overall conclusion from the Heuristics of QuAD was then presented.

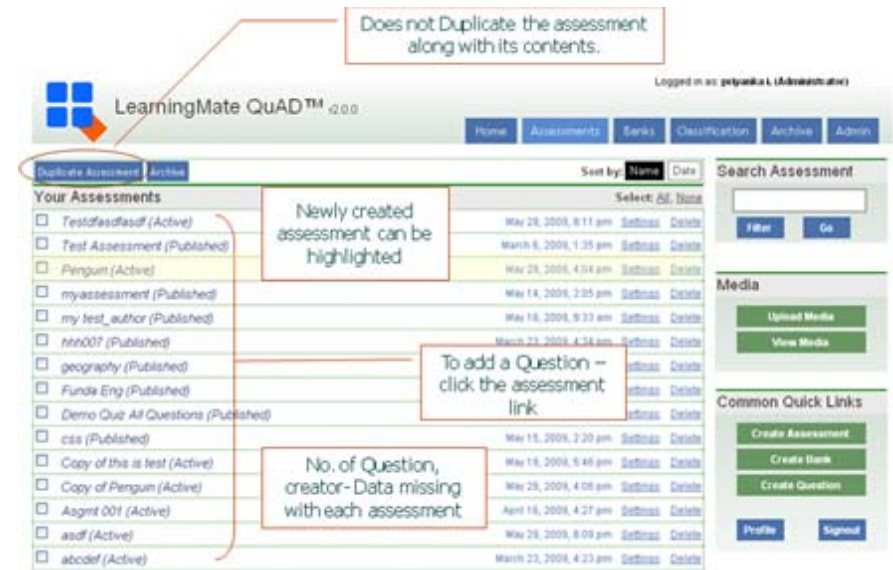


Fig 6 – 3. Assessment page

Conclusion for QuAD

- 1) QuAD – usable in terms of functionalities
- 2) Usability at finer level needed :
 - a) “Grouping Information”
 - b) “Missing Links”
 - c) “Instructional Text”

6.4 New Layout for QuAD

A new layout for QuAD was proposed based on the following

1. Heuristic Results
2. Navigation problems
3. Missing Links

The new layout had the following Highlighting Features:

1. An upfront access to all the functions that QuAD supports.
2. Preview on the same screen
3. Bookmarking
4. Proper grouping of Information
5. Provision of instructional text
6. Consideration for First time Users
7. Changes in the Media Screen
8. Global Search
9. Missing Links rectified

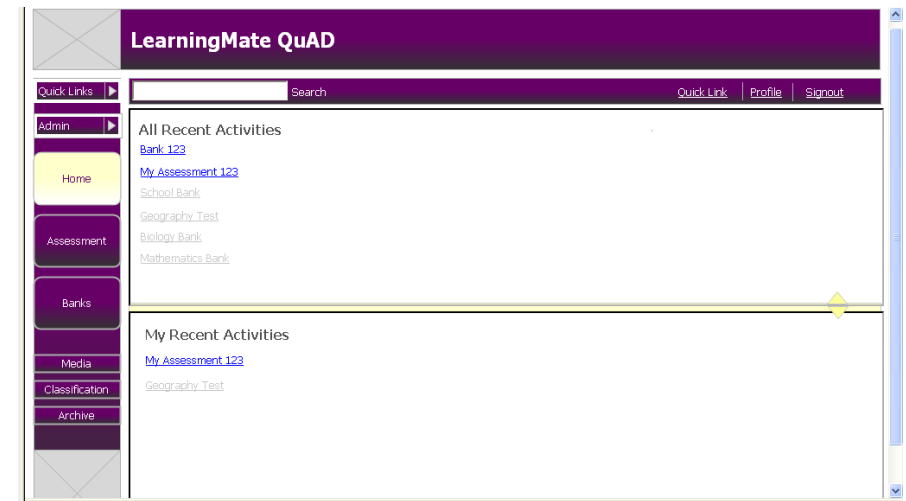


Fig 6-4 New layout QuAD Home page

7. Learning from the Organization

- Organizational Culture – This being my first experience in the corporate world I was lucky enough to start with an organization that helped me get practical experience and also explore and enhance my thoughts and ideas.
I also had an experience of how the industry actually works and how deadlines in work are followed.
- An experience in the field of e-Learning – E-learning as a domain had always attracted me and I got an opportunity to work in the same. I got a closer look to the e-learning industry thus my knowledge in the related field has improved.
- Significance of Team Work – Team building, co-coordinating work with the team, and maintaining timesheets, share of knowledge and experiences were the highlighting features while working in a team.
- Respect for others viewpoints – The internship taught me to respect and consider other people's views and ideas. This helped me look at a solution from different angles and also gave different dimensions to the problem solution.

8. My Experience

- A Learning Experience
- A Fun experience – Excellent Work Culture
- Icing on the top – warm people
- Helped me realize my strengths and weaknesses