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Smart Phone Based Remote Monitoring Tool for E-Learning

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ABSTRACT- Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves. To analyze the degree of attention of the students of each instance, it needs to be trained using machine learning algorithms. we can monitor the activities of the students and provides results to their parents based on the degree of attention of each and every student.

KEYWORDS: Task monitoring, mobile application,face detection applications, Task analysis.

I. INTRODUCTION

The developed tool monitors the attention levels of children solving assigned tasks that cannot be supervised by a present adult. Themonitoring information is useful for both, parents and teachers, who can use it to make [1] learning methods. The key objective is tomonitor the child attention by a mobile application to assign academics to a child, measure execution time using Face recognition.The Parent or teacher assigns a task using a desktop application and at the end of the times set by the user, the application sends to theparent or teacher statistics about the execution time of the task and the degree of the attentionof the child. The proposed tools are focused on handwritten tasks, such as solving arithmetic or algebraic operations, writing some paragraphs ordrawing, where children do not directly interact with the smartphone/tablet, and use it only to read the task description and to report image- based evidence of the carried -out work, which will be later revised by a teacher or a parent

II. LITERATURE SURVEY

1. Our proposed method is designed to work across multiple naturalistic social scenarios and pro- vides a full picture of the subject's attention and gaze. In contrast, earlier works on gaze and attention estimation have focused on constrained problems in more specificcontexts. In particular, our modelexplicitly represents the gaze direction and handles out-of-frame gaze targets.We leverage three different datasets using a multi-task learning approach. We evaluate our method on widely used benchmarks for single-tasks such as gaze angle estimation and attention-within-an-image, as well as on the new challenging task of generalized visual attention prediction. In addition, we have created extended annotations forthe MMDB and Gaze Follow datasets which are used in our experiments, which we will publicly release. The effectiveness of e- learning content design by considering two different subjects (mathematics and reading) and areas (metropolitan and rural). This study also investigated several variables,i.e., students' satisfaction, motivation, and experience, that influenced learning abilities. Moreover, we suggest ways of improving the effectiveness of e- learning for different kinds of students, subjects, and areas. Thirty-five undergraduate students (20 females) completed seven usability tasks in the

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Algebra Nation™ online learning environment. The participants were asked to log in, select an instructor for the instructional video, post a question on the collaborative wall, search for an explanation of a mathematics concept onthe wall, find information relating to Karma Points (an incentive forengagement and learning), and watch two instructional videos of varied content difficulty. Participants' eye movements (fixations and saccades) were simultaneously recorded by an eye tracker. Usability testing software was used to capture all participants' interactions with the system, taskcompletion time, and task difficultyratings. Upon finishing the usability tasks, participants completed the System Usability Scale. Important relationships were identified between the eye movement metrics and traditional usability testing metrics such as task difficulty rating and completion time. Eye tracking data were investigatedquantitatively using aggregated fixation maps, and qualitative examination was performed on video replay of participants' fixation behavior. Augmenting the traditional usability testing methods, eye movement analysis provided additional insights regarding revisions to the interface elements associated with these usability tasks. Eye-gaze is the mirror of speech, thelanguage of nonverbal communication. The research investigations in eye-gaze estimation systems may reveal what persons think about on the basis of where they are looking. Nowadays, the eye-gaze estimation systems represent a combination of appropriate hardware and related software for estimating the eye-gaze directions to provide new domains of applications. The purpose of this paper is to provide an inclusive expansion in the recently existing applications based on the eye-gaze estimation systems by considering different applications; driver assistance systems, Smartphone as an input mechanism, controlling smart homes/TV, virtual space and entertainment, medicine, human robot interaction, sports, security, and authentication. Additionally, animplementation of an accurate, reliable and a low -cost eye-gaze estimation approach based on Laptop Webcam is presented. This paper contains the main preliminaries, up-to-date advantages, and disadvantages in addition to the necessity of future expansion in the domain. Contemporary MOOC learning analytics relate with click- streams, keystrokes and other user-input variables. Such variables however, donot always capture users' learning and behavior (e.g., passive video watching). In this paper, we present a study with 40students who watched a MOOC lecture while their eye movements were being recorded. We then proposed a method todefine the stimuli -based gaze variables that can be used for any kind of stimulus. The proposed stimuli-based gaze variables indicate students' content- coverage (in space and time)and reading processes and attention at the perceptual (following teacher's deictic acts) and conceptual levels (following teacher discourse). In our experiment, we identified a significant mediation effect of the content coverage, reading patterns and the two levels of with-me-ness on the relationbetween students' motivation and their learning performance. We present a novel long-term dataset of everyday mobile phone interactions, continuously recorded from 20 participants engaged in common activities on a university campus over 4.5 hours each (more than 90 hours in total). We propose a proof- of-concept method that uses device- integrated sensors and body-worncameras to encode rich information on device usage and users' visual scene. We demonstrate that our method can forecast bidirectional attention shifts andpredict whether the primary attentional focus is on the handheld mobile device. we propose a multi-sensory intelligentsystem to predict user engagement usingfacial expression and body posture data while the user performs a task to providecognitive assessment of the user's capabilities, a critical factor in successful vocational performance usingrobots.

III. THE PROPOSED SYSTEM

A remote learning system and makes moreuseful for parents, students and staffs. The staffwill add the students along with their personal details who are under his/her class. Then the staff will upload tasks or activities under courses with any number of selected students who need to attend those activities. Students will login using their registered email and the password which gets generated while staffs adding students and it will be sent through the parent's email . For every activity, the staff can view the image-based evidence after theiractivity completion. The attention will get calculated using the attention video in python. The staff will enter the mark based on their evidence and attention.

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IV. WORKING OF PROPOSED SYSTEM

The staff will register with their details. The Admin have to give permission for the registered staff to proceed with their login process. If the admin rejects a staff, then that staff will not be accessible with their further process. The authorized staff will proceed their process after logging in. They will add the students along with their personal details who are in his/her class. Then the staff will upload tasks or activities under courses with any number of selected students who need to attend those activities. The students will register with their android mobile phone. Once the course gets started, mail will be sent through their parent's email. After getting mail, students will login using their registered email and password and start the activity. After completing every activity, the image-based evidence and the attention video during their activity will be saved. The staffs can view the created courses and activities. The students who are added in the activity will get displayed inside that activity. For every activity, the staff can view the performance of the student i.e., the image- based evidence after their activity completion. The attention will get calculated using the attention video in python. attention. Finally, the

Advantages:

- This system makes the remote learning methods more effective and helpful for staffs, students and parents.
- In this method, the students will perform in their exams, activities and in their online classes with more attentionthan before.

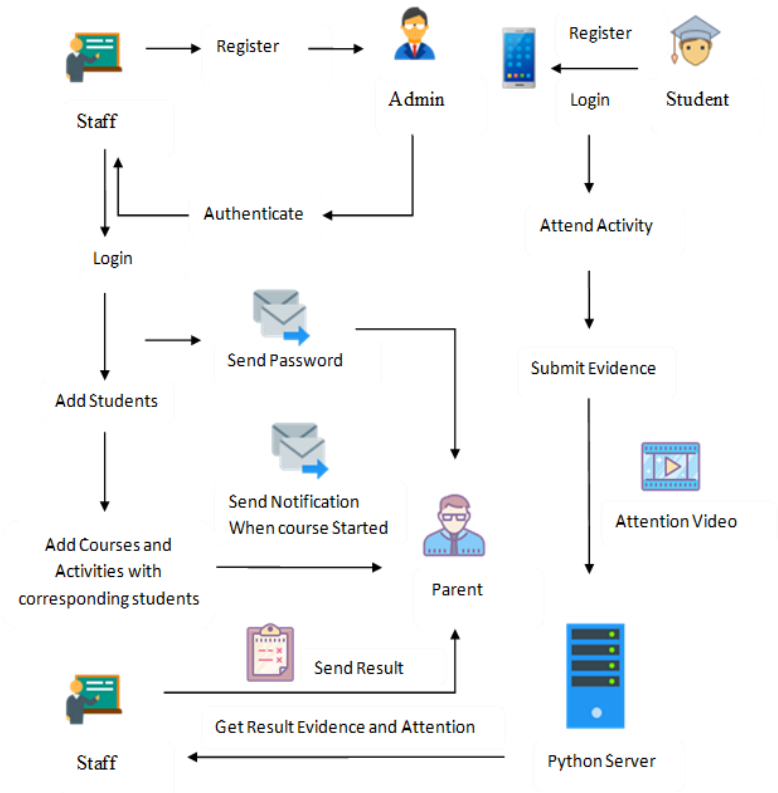

Fig. 1 Proposed Architecture diagram

4.1 Staff Authentication

The staff will register their details and Adminwill give Permission to further process.If the Admin rejects the staff can't go any other process.

4.2 Add students and courses

The staff will the add the students, uploadactivities under the courses who need to attend those activities.

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4.3 Student Registration and AttentionDetection

Once the course gets started, mail will be sentthrough their parent's email. After getting mail, students will login using their registered emailand password and start the activity.

4.4 Sending Result to Parent

Applications: An Implementation of ApproachBased on Laptop Webcam" in 2017.

The staffs can view the created courses and activities. The students who are added in the activity will get displayed inside that activity. For every activity, the staff can view the performance of the student i.e., the image- based evidence after their activity completion.

V. CONCLUSION

We propose a smart way to proceed the remote learning method effectively for students and we can infer the attention on theirgiven activities and 7motivating the students as well as the staffs and parents.

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