

**COMP3423 Human Computer Interaction – Group Project Report Project**  
**Title: Revamp the Blackboard APP**  
**Group 6**

**Workload declaration table**

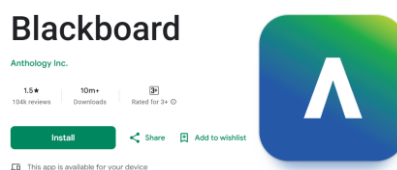
SID	Name	Role(s)	Corresponding tasks (in point form)
23082545d	*Lee Yin Lam Elaine	Prototyper, Accessibility Specialist	<ul style="list-style-type: none"><li>• Prototype building</li><li>• Page transitions</li><li>• Documentation</li><li>• Video editing</li></ul>
23078028d	Chong Zhi Yi	UI designer, UX designer, Prototyper	<ul style="list-style-type: none"><li>• Build the prototype</li><li>• Check visual element: buttons, icons, layout</li><li>• Design “Tools” pages</li></ul>
23088621d	Cheung Kei Yau	Interaction designer, Visual designer	<ul style="list-style-type: none"><li>• animations, transitions, and user flows</li><li>• color schemes, typography, and overall visual style</li><li>• Design the “Group” page</li></ul>
23087882d	Lau Ming Yin	User researcher, Interaction designer, Prototyper	<ul style="list-style-type: none"><li>• Prototype building</li><li>• Design sorting</li><li>• User test maze making</li></ul>
23085232d	Au Tsz Kin	User researcher, Accessibility Specialist	<ul style="list-style-type: none"><li>• Maze user test making</li><li>• Provide testing scenarios</li></ul>

## 1. Overview of Blackboard App

The app we have chosen is Blackboard ([Link](#)), in which its purpose is to provide an intuitive way to interact with different types of features, depending on the role of being an instructor or a student. For instructors, they could preview course items, assignments and tests; create and upload course content; participate in discussions; send announcements; grade assignments and upload assessments settings; change item settings for assessments and other content. For students, they could view course items and course announcements; take assignments and tests; participate in discussion.

(from Blackboard Help Center

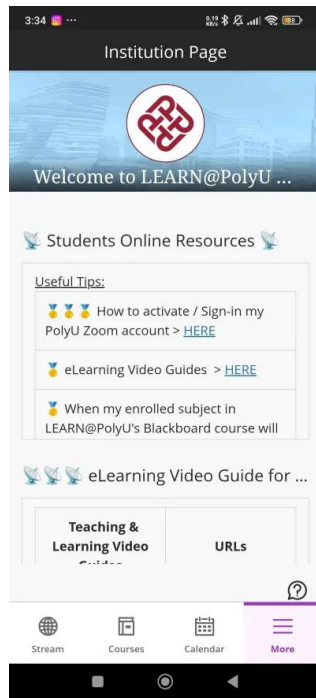
[https://help.blackboard.com/Blackboard\\_App/Feature\\_Guide](https://help.blackboard.com/Blackboard_App/Feature_Guide))



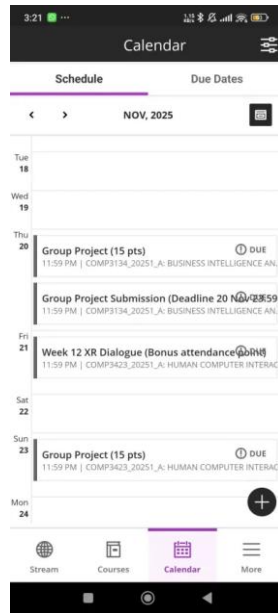
## 2. Design Drawbacks and Analysis

### 2.1. Title Display Issues

In the Institution page, section headings with excessive length are partially chopped to display limit and “...” is added at the end. Users cannot display the full text of the heading by clicking on it. Users have difficulty reading the text and therefore might not understand the function of the section. The full text should be shown when the corresponding title is clicked.



In the Calendar page that shows the scheduled tasks, the assignment and course titles cannot be fully displayed. Additionally, the assignment title overlaps with the “due” icon. All text appears similar in size and weight that users may struggle to distinguish between task titles and deadlines. Without “today” label, users may lose orientation in the timeline and no clues on the emergencies of tasks. To alleviate the situation, the “due” icon can have its own row on display.



After clicking in the course, the course title is displayed on the top of the screen. For long course titles, they are an animation of the title running back and forth (i.e. from left to right and from right to left). This animation design is difficult to read, as human read texts in single direction. Redesigning the animation and set it to run in a loop of single direction (i.e. from left to right) should tackle this problem.

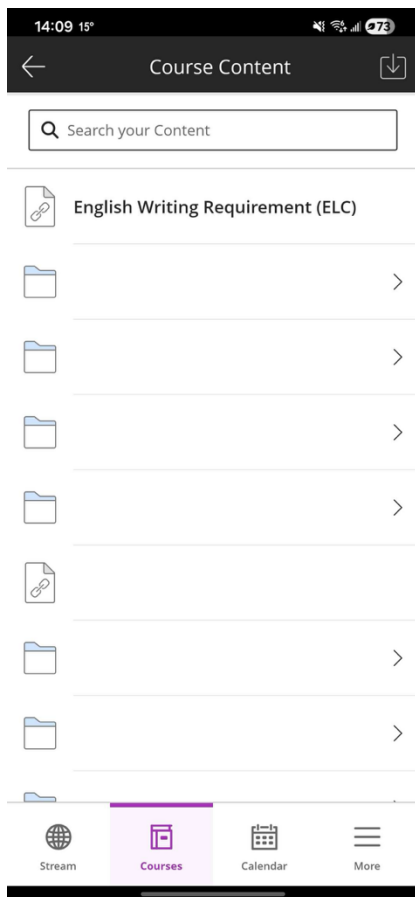
Double-click the following video to play the demonstration of the issue:



Screen\_Recording\_20  
251119\_154043\_Blac

## 2.2. Lack of Visual Cues for Folder Buttons

In some of the courses, instructors use pictures to represent the folder name, which makes students understand the functionality of the folders easier. However, the image disappears in app version and leave users confused. The app should provide visual cues or icons to differentiate functions of each folder and allow instructors to personalize icons of each folder.



*App version of the Course Content.*



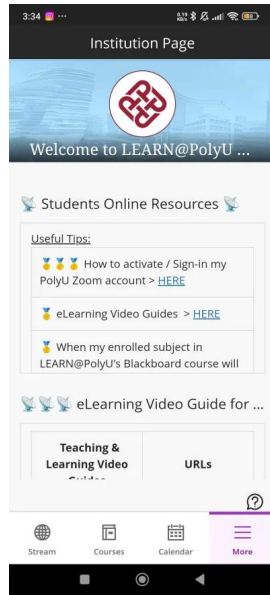
*Web version shows pictures as names.*

### 2.3. Visual elements and iconography

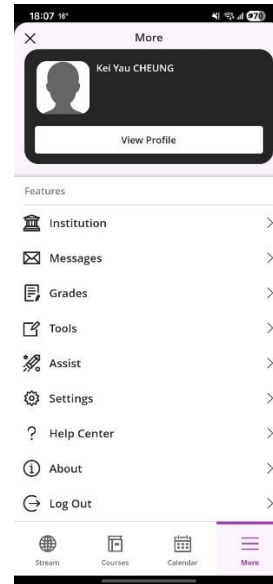
The cross on top left corner for “More” is too small that is hard to tap, while the cross should be easy to spot. User’s name on the profile section is aligned to the top left, leaving the rectangle box looks empty and minimal.

As the app shows “institution” as the first page, but there is no clue for users to go back to “home page”. The icon for institution does not represent the meaning of a home page. Moreover, the “tools” icon is confusing with “grades” as the icons looks too generic yet having distinct functions. In terms of accessibility, small icons may hinder accessibility.

To revamp, icons and alignments should be adjusted, to reduce redundant icons.



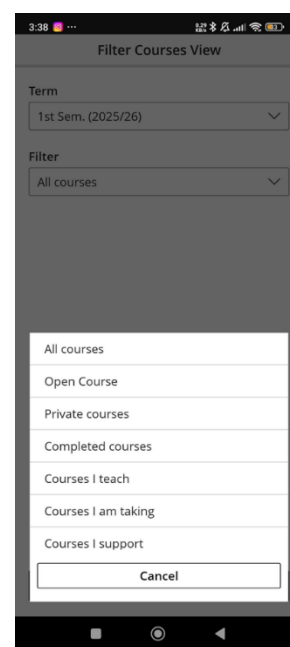
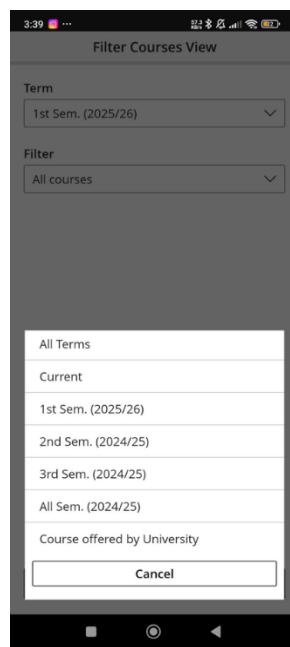
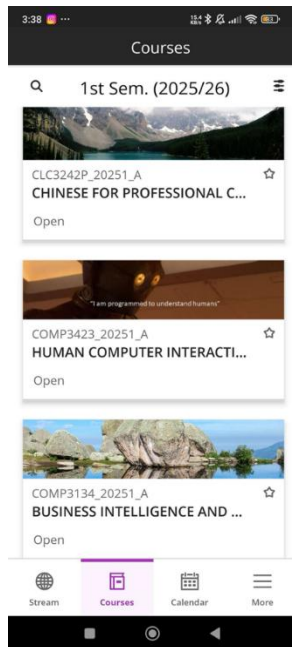
First page of the app.



No clues for going back to “home”.

## 2.4. Courses are not sorted by either course codes or course titles

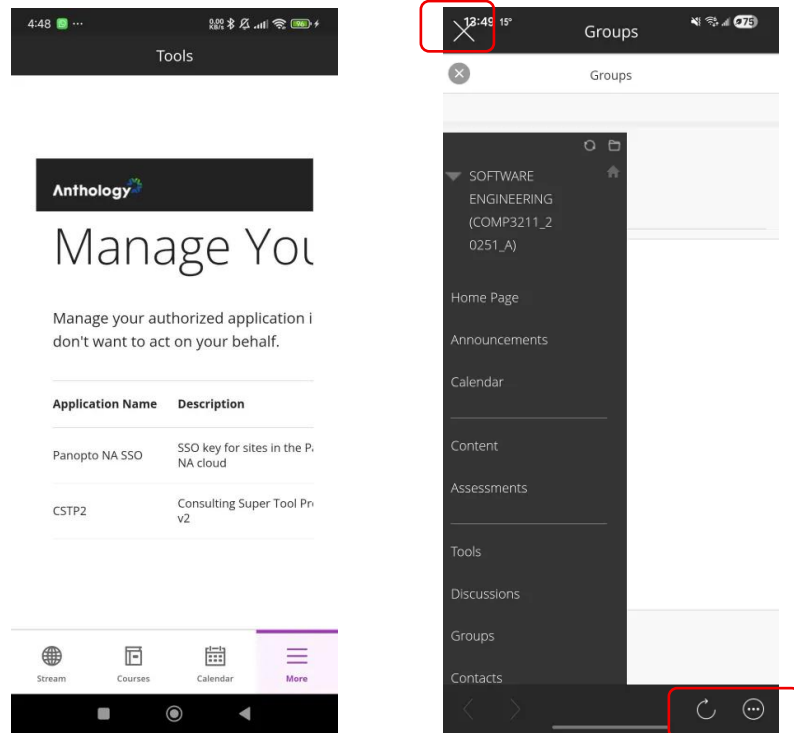
In the course section, the courses are displayed in random order. Moreover, in the filter function, there is no option to change sorting by course codes or titles. This makes it difficult for users to locate their course. To solve this problem, a new pull-down menu should be placed under filter to show all sorting options for users. Then under menu, it should include sort by course code and sort by course title.



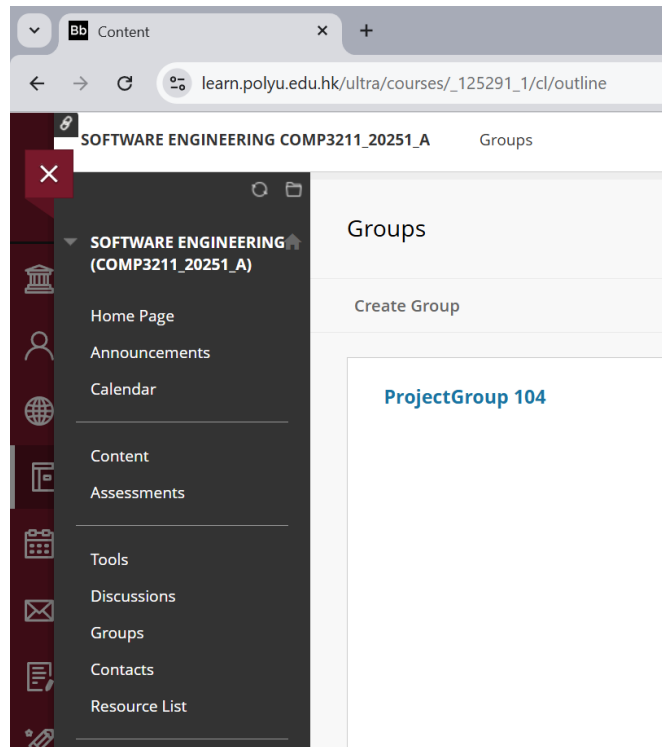
## 2.5. Inconsistent layout in certain functions

Upon clicking on certain functions, for instance, Tools or Groups in courses, users will be redirected to the web version of the same function. This causes several inconsistencies in layout representation, as shown in the borders of the drawer and font size of the web page.

To tackle the issue, an app version of the related functions should be designed so that the content can fit the display resolution of a mobile device.



*App version of “Groups”. The bottom shows navigation bars for a web browser, and the top cross for closing the web browser.*



*Web version of blackboard app showing “Groups”.*

### 3. Improvements with Figma Prototypes

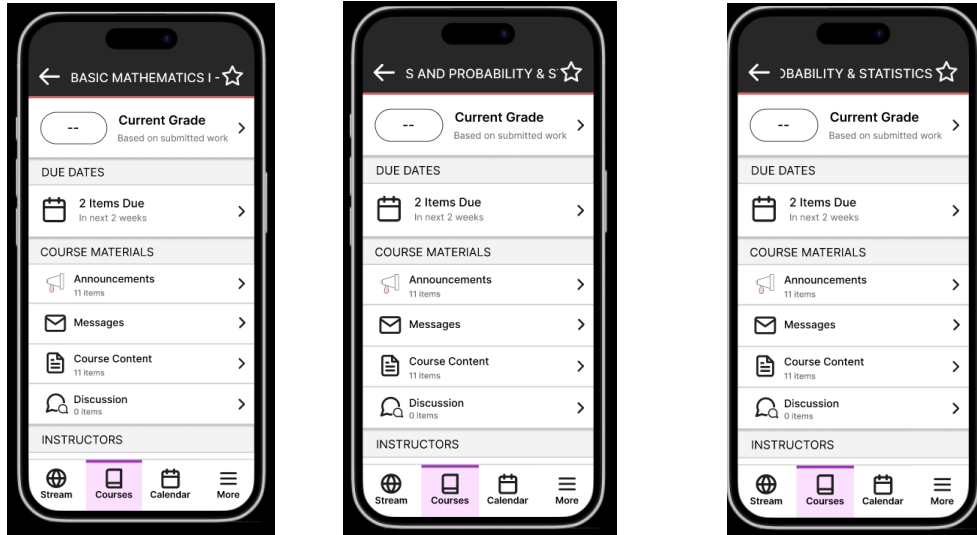
Figma URL:

<https://www.figma.com/design/5jUNOHHWWNiQU3ymsiObVe/Untitled?node-id=0-1&t=YlwYdWUeMKNEg8Du-1>

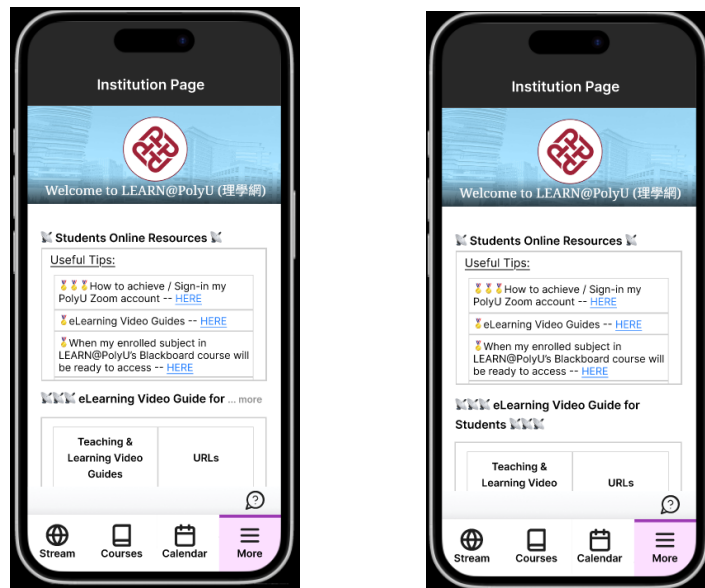
#### 3.1. Enhanced title display

As motion naturally attracts the eye, redesigning the animation of the tile helps users notice the course title without relying on bold colors or large fonts. This feature improves visibility of key information in a clean, elegant way. Animated transitions make the interface feel more dynamic and responsive, to boost user satisfaction and engagement.





In the Institution page, “HERE” is change to an underlined blue word to indicate it contains a link. To reveal full text hidden by “...”, users can now tap on the title and read the full text. The word “more” is to provide clue for user to expand the title.

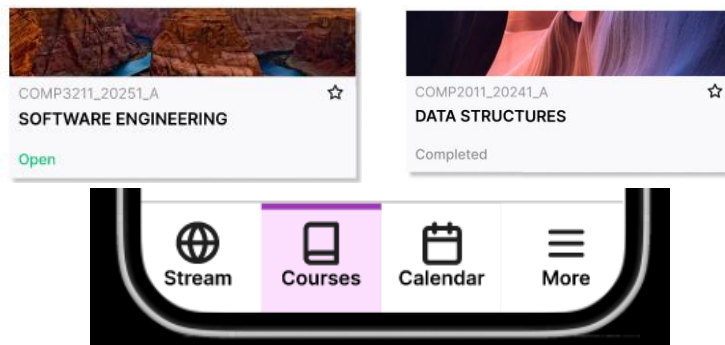


To reduce cognitive load, the calendar follows a consistent structure with title, due time, course info and coloured according to emergency (see section 3.2). The “due” label now stands out visually and helps users prioritize, and long titles are wrapped into multiple lines.

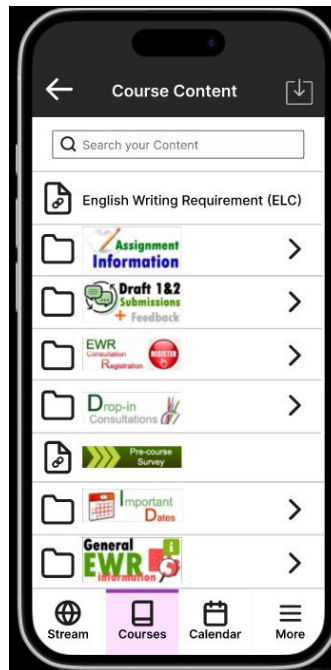
<b>Group Project (15 pts)</b> <b>11:59 PM</b>   COMP3134_20251_A: BUSINESS INTELLIGENCE AND CUSTOMER RELATIONSHIP MANAGEMENT	🕒 <b>DUE</b>
<b>Group Project Submission (Deadline  20 Nov 23:59)</b> <b>11:59 PM</b>   COMP3134_20251_A: BUSINESS INTELLIGENCE AND CUSTOMER RELATIONSHIP MANAGEMENT	🕒 <b>DUE</b>
<b>Week 12 XR Dialogue (Bonus  attendance point)</b> <b>11:59 PM</b>   COMP3423_20251_A: HUMAN COMPUTER INTERACTION	🕒 <b>DUE</b>

### 3.2. Enhanced visual cues

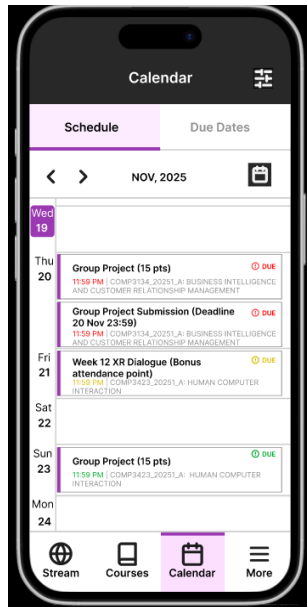
The colour of displaying active page is enhanced to a brighter colour to create bigger contrast. For the courses' state, the label "open" is changed from grey to green for better visibility. The purpose is to distinguish between completed course (in grey) and open course (in green) by having different colours.



In the revised "course content" page, pictures are accepted to display as folder name, similar to what the web version does.

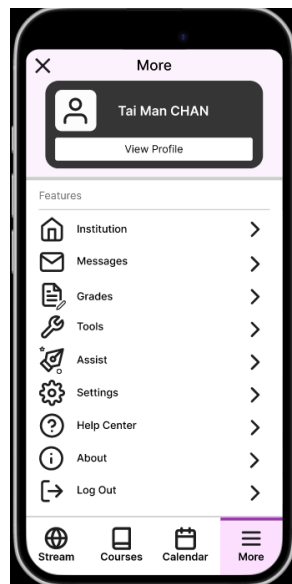


The Calendar page now shows the current date by a shaded rectangle to act as a visual landmark and locate surrounding tasks and deadlines. Users with cognitive or visual challenges benefit from clear temporal cues. Colour-coded “due” and due time allow user instantly recognize tasks urgency without reading full details, where red represents deadlines within 1 day, orange represents deadlines within 2 days, and green represents deadlines more than 2 days. Assignment and course titles are fully displayed without overlapping the “due” icon to reduce ambiguity and keep context visible without extra taps.



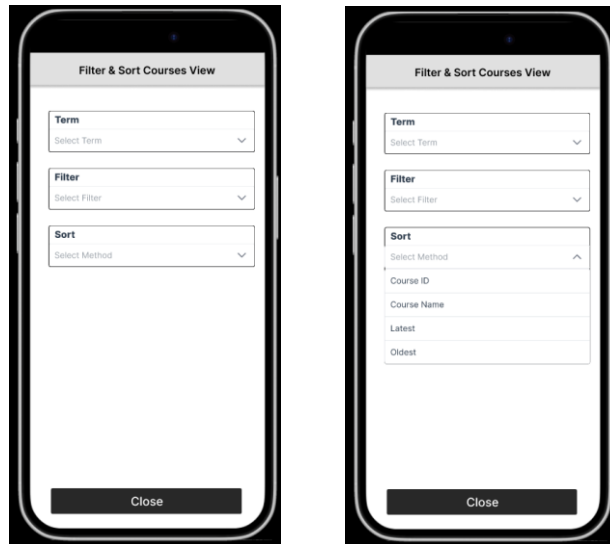
### 3.3. Enhanced visual elements and iconography

The cross on top left corner is enlarged to improve tap accuracy and visibility. User's name on the profile section is bolded and aligned middle for better readability and provide a clear entry point to personal settings. As the app shows "institution" as the first page, its icon is changed to "home" icon to indicate home page of the app. The "tools" icon is changed to avoid confusion of its functions with grades, as "tools" is not related to study.



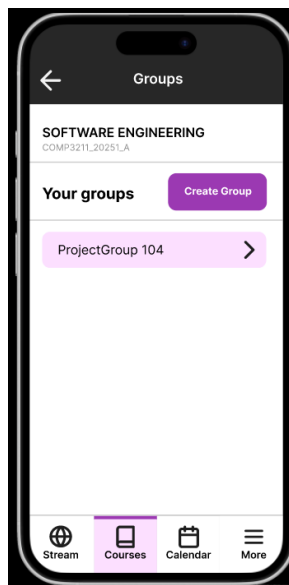
### 3.4. Sort filter and enhanced filter menu for course

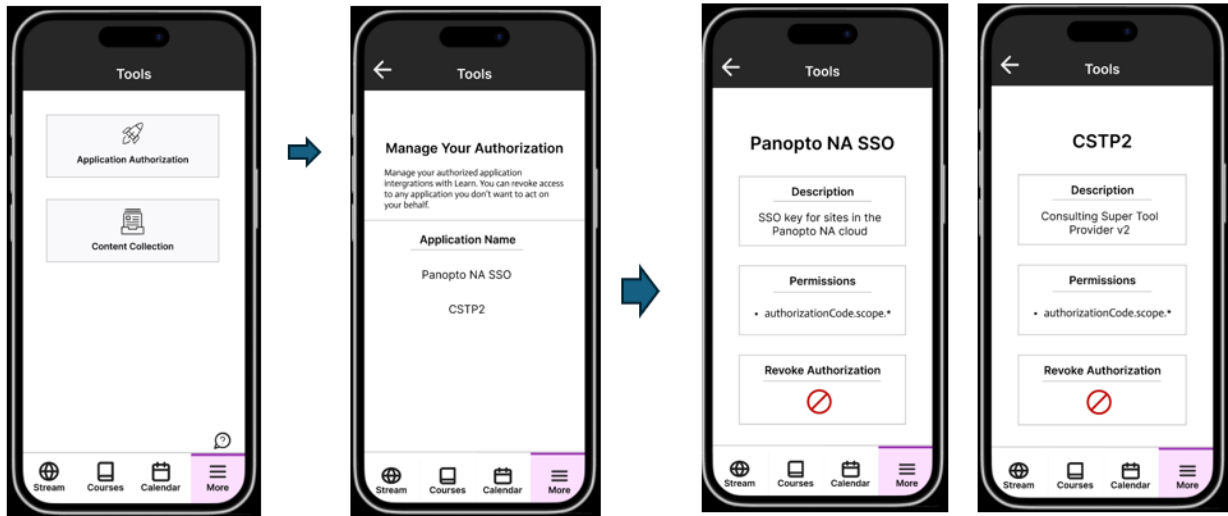
Sorting options are added to the filter page. Course could be sorted by course ID or course title. Options are shown in the pull-down menu as well as the filters and terms options.



### 3.5. Design App version for Tools and Groups

App versions of Tools or Groups in courses are added into the app. User will not be redirected to the web, and can access same functions as the web. The design is similar to other frames, with page title at the middle, a back arrow to navigate back, and a bottom menu to navigate to other pages.





## 4. User Testing

### 4.1 Test Path:

#### Scenario 1: View full title with excessive length

Test the functionality of displaying full title in the institution view

Step:

1. Open the institution view page
2. Navigate to the title with excessive length (end with ...)
3. Click on the title to view full title

Expected outcome: User can view full title after clicking on it

#### Scenario 2: Identify folder function with visuals cues

Test the use of visual cues for folders in the course content page

Step:

1. Open the Course view page
2. Click into Course content page (English in the sample)
3. Locate folder icon that represent a specific function

Expected outcome: User can understand the folder's function based on the visual cues

### **Scenario 3: Sort Courses by term/name/filters**

Test the effectiveness of the sorting feature in the course list

Step:

1. Open the Course view page
2. Access to the filter menu
3. Select the option to sort the courses

Expected outcomes: The courses are displayed according by their filters

### **Scenario 4: Access the Tools section without redirection**

Test the accessibility of the Tools section without being redirected to the web version

Step:

1. Open the More page
2. Navigate to the Tools section
3. Verify where the section is accessible within the app interface

Expected outcomes: User can access the Tools section without being redirected to the web browser.

### **Scenario 5: Access to the Groups in Course content**

Test the accessibility of the Groups section in course content

Step:

1. Navigate to the Software Engineering course from the Course view page.
2. Click on the “Groups” to access the section
3. Verify where the section is accessible within the app interface

Expected outcomes: User can access to Groups within the course content instead of redirected to the web.

#### 4.2 Results (23 responses)

Our tests were conducted by friends via links, who are all aged from 16 to 23. All the tests were conducted successfully. The average time used for all tests is 9.04 s. The average misclick rate among all tests is near 52.7%. Test 3 had the highest average duration time and the least direct success rate.

Tests	Avg.Duration	SuccessRate	Drop-off	MisclickRate	Direct Success	Indirect Success
1	3.5s	100%	0%	46.1%	21	2
2	8.6s	100%	0%	56.2%	16	7
3	18.8	100%	0%	62.3%	8	15
4	8.4	100%	0%	46.1%	16	7
5	5.9	100%	0%	52.8%	20	3

#### 5. Conclusion

Blackboard was chosen for this project because we discovered problems such as title display issues, confusion for visual cues and elements, unsorted course display and inconsistent layout. We enhanced its title display, visual cues, visual elements and iconography. Sort filters and new app versions for two functions are included.