Kingdom of Cambodia

Nation Religion King

ROYAL UNIVERSITY OF PHNOM PENH

FACULTY OF EDUCATION

A PROJECT REPORT

OF

GIEP ED-TECH PROGRAM FOR GEIP

PROGRESS REPORT OF

ED-TECH PROGRAM FOR GEIP

OCTOBER , 2023

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Aim and Objectives

The aim is to find out the impact from the pilot to inform policy dialogue and possible expansion of the pilot.

The concept: the development objective of the pilot is to improve the quality of teacher training using technology in teaching and learning. The concept covers the design, the pilot, the findings, and the conclusions. The Faculty of Education plays a main role in the pilot with consultative support from the GEIP Team. The management of data is also under the faculty data management system which also uses technology to ensure data and statistical integrity.

The expectations: The findings will inform a set of possible actions that will enable the expansion of the pilot into all three science subjects (physics, chemistry, and biology) and scale both all 4 subjects in all secondary schools throughout the country.

1.2 Context

- To help realize the digitalization of education vision of the ministry of education youth and sport and with funding from GEIP, the Faculty of Education, RUPP, is working on Ed-Tech app development to help the teachers teach and the students learn by using App-based Approach.
- The App-based Approach starts by allowing the teachers to guide their students through self-assessment by using the Self-Assessment App to identify their actual competency in the target subject.
- First, the target subject is Grade 7 Math. The SA-app is designed in such a way that when the students are doing the self-assessment test in Math for grade 7, whatever test items that they do not do well will enable the teachers to know what subject content from grades 3-6 that they need to work on in order to study Math grade 7 well. Each test item is linked back to what key math competency that they need to have from grades 3-6 to do the test well. Similarly, for those who are very good with all the test items in the self-assessment, the teacher will be able to suggest what exact grade their real competencies in Math are at.

1.3 Development Objective

- The development objective of the pilot is to improve quality of teacher training using technology in teaching and learning. The concept covers the design, the pilot, the findings, and the conclusions.
- Faculty of Education plays a main role in the pilot with consultative support from GEIP Team.
- The management of data is also under the faculty data management system which also use technology to ensure data and statistical integrity.

1.4 Methodology

The core principle of the App-based Approach permits educators to direct students through self-assessments using the application, initially concentrating on Grade 7 Mathematics. The app is meticulously designed to provide insights into a student's mastery over past concepts. If students struggle with a specific Grade 7 Math test item, the application reveals relevant foundational topics from Grades 3-6. Conversely, students excelling in the assessments can have their advanced competencies identified. Subsequent to these evaluations, educators can strategically group students based on proficiency, harnessing the app to facilitate self-study and monitor progression.

1.5 Scope

While the initial focus is on Grade 7 Mathematics, GEIP envisions expanding this approach to include subjects such as Physics, Chemistry, Biology, and Khmer, spanning Grades 7 to 12 throughout the project's duration.

2. WORK PROGRESS

2.1 Build EdTech technical team

So far the app development team was built and ready to move forward for the next step. when building an EdTech technical team, having just one full-stack mobile app developer is a start, but we would typically need a few more roles to ensure smooth development, deployment, and maintenance of an EdTech application.
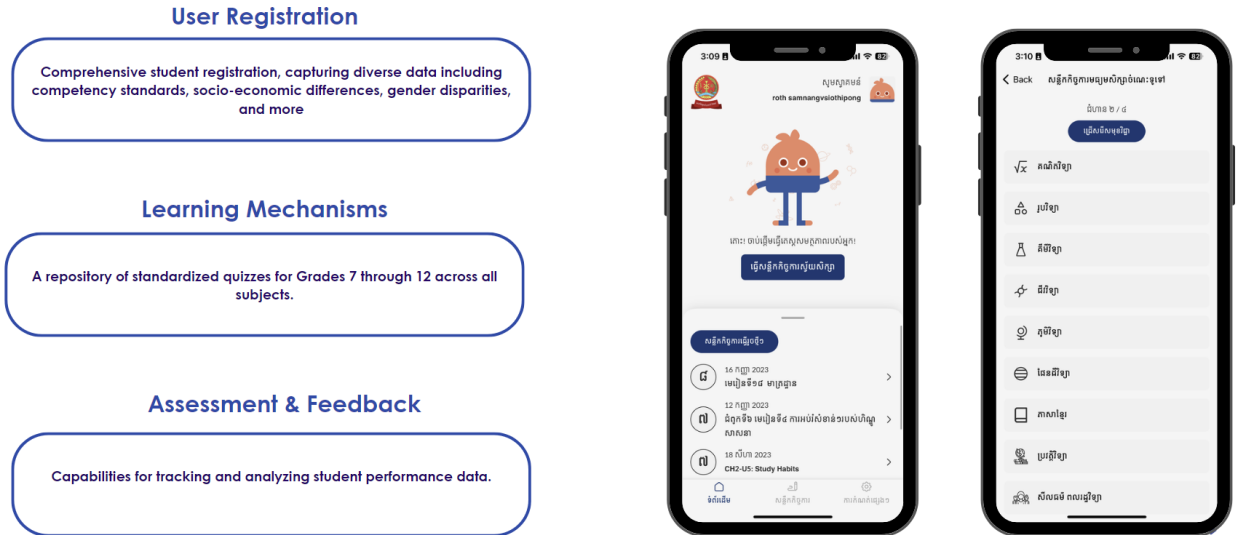
2.2 Develop App platform for version 1

The Version 1 SCS EdTech application encompasses features from compatibility with major platforms to a repository of quizzes for students.
SCS EdTech Application Features:
- Compatibility with both iOS and Android platforms, complemented by a web administrative portal.
- Comprehensive student registration, capturing diverse data including competency standards, socio-economic differences, gender disparities, and more.
- A repository of standardized quizzes for Grades 7 through 12 across all subjects.
- Capabilities for tracking and analyzing student performance data.

Feature In SCS EdTech Version 1

User Registration

Comprehensive student registration, capturing diverse data including competency standards, socio-economic differences, gender disparities, and more

Learning Mechanisms

A repository of standardized quizzes for Grades 7 through 12 across all subjects.

Assessment & Feedback

Capabilities for tracking and analyzing student performance data.

Figure 1 : SCS App Version 1 Feature and Interface

2.3 Pilot, monitor, and evaluate for Version 1

The SCS EdTech version 1 underwent rigorous testing and evaluation. Continuous monitoring is underway.

Achievement of SCS Version 1 :
- Platform Development: Successfully launched on iOS and Android.
- User Engagement: Achieved 22,000 downloads, underlining the application's reception and demand.
- Active Participation: Recorded 167,000 quizzes taken, indicating robust interaction with the app's features.
- Daily Engagement: A consistent 1,000 active students participate in quizzes daily.

Piloting:
- Launched SCS EdTech Version 1, focusing on Grade 7 Mathematics.
- Enabled educators and students to experience the App-based Approach using the Self-Assessment App.
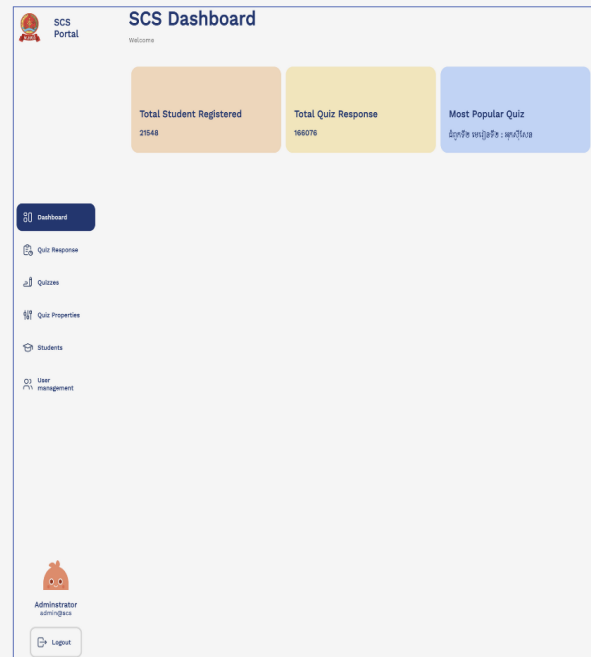- Available on both iOS and Android platforms.

Evaluation:
- Analyzed app's performance against objectives.
- Confirmed the app's effectiveness in identifying student competency gaps.
- Recognized the need for refinements, setting the stage for Version 2's development.

Figure 2 : SCS App Version 1 Current Data

2.4 Draft Concept for version 2

- Platform Enhancement:
  Extended Compatibility: Fully developed mobile applications for both Android and iOS platforms.
- User Registration:
  - Comprehensive Data Capture: Detailed student registration capturing pertinent data such as name, phone number, and familial background.
  - Inclusive Profiles: Ability to register not only students but also school and director profiles, fostering a holistic educational ecosystem within the app.
- Learning Mechanisms:
  - Coin For Learning: An innovative token-based approach. Students use coins to access standardized quizzes, emphasizing commitment and the value of educational resources.
  - Digital Library: A vast repository of academic resources spanning from Grades 7 to 12 for all high school subjects.
  - Gamified Learning Modules: Engaging students with interactive quiz formats like Kahoot-style challenges and 1-on-1 quiz contests.
- Assessment & Feedback:
  - Diverse Testing Facilities: Incorporation of various test formats, including PISA Tests and standardized examinations.
  - Progress Tracking: Advanced tools to monitor user progression, providing insights into scores, areas of knowledge acquisition, and subjects needing improvement.

4

- Reward System: Recognition of top-performing students based on quiz results, promoting a competitive learning environment.

SCS EdTech Version 2 - Summary of Completed Features:

- Platform Compatibility: Ensured full compatibility with both Android and iOS.
- Enhanced User Registration: Introduced a comprehensive data capture system, gathering both personal and familial details of students.
- Coin For Learning: Launched a token-based system where students use coins to access quizzes, enhancing their commitment to learning.
- Gamified Learning Modules: Added interactive learning experiences with Kahoot-style challenges and 1-on-1 quiz contests.
- Diverse Testing Facilities: Incorporated a range of testing formats, notably including PISA Tests.
- Progress Tracking Tools: Integrated advanced tools for monitoring and analyzing student progress effectively.
- Reward System: Established a mechanism to recognize and celebrate top-performing students, fostering a competitive and motivational learning environment.
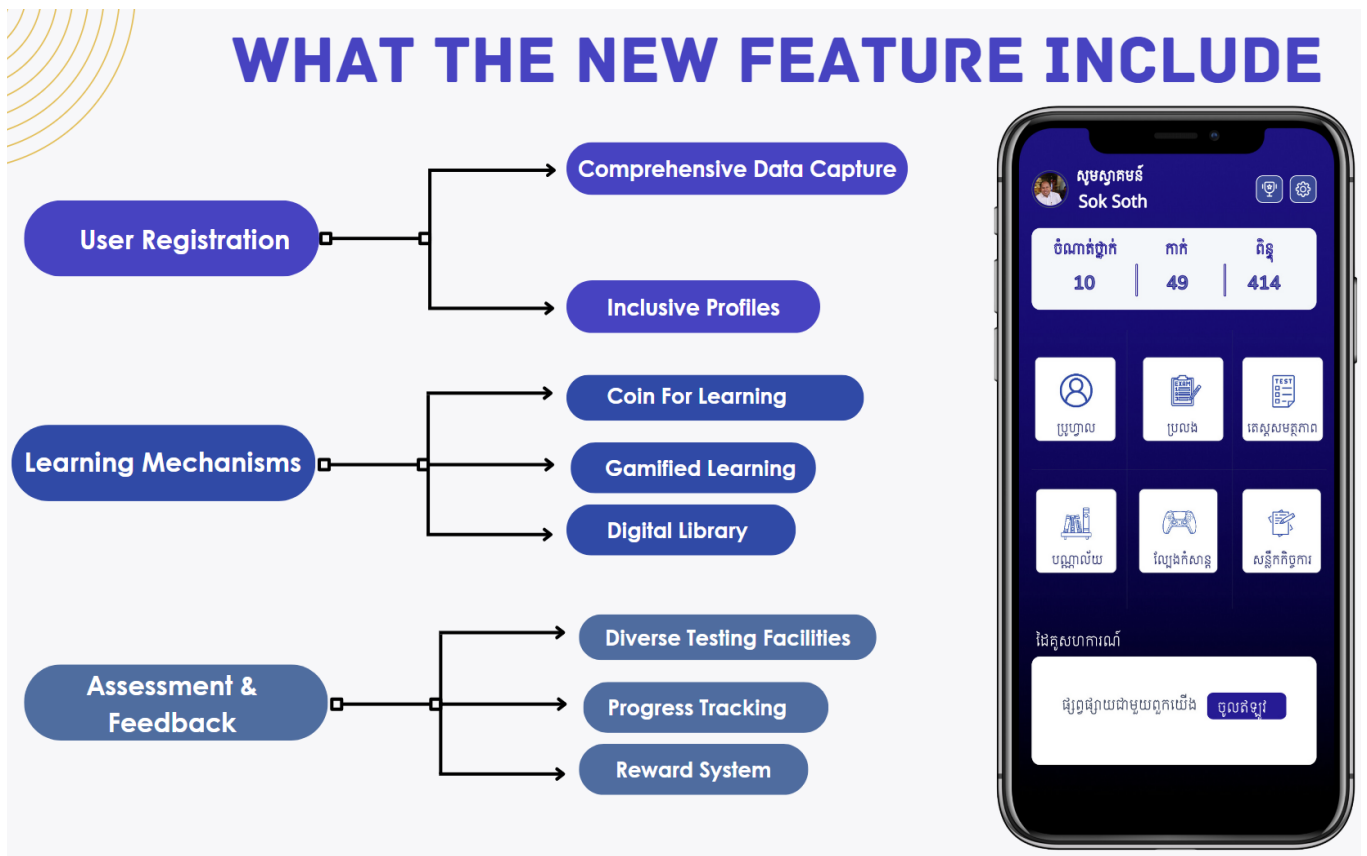

Figure 3 : SCS App Version 2 Feature, Main Interface and Dashboard

Figure 4 : **SCS App Version 2 Feature and Main Interface**

3. FURTHER ACTION PLAN FOR NEXT THREE MONTHS

- Develop app architecture (system planning, analysis, and architecture)
- Develop further feather for SCS Edtech V2: Library, Profile, and Exam
- Develop UIUX (User Interface, User Experience), system prototyping
- Development of Administrator Web Portal for Faculty Members
- Input Data content such as quiz materials, library resources, sample school profiles, and exam details into the admin web portal.

4. CONCLUSION

So far the app development team was built and ready to move forward for the next step. The SCS EdTech version 1 was developed and piloted. Some achievements are also reported. Further monitoring and evaluation for SCS EdTech version 1 is in progress. Based on the evaluation results of SCS EdTech version 1, SCS EdTech apps version 2 platform has been developed and updated to trial. The revision of app structure is almost completed. Meanwhile, it will be ready for data entry in November 2023. Thus, a budget for expenses should be available for producing material and worksheets and building the completed apps for piloting on an acceptable scale.