Original Research Paper

Geology

TALKING ROCK APP: TO ENHANCE STUDENTS LEARNING IN INTRODUCTION TO GEOLOGY

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ABSTRACT The Covid-19 pandemic occurred at a time of major revolution in the geosciences – the era of digital geology. Digital talking rock app software shared with the wider audience through online and offline platforms are a cornerstone of this digital geological revolution. Teaching geology with digital tools and app advances students' learning experience by providing access to high-quality, enhancing visualization and improving data integration. Similarly, active use of talking rock app to integrate new field observations as well as laboratory will facilitate more effective fieldwork, qualitative and quantitative research. Talking rock app allow us to bring geoscientists to the digitally, which is particularly important in view of the Covid19 pandemic that restricts travel and thus direct access to rock museum. Talking rock is an android app that gives information about rock specimen about their physical properties. In this app, rock itself gives information to user after scanning the QR code or by selecting the number that is assigns to each rock specimen its looks like rock is talking with us. A rock gives information like its Common name, chemical composition, hardness, state, luster and its occurrence. This is currently working in English languages. Information of 40 species of rock specimen which is present in Rock Museum of Geology Department of G. S. Tompe Arts, Commerce & Science College, Chadur Bazar stored in this app. It was first time launched in this college at 4th Sept. 2021. (This is first type of Interactive app from India). This app is work online and offline also. It was published in Google Play store on 3rd Sept. 2021 and it is registered for copyright in 2020.

INTRODUCTION:

Computer-based learning tools are becoming more prevalent in classrooms from elementary school to higher education. The potential value of interactive learning tools is particularly high in geoscience education. To make full use of this digital geoscience revolution, we need to rethink how geology is conducted and taught while maintaining focus on key skill sets required by geologists in today's society. Field-based skills acquired while in the field are central to any geoscientist's education (Mogk and Goodwin, 2012), with digital tools allowing for more efficient field work. In addition, integrating talking rock app into a regional geological context using complementary data sets and harvesting these expanding data for quantitative studies, we can take the next step towards "big data geoscience" (e.g., Guo et al., 2014; Bergen et al., 2019). Importantly, we should bring this geoscience revolution to geoscience students at an early stage, by developing skills-oriented courses where tasks are authentic to real-life problems faced by professional geologists. Actively participating in the digital geoscience revolution has several benefits, including improved accessibility for those that cannot participate in field work (Bond and Cawood, 2021), a prolonged field season (Senger and Nordmo, 2020), potential for field work preparation and thus more effective and targeted field work, and reduction in associated environmental and economic costs of field campaigns. It should, however, be stressed that geoscientific field work should not be purely digital. Participation in traditional field work and field excursions is a fundamental aspect of becoming a geoscientist (Mogk and Goodwin, 2012; Kastens et al., 2009), and digital tools should, in our opinion, complement these rather than replace them.

Application Concept of a Talking Rock android app

This is an android app that gives information about rock specimen. This app rock itself gives information to users after scanning the QR code or by selecting the number which is assigned to each rock specimen its looks like rock is talking with us. A rock gives information like its Common name, chemical composition, hardness, state, luster & Its occurrence. This is currently working in English languages. Information of 40 species of rock specimen which is present in **Rock Museum** of Geology Department of G. S. Tompe Arts, Commerce & Science College, Chadur Bazar stored in this app. It was first time launched in this college at 4th Sept. 2021. (This is first type of Interactive app from India). This app is work online and offline also. It was published in Google Play store on 3rd Sept. 2021.

Short Write up about the Product/App of Talking Rock

- Very easy to operate.
- Can be installed on any Android Smart Phone.
- Offline also.
- Personal data collection.
- Helpful for students of School & Colleges.
- Complete privacy, not a single data stored or shared to the main server.
- Selfie & Sharing features also.
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- Its Free & does not contains any type of advertisements.

Working of Talking Rock app (G. S. Tompe Arts, Commerce & Science College, Chandur Bazar)

Step One- Go to the play store and search the talking rock app.

Step Two- After Installing, click on start button.

Step Three- After this, the app will ask your name. You can write your name or you can speak.

Step Four- Now Scan the QR code which is available on rock specimen or Select the number which is tagged on the rock specimen.

Now rock itself talks with us through a mobile app. And the rock also asks us for Selfie.

Information given by Rock Specimen:

If the Username is Arnavee

Arnavee, I am Agate (Jasper). My Chemical Composition is SiO_2. I am Crystalline, Reddish white, with absence cleavage, with conchoidal fracture. I have vitreous luster, with 7 value of hardness & 2.65 specific Gravity. I am occurring in volcanic lavas as cavity fillings.

Selfie?

Selfie, with sharing of photo with information of respective rock specimen with a label of Institute.

Future Plan

1. Addition of more rock specimen in this app.
2. Addition information in Hindi & Local Languages.
3. Amalgamation of this concept with Artificial Intelligence so that users can get information of various rock specimen only by taking photographs.
4. Installation of such type of interactive app in various institutes.

CONCLUSION:

From a broader perspective, we as educators also need to consider how best to train geoscientists to exploit the digital geoscience revolution to their advantage. The benefits are clear, but the challenges with numerous software (some open source but most proprietary and costly) and using cross software workflows can also be daunting. In essence, we can ask ourselves the question of how to best teach digital geosciences and whether we can teach it in an active and integrated fashion. The focus on digital tools, and in particular digital apps but also facilitated running the second half of the course fully digitally during the global Covid-19 pandemic in 2020. We conclude that the digital geosciences revolution is among us and that we as educators need to embrace it – not to replace traditional fieldwork but to complement it and exploit the synergies. There is no better place in the world to do this – as digital geological app also significantly enhances our field season as well as laboratory work, and the geology is truly a playground for any geologist.

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