Technical Requirements - Scrollable Study Board

Challenge is accessible on Memberspot: https://pl-coding.mymemberspot.de/library/jx3b7Qik9ip5qpNl8IF2/iMAc7c4itoDq2QCeNBz7/R0xNpB0IKXyhRdxpQtKj

🎭 Scenario

You open a study app, ready to find that one lesson about volcanoes... and instead, get lost in a never-ending scroll swamp. There's no progress bar, no way to jump around, and worst of all—you just scrolled past item #49 only to realize you were looking for #3. Clearly, this isn't just a list—it's a battlefield. One only a brave Compose dev like you can tame. Let's organize the chaos into a scrollable, tappable, jumpable, pinnable, and just plain usable study board.

🎨 Figma Mockups

https://www.figma.com/design/oQ2mDPsXk8NAbVU4H5BiWN/May-Mini-Challenges--Learning---Study-Tools?node-id=32-1341&p=f&t=NMwte6ytEYKU7Bss-0

🎯 Feature Goal

Develop a responsive and fully interactive study content board with 50+ categorized items, supporting sticky headers, pinning, index tracking, scroll-to-jump with visual highlight, and smooth scroll state preservation.
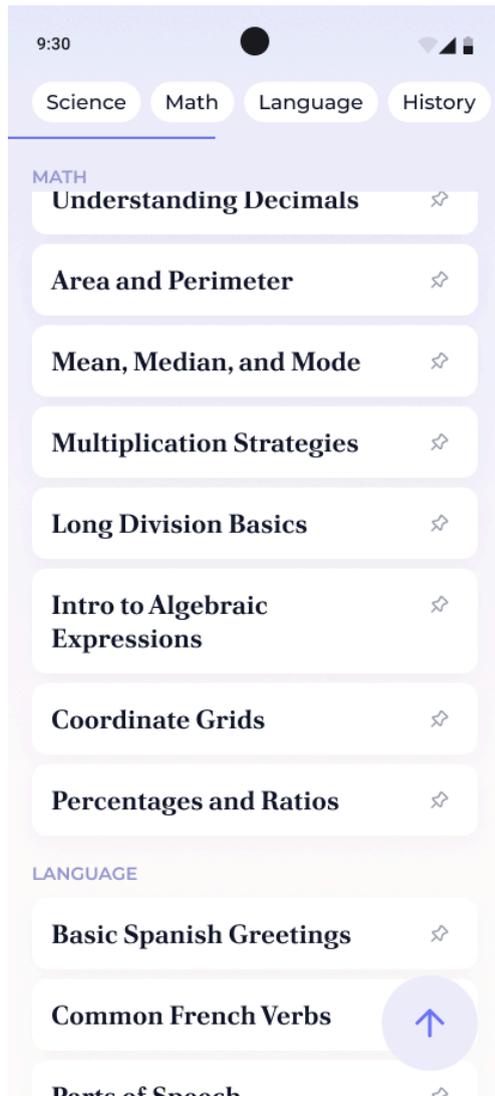
📌 Requirements

Main Screen

- Gradient background color
- Scrollable row of chips that each contain the name of a subject
  - On tap, smooth scroll the list to the heading matching the chip tapped
  - The chips are not selectable and do no have a selected state
- Edge to edge progress bar underneath the row of chips
  - Represents how far the user has scrolled in the list of study topics
  - The progress bar is at 0% when the first item in the list is visible
  - The progress bar is 100% when the last item in the list is visible
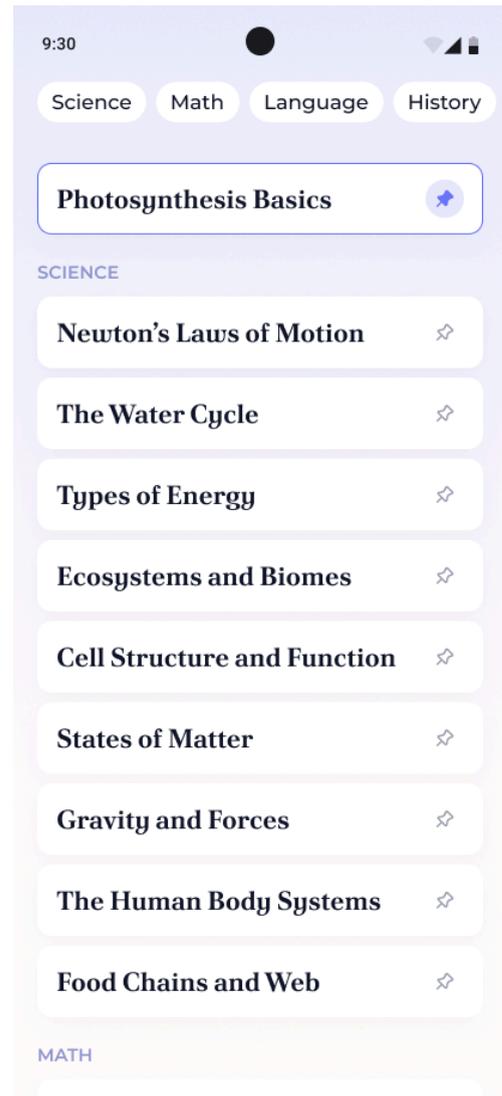- Pinned section

  - Underneath the progress bar is space for up to 5 pinned list items
  - Each pinned card:
    - Has a colored border to highlight it

- - - Content includes the name of the study topic and at the far right a colored pin icon with circle background

    - When the colored pin is tapped, unpin the study topic and move it back into the main content list

  - Pinned items are placed in a column with a new item being placed at the bottom of the list

  - List of pinned items are not scrollable

- Main Content - Scrollabe list of study topics

  - Fills the remaining available screen space

  - Each list item:

    - Rounded corners with a study topic and a pin icon in a row

    - Tap the pin icon to pin the item and remove it from the scrollable list

      - Trying to pin an item when five (5) are already pinned shows a snackbar with a relevant error message of your choosing.

    - On tap, navigate to the detail screen

      - After returning from the detail screen, the scroll position must remain where it was before navigating to this screen

  - Each study topic is associated with a subject. Organise the list into these subjects and add sticky headers for each subject

  - Show a FAB at the bottom right corner

    - Only visible when the first 10 items in the list are no longer visible

    - Contains an arrow pointing up icon

    - On FAB tap, smooth scroll to the top of the list so that the first list item is visible

  - Before the user reaches the end of the list, show a snackbar with text: "Reaching the end of the list!"

    - When the user only has 10 more items that need to be revealed, then show this snackbar

    - This should not be shown when the above condition is met while the list autoscrolls

Main screen scrolled with FAB

Main screen pinned item

Detail Screen

- Top bar
    - Back arrow icon
        - On tap navigate back to the main screen
    - Centered title text: "Course Details"
- Center of screen is the name of the study topic tapped with its subject category underneath it

Physics Crash Course

Science

_____

Detail Screen

Resources

Study topics with their subject categories

1. Photosynthesis Basics : Science
2. Newton's Laws of Motion : Science
3. The Water Cycle : Science
4. Types of Energy : Science
5. Ecosystems and Biomes : Science
6. Cell Structure and Function : Science
7. States of Matter : Science
8. Gravity and Forces : Science
9. The Human Body Systems : Science
10. Food Chains and Webs : Science

11. Solving for X : Math
12. Introduction to Fractions : Math
13. Understanding Decimals : Math
14. Area and Perimeter : Math
15. Mean, Median, and Mode : Math
16. Multiplication Strategies : Math
17. Long Division Basics : Math
18. Intro to Algebraic Expressions : Math
19. Coordinate Grids : Math
20. Percentages and Ratios : Math

21. Basic Spanish Greetings : Language
22. Common French Verbs : Language

23. Parts of Speech : Language
24. Verb Tenses Explained : Language
25. Active vs Passive Voice : Language
26. Building Vocabulary : Language
27. Prefixes and Suffixes : Language
28. Capitalization Rules : Language
29. Sentence Types : Language
30. Transition Words : Language

31. Ancient Egypt : History
32. The Roman Empire : History
33. The Middle Ages : History
34. World War I Overview : History
35. World War II Key Events : History
36. The Cold War : History
37. Civil Rights Movement : History
38. American Revolution : History
39. Industrial Revolution : History
40. Timeline of Key Inventions : History

41. Elements of a Story : Literature
42. Literary Devices : Literature
43. Alliteration and Assonance : Literature
44. Understanding Plot Structure : Literature
45. Theme and Tone : Literature
46. Conflict in Literature : Literature
47. Point of View in Writing : Literature
48. Character Development : Literature
49. Poetry Forms and Structures : Literature
50. Figurative Language : Literature

51. Continents and Oceans : Geography
52. Latitude and Longitude : Geography
53. World Time Zones : Geography
54. Landforms and Bodies of Water : Geography
55. Natural Disasters : Geography
56. Map Reading Skills : Geography
57. Climate Zones : Geography
58. Countries and Capitals : Geography
59. Population Density : Geography
60. Regions of the World : Geography

🤔 What's Allowed

- Standard Android/Jetpack libraries
- No 3rd party libraries are allowed or would be required to complete this challenge

⚠️ What's not important

- Responsiveness across every device size or orientation is not mandatory.

🧠 Disclaimer

This is the boss battle of list management—where scrolls grow wild, headers stick like glue, and only the brave tame the chaos with clean state and clever code. No lazy devs in this LazyColumn.

🏆 Submission & Rewards

- A successful submission of this challenge via the `/submit-challenge` command on Discord grants you **175 XP**. You can use it in any channel on <u>Discord</u> :)

- A successful submission consists of these parts

  1. A link to a Gist showing your code for this challenge.

  2. A screen recording (50s max) showcasing the following:

     a. Scroll to the end of the subject chips row

     b. Select the last subject chip

     c. After the list scrolls to the subject heading pin any 5 list items

     d. Try to pin a sixth (6th) item

     e. Tap on any of the visible list items to navigate to the details screen

     f. Navigate back to the main screen

     g. Use the FAB to scroll to the top of the screen

     h. Unpin one of the pinned items

     i. Manually scroll to the bottom of the list until the snackbar is shown to inform user they are nearing the end of the list