USABILITY ENGINEERING – ASSIGNMENT 4

Usability Testing of Creately Package

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Introduction

The following report consolidates the findings from usability testing performed on Creately.com which a collaborative diagramming tool. It then compares that with the findings for other such tools such as Microsoft Teams, Blackboard Collaborate Ultra, and Atlassian Trello, etc. The comparisons are in terms of usage in practical sessions, advantages, disadvantages of each package, etc. In conclusion, each system is being ranked and realistic recommendations have been made to increase the usability of the system.

Task

Users are asked to work on group activity and present it to their tutor.

	Task Description	Offshore students are taking online classes due to the current pandemic. During the practical session, students are asked to develop a class diagram for an eCommerce system as part of a group activity. On completion, they are also required to present the outcome to their tutor. Hence participants need to develop and present a diagram online using available collaborating packages which allows effortless collaboration and produces high-quality results.
	Success Metric	Participants were able to create the class diagram as per industry standards (Symbols) and present effectively to their tutor.

Scoring

Sr.	Completion Measure	Completion Criteria
1	0%	Unable to create a class diagram collaboratively and present to tutor as well
2	25%	Able to brainstorm rough ideas collaboratively but unable to present in any form.
3	50%	Able to brainstorm rough ideas but able to present it visually only.
4	75%	Able to create a class diagram as per specifications but able to present it visually only.
5	100%	Able to create and as well present their results to the tutor.

The comparison starts on the next page.

	Creately.com	Trello	Collaborate Ultra	Microsoft Teams
Group Collaboration	[8] Many users can simultaneously work on a document involving creating diagrams such as UML diagrams, flow charts, Venn diagrams, etc [8] User can present their thoughts using an in-place commenting feature which allows users to write a comment for a point on the canvas. This makes commenting direct. [8] Group sharing is easy with 3 options such as publicly visible, visible to the group having a link, and invited members only, etc.	Users can collaborate in real-time for tasks involving categorizing ideas. Fundamental units of Trello are Cards and List. Separate List can differentiate between channels and each list can accommodate many cards. A card can have many types of content including a checklist, files for information sharing. Card level comments can be used by a subgroup of participants for discussion without disturbing others. Inviting reviewers for collaboration is easy and is just an invite away.	Collaborate Ultra is a content sharing and conferencing application. Any participant can be a host for a time and share content that can be viewed by all other participants. Whiteboard can be used for sketching and many users can simultaneously draw on the same window. This sketch can also be saved and referred to in the next sessions. Entire sessions including chat discussions can be recorded and revisited by students. The host can raise a poll to collect anonymous feedback in real-time. This can be used to collect very important data.	Microsoft Teams is also a flavor of Content sharing application that integrates seamlessly with 100s of popular third-party software such as a lucid chart, JIRA, google drive, etc. Collaborative interactions are made possible using voice and video sharing. Alternatively, students can also use the available chat feature. The entire meeting can be recorded and revisited later by students. Students can use Microsoft's whiteboard feature for collaborative brainstorming tasks using a sketch.
User Task Results	Participants were able to create the class diagram for an eCommerce system as per industry standards using predefined templates and available UML symbols. With integrated google image search, they were able to quickly reference class notations and their usage. Each participant was able to contribute to the betterment of results using in-place commenting. They invited the tutor to see the document. However, due to lack of conferencing, participants were not able to present the outcome of the task to their tutor. The task was 75% achieved.	Participants were able to define each class in the system as a separate list. Separate sub cards were used to define class variables and functions as required by class diagrams. Any participant could contribute to existing lists or create new lists in real-time. This organized the flow of ideas based on the list. However, due to a lack of connectors and symbols, users were unable to produce diagrams as per specification. The task was 50% complete.	Students used breakout groups to perform this activity during a practical session. They used the available white-board feature to draw the diagram. Support for textboxes and standard shapes like circle, square, and lines proved to be useful in producing a result with expected quality. Using the conferencing feature, they presented the result to the tutor. Hence task was 100% complete.	Students used shared word document in Microsoft teams to collaborate. Using a rich set of symbols available in Microsoft's Word they were able to produce industry compliant diagrams. Students presented it to their tutor visually as well as verbally using conferencing Hence the task was 100% achieved.
Advantages	Easy to use interface and produces great quality results when it comes to diagramming tasks. It provides countless predefined templates for standard documents and support for 40+ diagram types which are well categorized as per fields. This does not require a user to start from scratch and saves time. Extensive support for keyboard shorts including common editing operations like copy, cut, paste, etc. Support for unlimited collaborators using premium plans.	[3] Real-time updates are exceptionally responsive. [3] Moreover, updates are less disturbing to others because the system updates the board automatically. Labelling with colour blindness enabling the option. **e.g. When enabled coloured labels get a pattern to distinguish them from one another**	Ability to share content and collaborate with a whiteboard. Brainstorming is possible with a persistent whiteboard, which allows interactions from multiple participants. Session recording and the ability to share only a certain portion of the screen while presenting. Raise hand feature which simulates the queue like structure when it comes to responding on a first-in-first-out basis. Anonymous poll that can collect valuable input at real-time. Breakout rooms for conducting private sessions or group activities	[4] Integrations with most-used third-party applications used by industry make it the best platform when it comes to performing collaborative tasks. **e.g. you can add google drive storage to your teams** [4] Ability to disable incoming video feed allows an individual to be part of a verbal discussion at least when having a poor internet connection Allows making voice calls over the internet. Allows taking notes within the app during meetings. [5] A person with access to office 365 can access all features of teams at no additional cost.

Rank				
			Virtually no limit on allowed participants. (**Even if there is a limit, it can be considered as sufficient for all types of activities. e.g. In PF class, almost 220+ students were connected**)	Video & Voice conferencing is the most natural way of collaboration with others.
Disadvantages	No clear communication system such as chat window. No support for touch input. **e.g. System is unresponsive to touch inputs for dropping shapes or exploring canvas** [8] Only 3 participants can collaborate in the free version.	Nested lists are not allowed. List Resizing is not possible. No support for clear communication such as voice calls or chat within the app While it does support card level commenting, there is no support for editing comments. **e.g. The only way to correct your previous comment is to post a new comment.** Support for keyboard shortcuts and label is limited. e.g. No keyboard shortcut for creating list or card.	Requires a lot of bandwidth. No option to choose the quality of input feed or perhaps disable the video for a slower internet connection. Only one participant can share content at a time.	It has a considerably high learning curve which requires a fair bit of practice to make effective use of it. Only one participant can share their screen at a time. Access permissions are not granular with teams. Once a part of the team, that individual gains access to all the channels within the team. This is like all or nothing which may not be the case every time. **e.g. You want to consult an outsider for the project you are working on. If you make that person as part of the team, he automatically gets access to all the channels which you don't want. The only way to achieve this is to create a new team and add only the required data just for a single meeting.**
Recommend-ations	Include document versioning as such documents may undergo frequent redrafting and revisioning. Consider adding touch support since new generation systems are touch-enabled and people prefer applications that support such features. Support for freehand drawing that can turn the hand-sketched symbol into a diagram. That would be the most effortless way of interaction with the system. **e.g. draw a rough rectangle with hand and system would produce a rectangle shape of the same size.** Error validator engine for diagrams would be a great add-on. **e.g. ER diagrams do not include foreign keys. If included, such errors should be highlighted.**	Support for nested lists.	Introduce the option to disable input video feed. Provide the option to adjust video resolution based on available bandwidth. It should not be everything or nothing system.	Multiple screen sharing would be a great add-on as it has many use cases e.g. comparing the document of 2 users.
Rank	3 Produces high quality results for diagramming tasks but lacks solid built in communication system for collaborative learning experience.	4 Offers limited features.	2 Whiteboard is sufficient for brainstorming on any idea. Inbuilt chat and conferring feature along with screen sharing make it suitable for practical sessions	1 Integration with third-party software makes it a complete package

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