



#WorldInnovationDay Hack 2021

Team: Fitch Hackers

Topic: Education

Intro:

Per UNESCO, almost half of all students worldwide face barriers to online learning. Online learning has exploded as teachers and students seek alternative ways to enhance learning. Online classes allow access to multi-faceted methods designed to address alternate learning preferences. The global pandemic heightens the need for alternative teaching methods and reinforcement.

This has resulted in several opportunities and challenges.

Opportunities:

- Democratization of content previously limited to encyclopedias or books
- Ability to tailor learning to different styles: visual, aural, verbal, physical, social, or solitary
- Easily translated to different languages including dialects to aid learning in less developed regions

Challenges:

- Teachers need better access to education materials and training.
 - Teachers in developing countries are also less exposed to technology and need training in how to implement it in their community. UNESCO estimates that there is only one trained teacher for every 56 students in low-income countries.
 - Academic studies are challenging the use of Information Communication & Technology tools in schools. The potential for widening the literacy gap is higher as many students lack sufficient access to equally distribute education materials.
- Teachers need to tailor relevancy and accuracy for their community to enhance the absorption of learning and its practicality.
- Students in low-income countries lack access to technology such as laptop and other equipment, reliable internet access and in many cases the relevant, supporting infrastructure.

This last challenge is most acute in developing countries who need education the most to break the cycle of poverty. For example, in sub-Saharan Africa, it is estimated that over 89% of learners (226 million) do not have a household computer. 82% do not have household internet and 11% are not covered by mobile networks. (www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx)

Newspapers and public data sources are often controlled by the local politicians, which in many of these countries benefit from the lack of education. This makes easily accessible educational resources even more critical including the ability to discern relevancy and accuracy in helping children develop and excel.

Solution:

Application that facilitates the search, curation, translation, and shareable educational materials

We have developed an application that allows Creators and Teachers to search, aggregate, and curate educational materials. Materials are searched and sorted by subject matter and can be tailored to grade and/or age levels. Both Creators and Teachers can save the curated content therefore providing Teachers with the materials that can be adapted, translated, or localized.

Key to the program is the flexibility of the availability of materials: searched online but curated and saved to provide local access on smartphones or in the printed format. We recognize the increasing access to and use of smartphones in the developing countries.

The product, while ambitious for a three-day build does the following:

- Creates workflows for three different personas: Teacher, Student and/or Creator.

The Teacher persona will be able to:

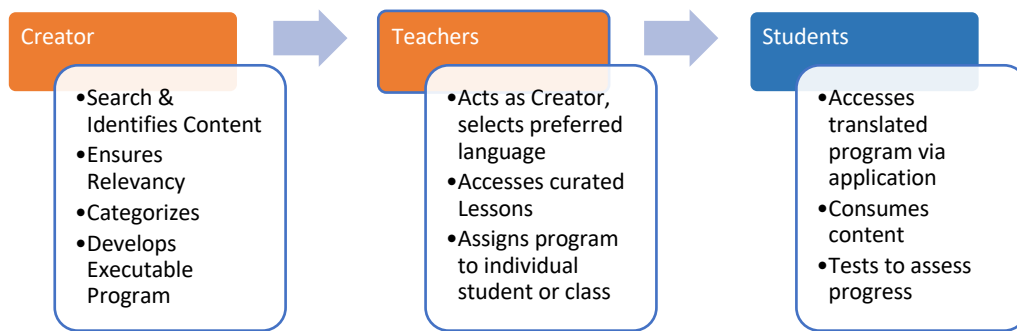
- Browse previously curated content on the app by grade and subject matter
- Create their own categories and add applicable content
- Assign out different topics to different students; Or assign one topic to a group of students
- Track student progress through the assignments
- Review content consumption through a Leader Board
- Review students' suggestions for new categories and/or content

The Student persona will be able to:

- Review assignments made by a teacher / teachers
- Consume curated content
- Suggest additional content or topics of interest

The Creator persona will be able to:

- Review and add new categories of content
 - Review, curate and/or add new content to either existing or new categories
 - Review content consumption through a Leader Board
 - Review students' suggestions for new categories and/or content
- Allows Creators and Teachers to create, retain and share "play lists" containing the materials.
 - Saves access to materials in Categories/Subjects and Topics to aid in the discovery of the content through several different methods.
 - Allows options for translation into several languages
 - Tailors content to specific needs of the student
 - Access to content and ability to study within the application
 - Allows for the consumption of information through the printed format
 - Gamifies testing and learning



Let us take you on a journey through the UN Edu App

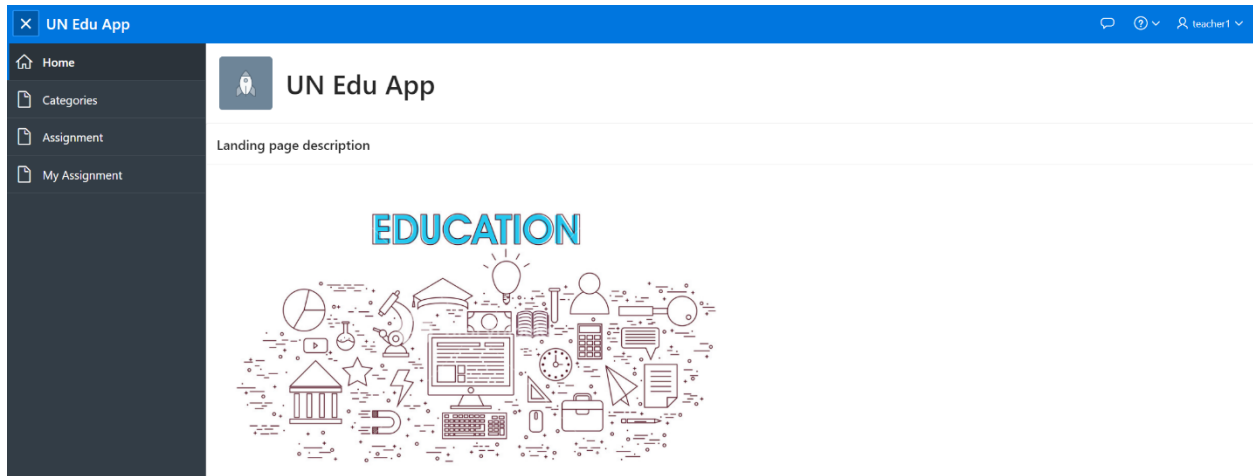
- All personas will use the same log in screen

The image shows a mockup of the UN Edu App login screen. It features a rocket icon at the top, followed by the text "UN Edu App". Below this are two input fields: "Username" and "Password". There is a checkbox labeled "Remember username" and a question mark icon. At the bottom is a large blue button labeled "Sign In".

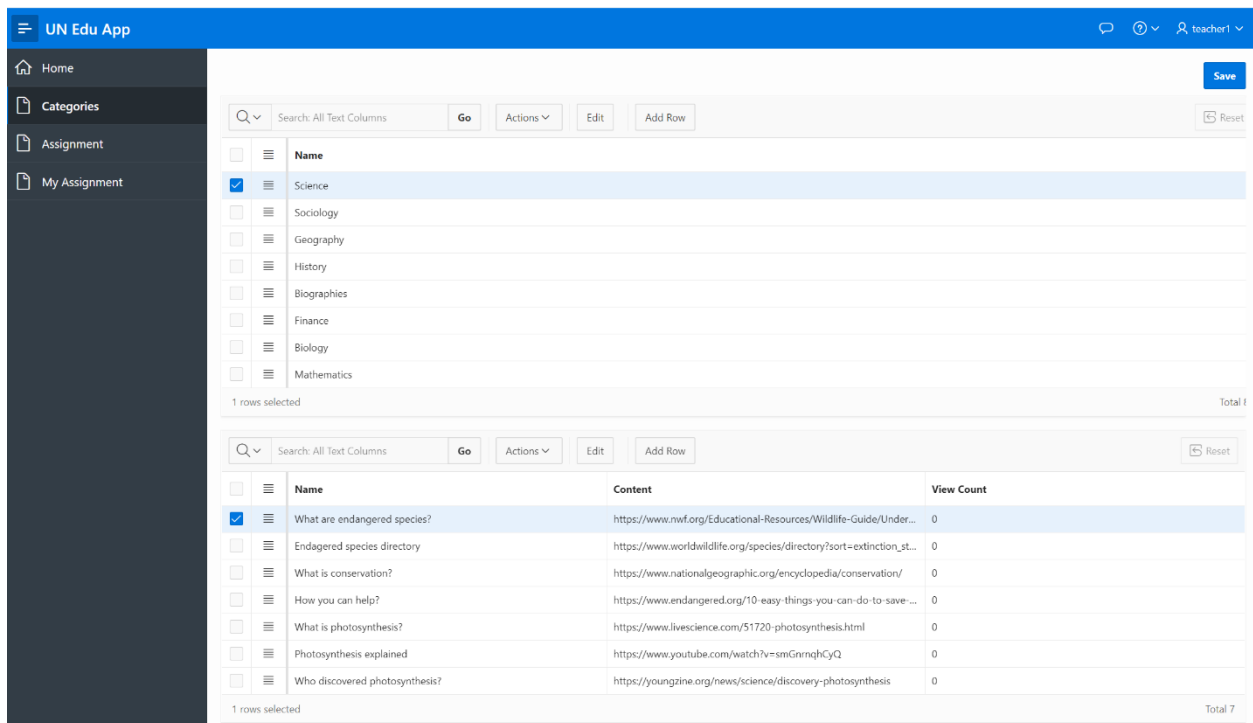
Teacher Persona Workflow

Teacher persona will have access to Categories and related content within the application. They will further be able to review and select relevant content for their students, as well as assign this content to their students, either individually based on needs or to an entire class.

Teacher Persona Landing Page



Teacher Persona Categories Screen



Teacher Persona Assignments Page

UN Edu App

Home

Categories

Assignment

My Assignment

Search: All Text Columns

Go

Actions

Edit

Add Row

Reset

	Name	Content	View Count	Contributor Id	Category Id	Subcategory Id
<input checked="" type="checkbox"/>	What are endangered species?	https://www.nwf.org/Education...	0	2	25	
<input type="checkbox"/>	Bio	https://www.natgeokids.com/u...	0	2	24	
<input type="checkbox"/>	Facts	https://www.youtube.com/wat...	0	2	24	
<input type="checkbox"/>	The Nobel Prize	https://www.nobelprize.org/pri...	0	2	24	
<input type="checkbox"/>	Life in Photos	https://www.biography.com/sc...	0	2	24	
<input type="checkbox"/>	Vijay Mohan's Investment Insig...	https://www.youtube.com/wat...	0	1	82	2
<input type="checkbox"/>	Как воспитать ребенка горат...	https://www.youtube.com/wat...	0	1	82	2
<input type="checkbox"/>	Как научить ребенка раснопа...	https://www.youtube.com/wat...	0	1	82	2
<input type="checkbox"/>	Endangered species directory	https://www.worldwildlife.org/...	0	2	25	
<input type="checkbox"/>	What is conservation?	https://www.nationalgeographi...	0	2	25	
<input type="checkbox"/>	How you can help?	https://www.endangered.org/1...	0	2	25	
<input type="checkbox"/>	What is photosynthesis?	https://www.livescience.com/5...	0	2	25	
<input type="checkbox"/>	Photosynthesis explained	https://www.youtube.com/wat...	0	2	25	
<input type="checkbox"/>	Who discovered photosynthesis?	https://youngzine.org/news/sci...	0	2	25	
<input type="checkbox"/>	Timeline to presidency	https://www.youtube.com/wat...	0	2	24	
<input type="checkbox"/>	Speech that changed the world	https://www.youtube.com/wat...	0	2	24	
<input type="checkbox"/>	Memoir	http://www.nasonline.org/publ...	0	2	24	
<input type="checkbox"/>	First human spaceflight	https://en.wikipedia.org/wiki/V...	0	1	1	
<input type="checkbox"/>	The Einstein Memorial	http://www.nasonline.org/abo...	0	2	24	

1 rows selected

Total 15

The Creator Persona Workflow

The Creator Persona's workflow will focus on the creation and curation of the content and the related categories. Similarly, to the Teacher Persona, the Creators will have access to the Categories and the related content.

The Creators will be able to add, edit or delete categories, using either the menu options from the table or by simply engaging with the functionality of the page through the actions menu.

Search: All Text Columns

Go

Actions

Edit

Add Row

	Name
<input checked="" type="checkbox"/>	Science
<input type="checkbox"/>	Sociology
<input type="checkbox"/>	Geography
<input type="checkbox"/>	History
<input type="checkbox"/>	Biographies
<input type="checkbox"/>	Finance
<input type="checkbox"/>	Biology
<input type="checkbox"/>	Mathematics

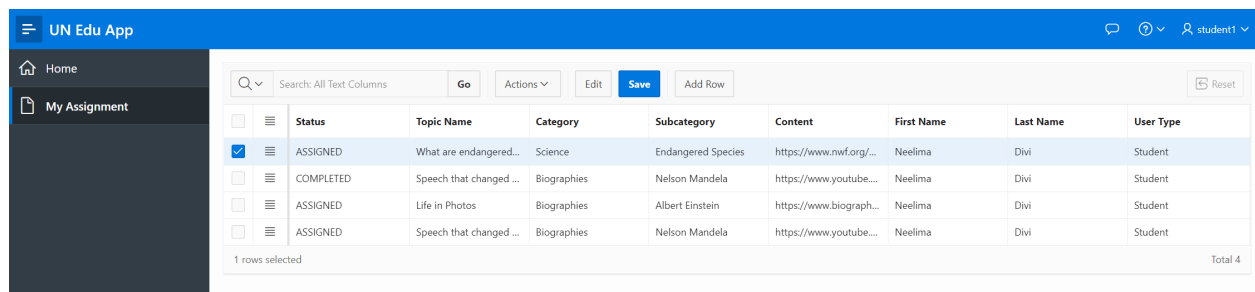
1 rows selected

Note: The look and feel, as well as the functionality of the application is persistent regardless of the persona. The action menus as well as the table menu options will remain consistent regardless of the page.

The Student Persona Workflow

The Student Persona workflow will, at first, focus on discovery of assignments and consumption of assigned content. The log in process will be the same as with the other two personas, however the access will be defaulting to the Assignments portion of the application.

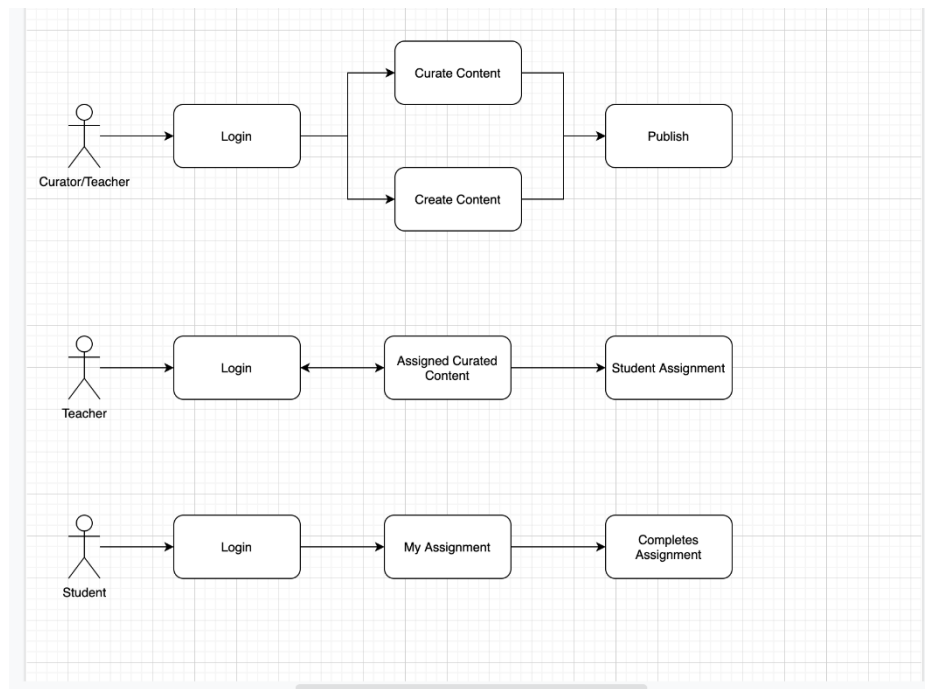
The Student Persona will be able to review their assignments and engage with the content. Further, the persona will be able to set the status of the consumed content, as well as option to share interesting content with other students.



The screenshot shows the 'UN Edu App' interface. On the left is a sidebar with 'Home' and 'My Assignment' (selected). The main area displays a table of assignments. The table has columns: Status, Topic Name, Category, Subcategory, Content, First Name, Last Name, and User Type. The first row is selected, showing an 'ASSIGNED' status for the topic 'What are endangered...'. Below the table, it says '1 rows selected' and 'Total 4'.

Status	Topic Name	Category	Subcategory	Content	First Name	Last Name	User Type
ASSIGNED	What are endangered...	Science	Endangered Species	https://www.nwf.org/...	Neelima	Divi	Student
COMPLETED	Speech that changed ...	Biographies	Nelson Mandela	https://www.youtube...	Neelima	Divi	Student
ASSIGNED	Life in Photos	Biographies	Albert Einstein	https://www.biograph...	Neelima	Divi	Student
ASSIGNED	Speech that changed ...	Biographies	Nelson Mandela	https://www.youtube...	Neelima	Divi	Student

Workflows in diagram format



Feasibility

The start up costs for an application like UN Edu App are fairly low and include:

- Development & Design costs
- Hosting costs (assuming reliance on Oracle APEX)
- Future marketing/social media costs

Conclusion

Harnessing the power of the communal involvement and contributions, the UN Edu App, brings relevant, curated, and grade/age-appropriate content to students across the globe. The application allows for proliferation of accurate and clean content to consumers, but it also invites the power of the communal, self-directed content creation and contributions.

The UN Edu App solves for lack of access, teaching resources as well as capacity across the world.

The potential of this application lies in the communal power of content generation, curation, and sharing. Similarly, to other community driven, content-based products (like Wikipedia), the UN Edu App has a unique power to leverage expertise and knowledge of an entire world of experts and teachers willing to help gather and curate content for the future generations of world leaders and educators.