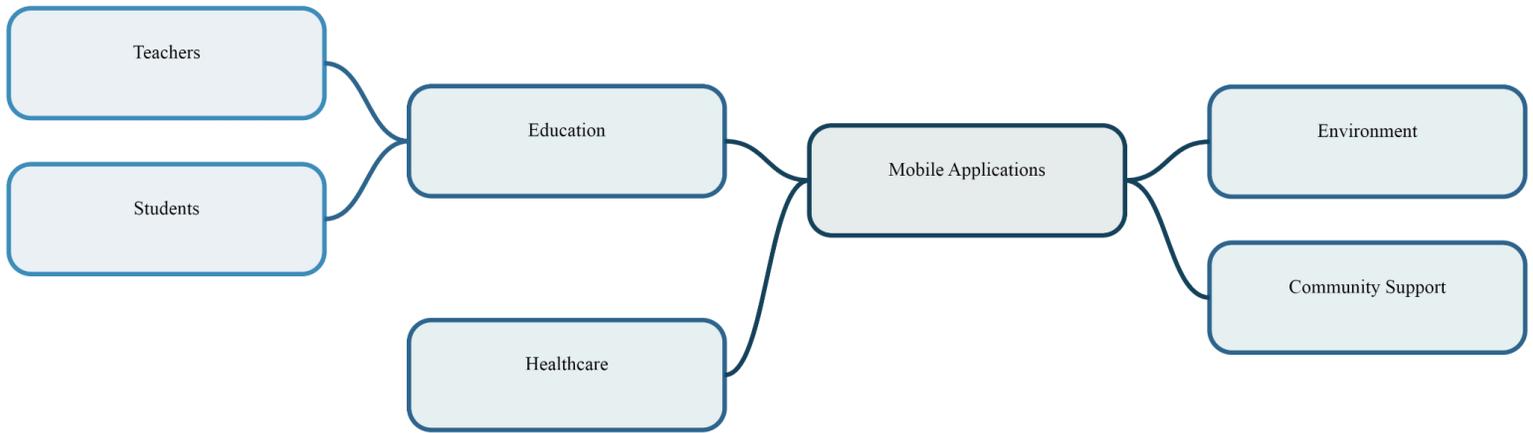


Bhaskar joshi, Head Teacher GPS Mateeladhura Tarikhet Almora

# Building Mobile Apps for Social Good (A classroom experience)

**Introduction:** In today’s world, mobile applications have become powerful tools for social impact, addressing essential needs in education, healthcare, environment, and community support. These apps provide innovative solutions for people across various regions, particularly where resources and infrastructure are limited. In education, mobile apps are especially valuable, as they allow teachers and students to stay connected and engaged with learning materials, **even during disruptions like the COVID-19 pandemic.**

Mobile applications are powerful tools for social impact, addressing essential needs in various sectors such as education, healthcare, environment, and community support.

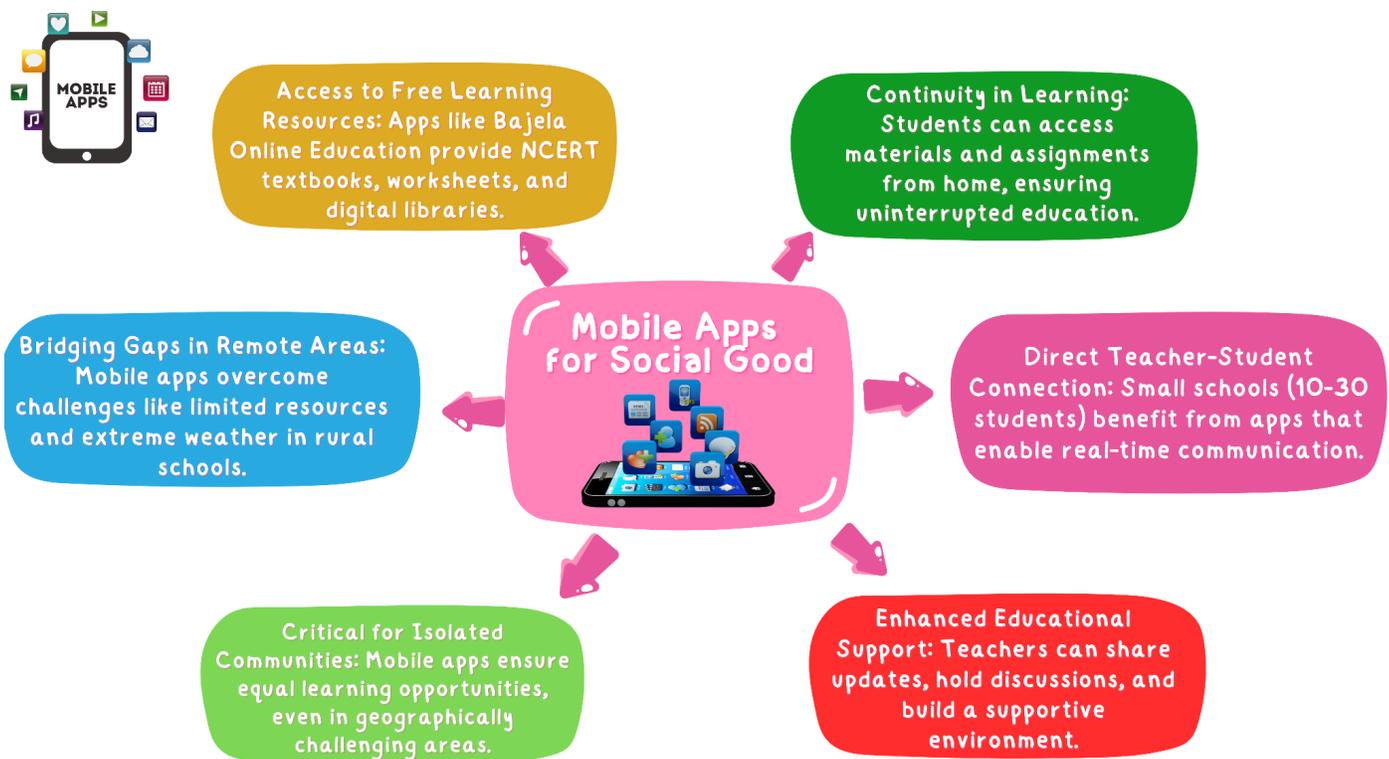


For schools in remote or rural areas, such as those in **Uttarakhand where geographic conditions are often challenging, mobile apps play a crucial role.** Schools in mountainous regions frequently face barriers like limited access to quality educational resources and difficulties in maintaining regular schooling during extreme weather. Free, accessible mobile apps offer a way to bridge these gaps, bringing essential learning materials directly to students’ fingertips. For example, apps like ***Bajela Online Education and English Guru*** provide free educational resources, including **NCERT textbooks, worksheets, digital libraries, and more.** These types of resources help students continue their education from home, ensure that teachers can reach



them with assignments and updates, and encourage a sense of continuity in learning.

The importance of each school having its own mobile app is even more critical in setups with small groups of 10 to 30 students. Such apps offer a direct connection between teachers and students, allowing them to share assignments, hold discussions, and keep in touch, even when physical interaction is limited. This approach not only maintains educational continuity but also builds a supportive learning environment that reassures students and teachers alike.

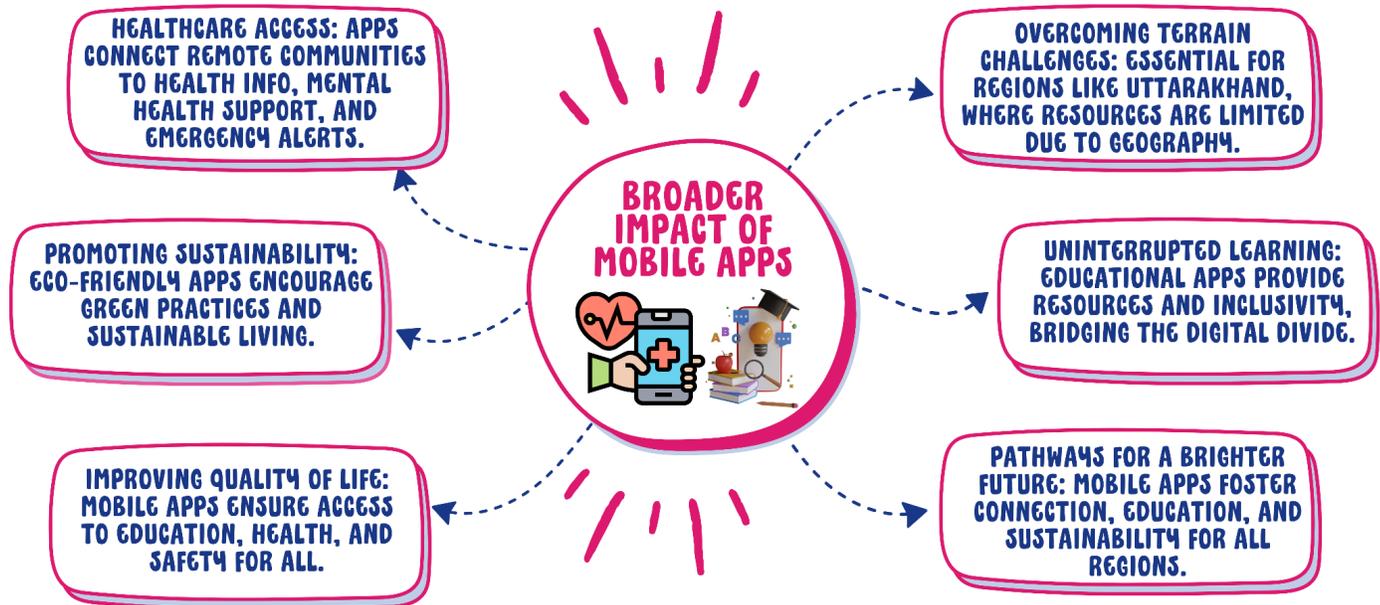


Mobile apps also address other crucial areas, such as healthcare and environmental sustainability. In remote places, healthcare-focused apps connect people to health information, mental health support, and emergency alerts, while eco-friendly apps promote green practices and sustainable choices. Mobile apps have proven to be reliable allies in improving the quality of life, ensuring health, safety, and learning for all.

By focusing on these essential areas and meeting the unique needs of each region, mobile apps contribute to a connected, educated, and sustainable



world. For states like Uttarakhand, where challenging terrain can limit physical resources, mobile educational apps are invaluable. They ensure that learning is uninterrupted, promote inclusivity, and provide resources directly to students, creating pathways for a brighter future regardless of location.

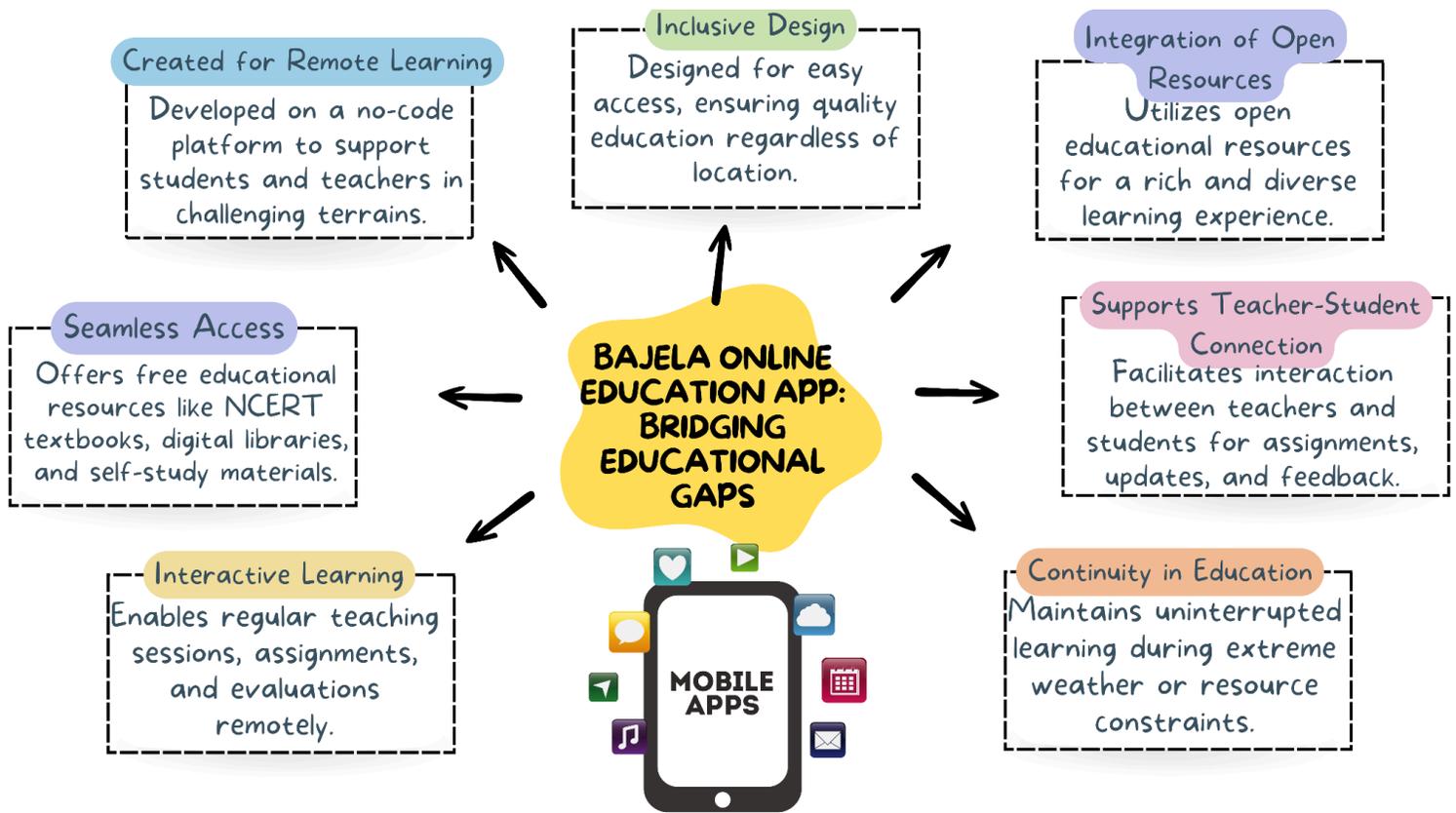


Keeping these essential aspects in mind, I developed *Bajela Online Education* and *English Guru* to support educational continuity and connect students and teachers even in challenging times. Despite being created on a no-code platform, these applications effectively **integrate various resources available on the internet, making them a valuable tool for learning and engagement.** Both apps were carefully designed to ensure that students could access high-quality educational resources, assignments, and assessments with ease, regardless of their location.

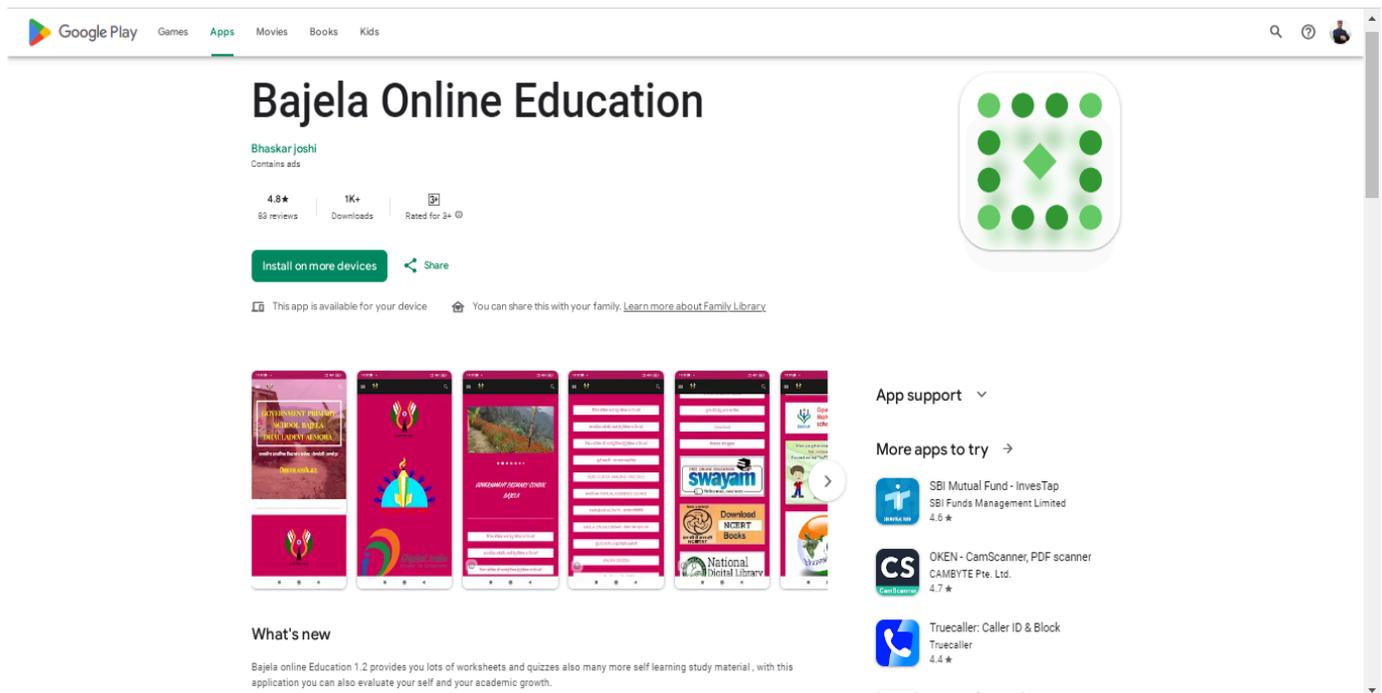
Through these applications, teachers are not only able to conduct regular teaching sessions but also provide evaluations, assignments, and worksheets to the students. *Bajela Online Education* and *English Guru* also utilize open educational resources, allowing for a rich repository of free learning materials such as NCERT textbooks, digital libraries, and self-study resources. By integrating these open resources, the apps provide students with a



comprehensive learning experience that supports their educational journey beyond traditional classroom boundaries.



## [How to install video](#)

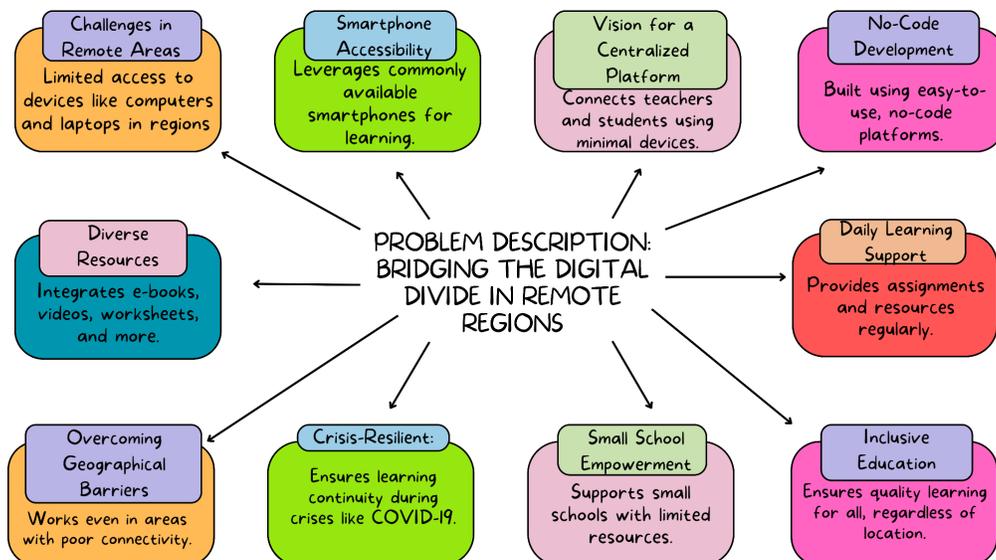


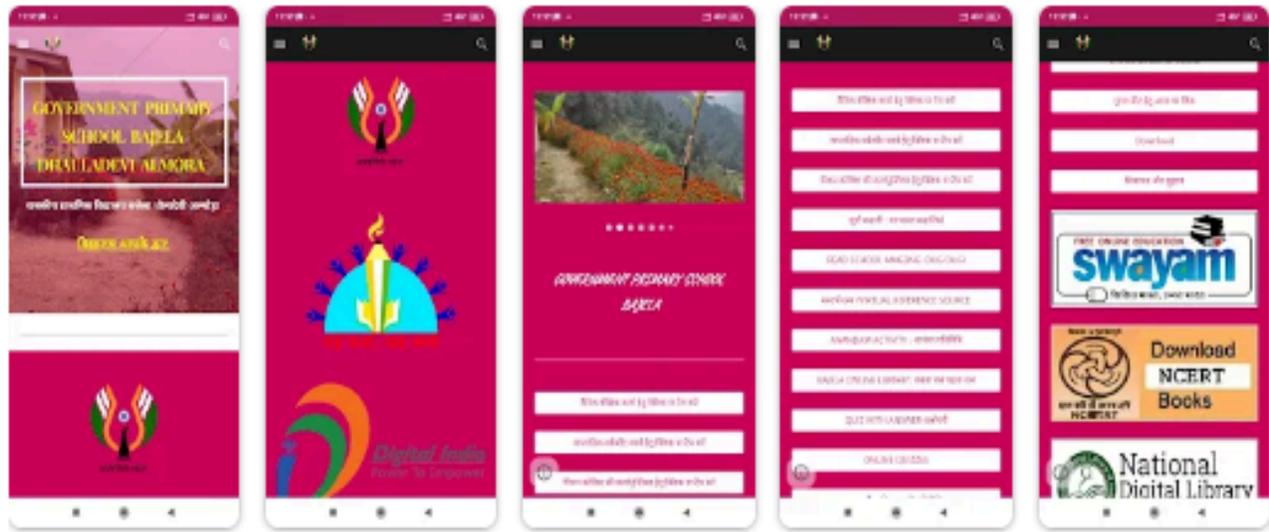


**Problem Description :** From the very beginning, I envisioned a solution to address the digital divide in regions like Uttarakhand, where access to technology remains a significant challenge. In such remote areas, the lack of devices like computers and laptops makes it difficult to implement traditional e-learning solutions. Many households don't have personal computers, but smartphones are increasingly common—even if only a few families in a village have Android phones. My goal was to create a centralized platform where, even with just two or three smartphones available in a community, teachers and students could stay connected and continue learning together.

This led to the development of *Bajela Online Education* and *English Guru*, applications designed with accessibility in mind. Using these apps, teachers can easily share daily assignments, worksheets, educational videos, e-books, and storybooks, all from a single platform. I developed these applications on a no-code platform, integrating diverse internet-based resources and open educational resources without requiring advanced technical skills. These apps not only allow for regular teaching but also enable the distribution of assignments and worksheets, ensuring students receive the support they need.

In a state like Uttarakhand, where adverse geographical conditions and limited connectivity are constant challenges, such applications are essential tools that help overcome the digital divide. By leveraging these mobile applications, even the smallest schools with limited resources can maintain a connection with their students, ensuring that learning continues, even in times of crisis like the COVID-19 pandemic.

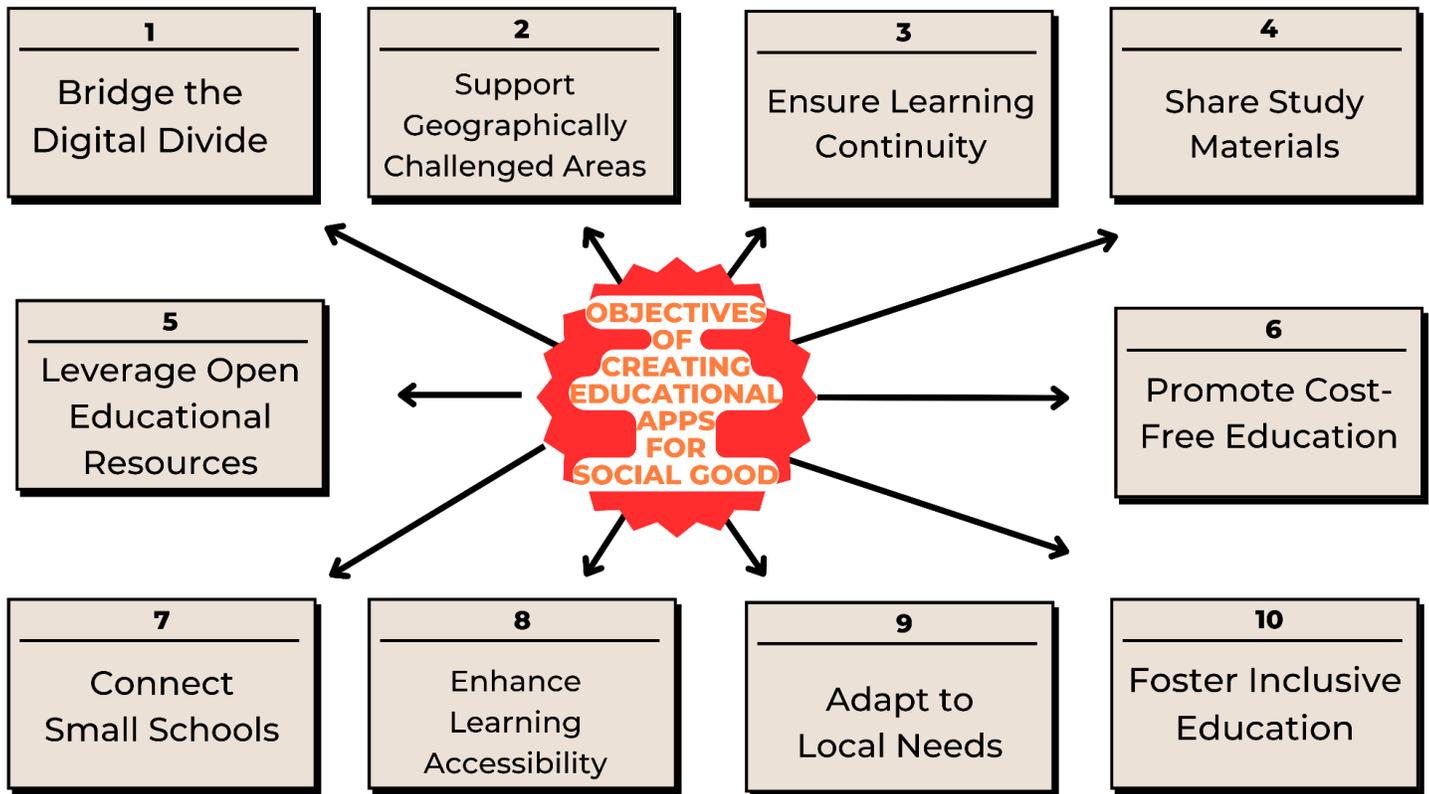




## Objectives of Creating Educational Apps for Social Good

1. **Bridging the Digital Divide in Remote Areas:** To provide children in geographically challenging and technology-limited regions, like Uttarakhand, with access to quality educational resources through a centralized mobile platform, enabling connectivity and learning continuity despite limited digital infrastructure.
2. **Ensuring Continuous Learning During Crises:** To maintain a consistent educational connection between teachers and students, even during disruptive events like the COVID-19 pandemic, allowing for regular sharing of assignments, worksheets, and study materials via mobile devices.
3. **Promoting Accessibility to Open Educational Resources (OER):** To utilize open educational resources effectively, integrating free online content

into a structured application that supports diverse learning needs, making high-quality educational content available to all students at no cost.



## Detailed Description of Bajela Online Education App

The **Bajela Online Education App** offers a comprehensive platform that connects students with their educational resources and helps teachers provide learning content seamlessly. This app is designed to cater to the needs of students, especially in remote areas like Uttarakhand, where the digital divide and limited resources can often make learning difficult. With a focus on social good, the app provides numerous features that ensure children can stay engaged in their education even when they are not physically in school.

### Key Features and Functionality:

1. **Holiday Homework:** During summer and winter vacations, students are provided with holiday homework through the app. This ensures that they remain engaged with their studies even during breaks. The app allows students to complete assignments, worksheets, and other tasks directly on their devices.



2. **Daily Work and Chapter-wise Learning:** The app provides daily work assignments, organized by chapters. Students can easily access video lessons, audio files, eBooks, worksheets, and question-answer sets for each chapter. By clicking on the "Daily Work" tab, children can explore all these resources, making learning more interactive and convenient.



3. **Weekly Worksheets:** Through the "Weekly Worksheet" tab, students can access their weekly assignments, helping them stay on track with their learning goals. The app also includes "Energized Worksheets," which are designed to keep students engaged and motivated.



4. **Mission Koshish:** Under this feature, teachers can access teaching content directly on their mobile devices and use it to support their lessons. This helps educators stay updated with the latest teaching materials and ensures they have the necessary resources to engage their students effectively.



5. **Nipun Bharat Mission:** The app provides access to content related to the *Foundational Literacy and Numeracy (FLN)* mission of the Indian government. By clicking on the "Nipun Bharat Mission" tab, both

students and teachers can access resources that help in achieving the objectives of this national initiative, contributing to the broader goal of improving literacy and numeracy across India.



6. **Navodaya Vidyalaya Entrance Preparation:** The app also helps students prepare for the *Navodaya Vidyalaya* entrance exams. By clicking on the "Navodaya Vidyalaya Entrance Exam Preparation" tab, students can access specific content related to the entrance test.



7. **Story Listening:** The app includes a "Suno Kahani" (Listen to a Story) tab, where children can listen to various stories, fostering creativity and imagination.



8. **Read School Magazine:** By clicking on the "Read School Magazine Dugdugi" tab, students can access the school magazine, which includes student contributions and other educational content.

READ SCHOOL MAGZINE- DUG DUGI



9. **Reference Books and Internet Resources:** The app also provides access to a wide range of reference books and materials from the internet, allowing students to explore various resources and expand their knowledge.

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10. **Anandam Activities:** Through the "Anandam" tab, students can access engaging activities that are designed to make learning fun and interactive.

ANANDAM ACTIVITY : आनंदम गतिविधि



- Bajela Online Library:** The app includes an online library where students can read comic books, eBooks, and other learning materials. They can access these resources anytime and anywhere, enabling flexible learning.

BAJELA ONLINE LIBRARY: चलता चल प...

- Audio Library:** The app features an audio library that offers audio books, so students can listen to educational content during their free time.

GPS BAJELA AUDIO LIBRARY

- Quiz and Self-Evaluation:** Students can participate in quizzes and self-evaluation tests to assess their learning progress. The "Quiz with Answer" tab allows children to engage in quizzes, helping them reinforce their understanding.

QUIZ WITH ANSWER-प्रश्नोत्तरी

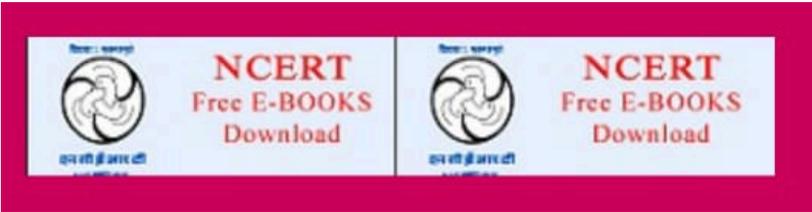
- 14. **Summer Camp Activities:** Through the "Summer Camp Activities" tab, children can receive guidance from teachers and stay connected with educational programs during the summer holidays.
- 15. **Kumaoni and Garhwali Literature:** Students can access content related to the rich cultural heritage of Uttarakhand, including Kumaoni and Garhwali literature, by clicking on the respective tab.
- 16. **Google Meet Integration:** For direct interaction between students and teachers, the app allows teachers to send Google Meet links for live sessions, facilitating real-time learning and engagement.



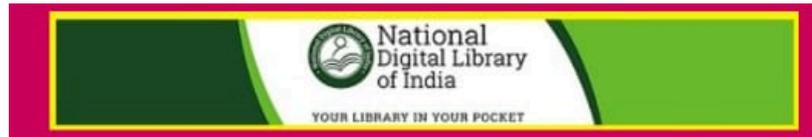
- 17. **Downloading Resources:** The app allows parents and students to download a variety of educational resources, ensuring that they can study offline as well.
- 18. **Grievances and Suggestions:** Parents and students can submit their complaints or suggestions through the "Grievance and Suggestion" tab, ensuring continuous improvement of the app and its resources.



- 19. **NCERT Free Books:** Students can download NCERT books for free, ensuring access to high-quality educational resources.



- 20. **National Digital Library:** The app provides direct access to the National Digital Library, allowing students to explore a wealth of educational content online.



21. **POSCO Box (Child Safety):** For child safety, the app includes a POSCO Box. In case of any insecurity, children can click on this tab to get immediate help from child helplines.



22. **SwayamPrabha Channels:** The app also provides information on *Swayam-Prabha* channels, which offer educational content related to various subjects.
23. **E-Paatshala Content:** All content from the E-Paatshala platform is integrated into the app, making it a one-stop platform for all educational needs.
24. **Spotify Podcast Integration:** The app integrates podcasts created by the teacher, which are available on Spotify, allowing students to access additional learning material.



The Bajela Online Education App is a holistic educational platform that not only facilitates learning but also ensures the well-being and safety of children. By providing easy access to various educational resources, it bridges the gap between students and teachers, especially in remote areas where traditional schooling systems face limitations. This app is particularly beneficial in regions like Uttarakhand, where the geographical challenges hinder access to digital resources. Through the Bajela Online Education App, children can receive quality education and stay connected with their learning community, even in the face of adversity.

## Impact and Utility of Bajela Online Education App

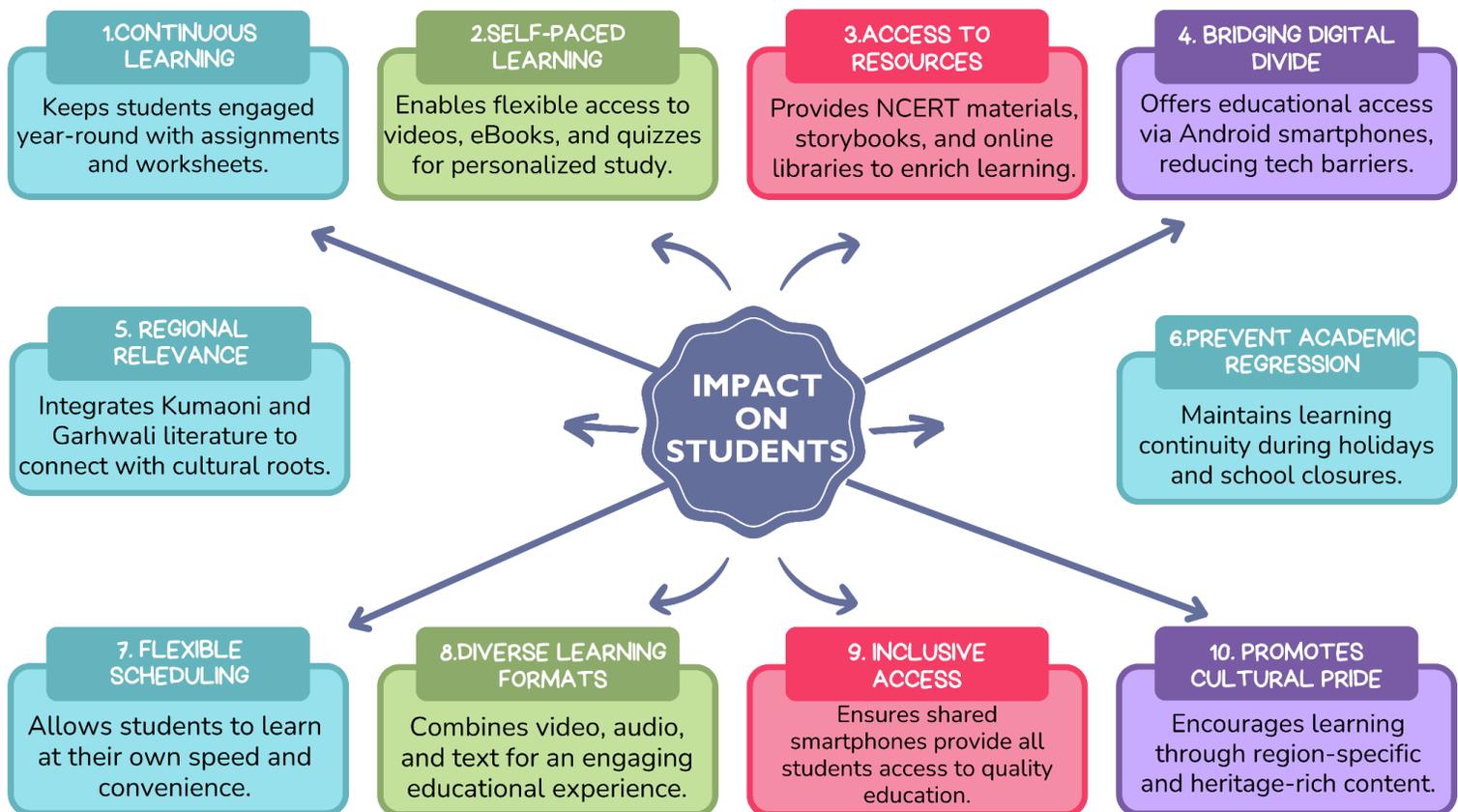
The **Bajela Online Education App** has had a significant impact on the educational landscape of remote regions, particularly in areas like Uttarakhand, where geographical and technological barriers often hinder access to quality education. This app has proven to be an invaluable resource for both students and teachers, especially in the wake of the COVID-19 pandemic when traditional schooling systems faced major disruptions.

### Impact on Students:

1. **Continuous Learning:** The app ensures that students remain connected to their education throughout the year, even during long holidays or times when schools are closed, such as during the pandemic. With features like daily assignments, holiday homework, and weekly worksheets, students can keep up with their academic work from home. This continuity in learning helps prevent academic regression and keeps students engaged.
2. **Self-Paced Learning:** The app provides students with the flexibility to learn at their own pace. Students can access chapter-wise videos, audio lessons, eBooks, worksheets, and quizzes, enabling them to review and learn content according to their own schedule. This personalized approach caters to individual learning speeds and promotes a deeper understanding of subjects.
3. **Access to Diverse Resources:** The app makes a wide variety of educational resources available to students, including NCERT materials, storybooks, online libraries, and quizzes. These resources

enrich the learning experience, provide exposure to different learning formats (such as video, audio, text), and help students engage with content in various ways.

- 4. Bridging the Digital Divide:** In regions where access to computers and laptops is limited, the app offers a solution by making content available on Android smartphones. By simply having access to a smartphone, even if it is shared among family members, children can access all the learning materials provided by the app, thus helping bridge the digital divide.
- 5. Cultural and Regional Relevance:** The inclusion of Kumaoni and Garhwali literature, as well as content related to local customs and heritage, makes the app regionally relevant. This encourages students to connect with their cultural roots while learning core academic content, promoting a sense of identity and pride.

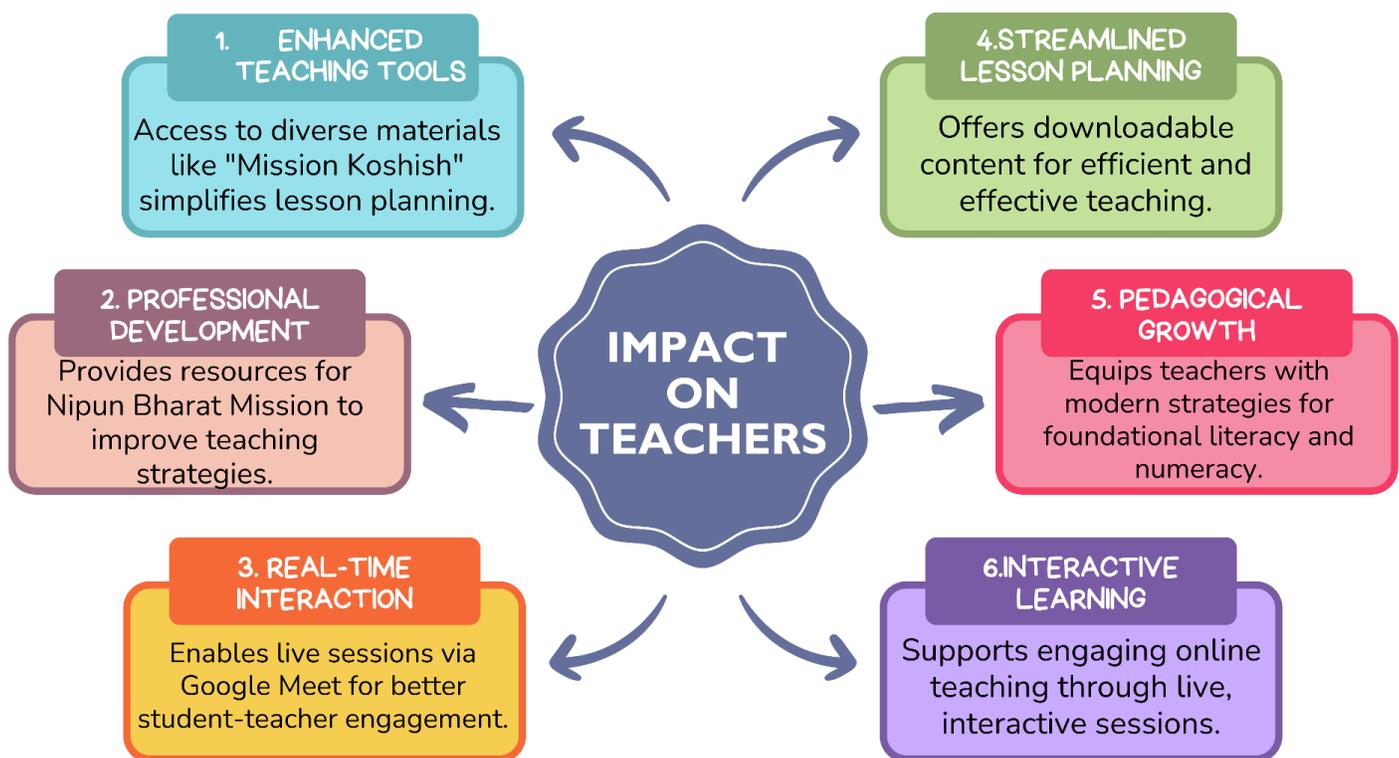


## Impact on Teachers:

- 1. Enhanced Teaching Tools:** Teachers benefit from the app by accessing a wide range of content that they can use to enhance their lessons. With

sections like "Mission Koshish," teachers can download teaching material directly to their devices, streamlining their lesson planning and making their teaching more effective.

- 2. Professional Development:** The app also offers resources related to the *Nipun Bharat Mission* and foundational literacy and numeracy, providing teachers with additional tools and methods to improve their teaching. This supports continuous professional growth and equips teachers with the latest pedagogical strategies to engage students effectively.
- 3. Real-Time Interaction:** The app's integration with platforms like Google Meet enables teachers to conduct live sessions with students, even in remote areas. This real-time communication fosters a better student-teacher relationship and helps maintain a personal connection with students, making online learning more interactive and engaging.

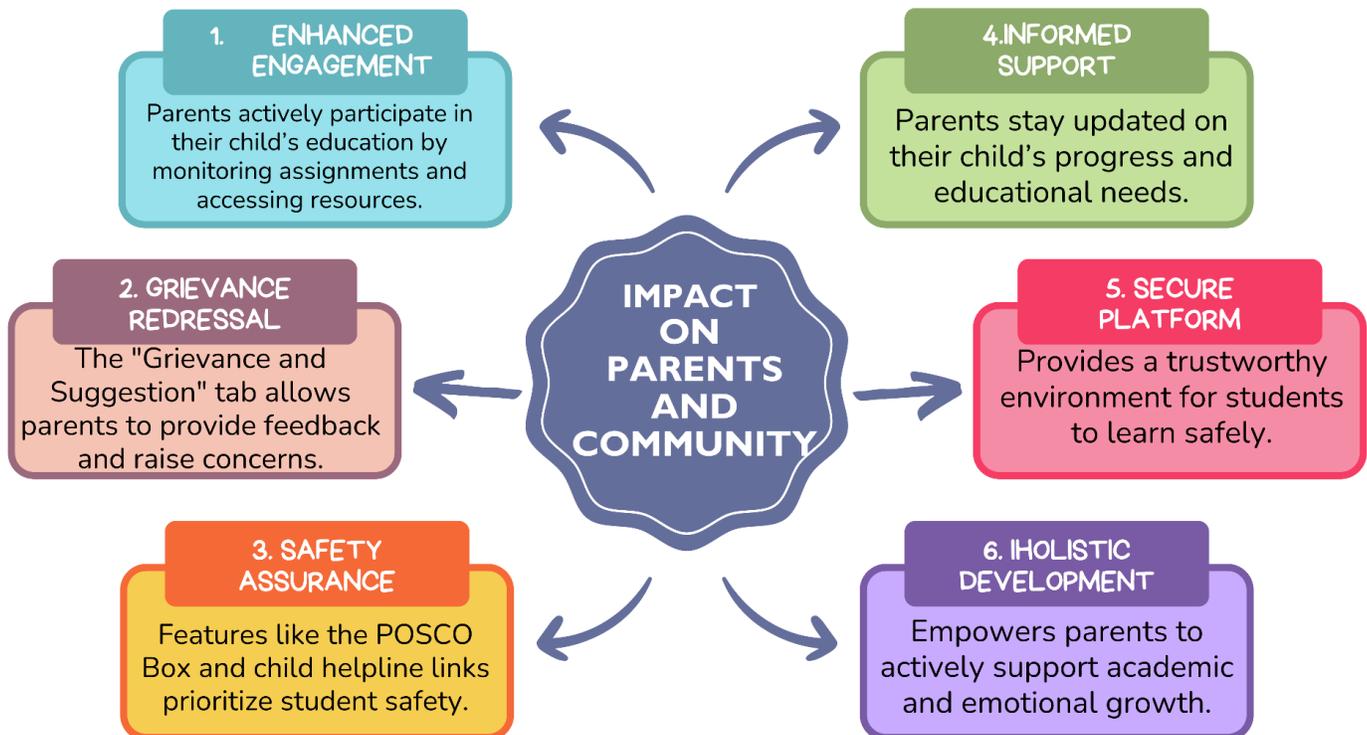


## Impact on Parents and Community:

- 1. Engagement in Education:** The app encourages greater involvement from parents in their children's education. Through features like

downloading resources, monitoring assignments, and submitting feedback via the "Grievance and Suggestion" tab, parents can stay informed and support their children's learning journey.

2. **Safety and Support:** With the inclusion of child safety features, such as the POSCO Box and links to child helplines, the app ensures that students' well-being is a priority. Parents can feel confident that their children are using a safe and secure platform.



## Utility for the Educational Ecosystem:

1. **Cost-Effective Learning:** The Bajela Online Education App offers free access to educational materials, making it an affordable solution for students in low-income and remote areas. It reduces the need for physical textbooks, tutoring, and other educational services, providing a low-cost alternative to traditional learning methods.
2. **Scalability:** The app can be easily scaled to accommodate more content, users, and regions. As a digital platform, it has the potential to reach a large number of students, even in the most remote villages. This scalability ensures that the app can continue to serve the educational needs of growing populations in under-served areas.

3. **Integration with Government Initiatives:** The app’s alignment with national initiatives like *Nipun Bharat Mission* and access to government resources (like NCERT books, National Digital Library) strengthens its role in supporting India's broader educational goals. The app contributes to improving literacy rates, numeracy, and educational access in rural areas, helping achieve key objectives of the Indian government’s education reforms.
4. **Sustainability:** As a digital resource, the app helps reduce the environmental impact of printed materials, offering a more sustainable solution for education. It also allows for easy updates and improvements, ensuring that the content remains current and relevant over time.



**BAJELA ONLINE EDUCATION APP**

*In conclusion, the Bajela Online Education App has had a profound impact on the education system in rural Uttarakhand, providing students, teachers, and parents with a user-friendly, accessible platform for learning.* It has addressed key challenges such as the digital divide, limited resources, and geographical barriers, making it a valuable tool for social good. Through its extensive features and community-focused approach, the app plays an essential role in improving the quality of education in remote areas.

**Future Plans for the Bajela Online Education App**

The future of the **Bajela Online Education App** holds tremendous potential for expanding its reach, improving educational outcomes, and addressing

additional challenges in rural and underserved areas. Below are some key areas of focus for the app's development:

### **1. Integration of AI and Personalized Learning**

To make learning more personalized, AI can be integrated into the app to offer personalized learning pathways for students based on their progress, strengths, and weaknesses. AI-powered assessments can help tailor the content according to individual student needs, thus enhancing the learning experience.

### **2. Offline Accessibility and Low Data Usage Features**

Given the challenges of connectivity in rural areas, a major future enhancement for the **Bajela Online Education App** will be the introduction of an offline mode. Students will be able to download resources like videos, worksheets, ebooks, and assignments when they have internet access, and access them later without needing a constant connection. This feature will enable continuous learning even in areas with limited or no internet connectivity.

### **3. Enhanced Assessments and Certifications**

Adding gamified elements such as rewards, badges, and levels for completing learning milestones can make learning more enjoyable and motivating for students. **Certification Programs:** The app can offer certifications for students completing specific courses or modules. This would not only give students a sense of accomplishment but also provide them with tangible 9.

The **Bajela Online Education App** has immense potential to evolve and continue contributing to the educational empowerment of students in underserved regions. By focusing on technology integration, scalability, offline accessibility, and continuous enhancement, the app can provide high-quality education to millions of students, bridging the educational gap in rural and remote areas .