

Mobile base screen sharing system on smart devices

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ABSTRACT

In some scenarios the screen size of the smart phones is a limiting factor. It is not only dissatisfying to watch movies with a small screen but it is also inconvenient to share screen content to multiple audience at the same time. Therefore, screen sharing from smart phones to external display with larger screen size such as televisions and projectors is needed. Seamless wireless screen sharing is a method of sharing smart phones content to external display wirelessly (Wi-Fi). The Android smart phone will send its content wirelessly to hardware; the hardware will act as a repeater and send the same content to external display device. This project proposes to design a low-cost wireless screen sharing system for Android smart phones. The proposed work provide the smart screen sharing approach for mobile to any third device screen sharing approach like (projector and laptop etc).

Keywords : - Screen Sharing , Buffering, Screen Capture, Display Cast.

1. INTRODUCTION

The mobile app ecosystem continues to grow and mature rapidly, and offers a wide variety of services, such as SNS, shopping, entertainment, and healthcare. Mobile applications have become complex and diverse, and they have come to use the functionalities¹ of other applications or system services. At the same time, users own multiple mobile devices. A recent survey reported an average of more than three devices per person, and users are easily tempted to use on each device the functionalities available on other devices. Such trends present exciting opportunities for multiple smart devices to be used together, including (1) Video conferencing on a camera-less smart TV using a smartphone's camera, (2) Secure internet shopping on an unsecured public device using payment service from one's own private smartphone, (3) Replying to an email on a smartphone while scrolling through its attached documents on a tablet, and doing copy and paste between the two devices,(4) playing sensor-based games on a tablet while using sensors from a smartphone, which can provide a more convenient method to control them. Many solutions have been proposed to enable this exciting opportunity. First, many interesting studies have been done to use the resources of other devices through the cooperation of applications. Many apps are available for sharing specific resources, including screen casting, cameras, and sensors. However, their applicability is quite limited, because they work with their own custom applications but do not support unmodified applications. This imposes a great burden on those wanting to develop and deploy such applications for each individual resource or functionality. Second, a great deal of work has been done to develop a cross-device platform that enables unmodified applications to use the resources of other devices. However, these mainly focus on utilizing system resources such as sensors and cameras but do not support application functionalities such as in-app payment and SNS login.

2. LITERATURE SURVEY

According to [1] Smart class have many benefits like: i. Faculty/instructor spends more time in teaching rather than time consuming in getting started. ii. Can share all the forms, tests, quizzes and assignments to students in just a click. iii. System can collect files automatically after students are finished. iv. Last Class View & Planner, Class

Regulation& Monitoring, Assessment of the work, Share Student Screen and Sharing Faculty/Instructor Screen. The term significant use of technology involves a very wide range of technological resources. It includes computers, smart phones, tablets, Internet and web sites, virtual classrooms, projectors, smart boards (interactive white boards, touch screen LCD) and digital association. By providing technological and quality educations along with the quizzes and some other interesting activities, we can provoke the students to learn easily. Smart class also provides a consistent messaging. It minimizes the problems related with different instructors teaching style. Because everyone has their own teaching style and different knowledge base on the same subject. Smart class approach can provide tremendous improved output. E-learning involves a very wide range of applications. It includes computational, communication technologies along with other modern devices like interactive TV etc. [2] Smart class system is entirely different from the traditional way of teaching by writing on black boards. It is a modular approach specially designed to help faculties, instructors to compete with new challenges and developing students' capabilities and performance [3]. Smart class can be defined as the improved way of education in which teachers teach and students learn in colleges or universities with advanced and significant use of technology. Smart class means to use the technology right in the way for faculties or instructors in the classrooms or in the laboratories. Students are able to learn and understand difficult concepts and understand the complex problems by watching highly effective audio visuals and animations. By using these we can make learning a fun for the students which will definitely improve their overall performance. Smart class system also enables faculties or instructors to rapidly evaluate the learning by their students in class. The system can automatically mark attendance of students, faculties and instructors by just swapping the smart card and many other activities. Smart class systems are also supposed to be environmental friendly, so that they can provide good environmental practice for the students as well as faculties and instructors. Smart Class system is a key solution which is intended to support faculties and teaching assistants to overcome with their daily classroom and lab challenges and also improving student's academic interest and performance with easy, practical and significant use of technology. Smart Class helps faculties to make sure that every student in the class is getting knowledge, by providing the wide range of learning patterns in the classroom and in lab sessions. It is also very helpful in managing student's interest and engagement in learning within the classroom. Smart Class makes the problems easy for teacher, abstract curriculum concepts which are difficult to understand and imagine for students or relate by the use of 3-D (three dimensional), interactive multi-media approach [2].With the advancement in learning technology and change in school education system, it is essential for educators to analyze the classroom situation all the way through the lens of digital interaction. They should propose integrated teaching solutions that put tools such as smart screen, document sharing, on the spot polling and surveys, and remote device management directly by the hands of students and faculties [4].E-learning is recognized worldwide in the form of easy learning approach. This is the learning procedure which is delivered through internet, laptops and wireless mobile handheld devices which allows learning anytime and anywhere. Electronic learning takes learning to persons, communities and countries have got previously too remote, socially or geographically, for other categories of educational initiative [7]. E-learning is usually thought as the usage of available information and communication technologies to facilitate learning process. E-learning is a combination of learning as well as the Internet technology [8].Electronic learning can be viewed not just being a silver bullet in education, but more as something for learners to gain access to knowledge while there're on the go at anytime and anyplace with full flexibility. Smart class room enabled with interactive white board supports non-linear learning in two different ways: (1) It provides accessing of hypertext and hypermedia online or as external files and (2) It can be accessed by moving back and forth for review slides related to questions/answers of the students and faculties [16]. A lot more educational facilities of the universe are usually on your journey to e-learning and mobile learning so as to take advantage of the ubiquitous quality could possibly offer for educational purposes. An emerging body of literature that explores possibly mobile learning for educational contexts has identified several significant features about mobile learning for example convenience, cost effectiveness, motivation to know, flexibility, accessibility and also the interaction [9][10][11][12].

3. SYSTEM ARCHITECTURE

In the proposed work to design and implement a system that can be smart screen sharing approach, Watching videos or movies with smart phones is dissatisfying although smart phones have many applications. It is inconvenient to watch videos and movies with a small screen and it is difficult to share screen content to many friend simultaneously. For instance, it is difficult for a user to watch a video using a smart phone together with multiple friends.

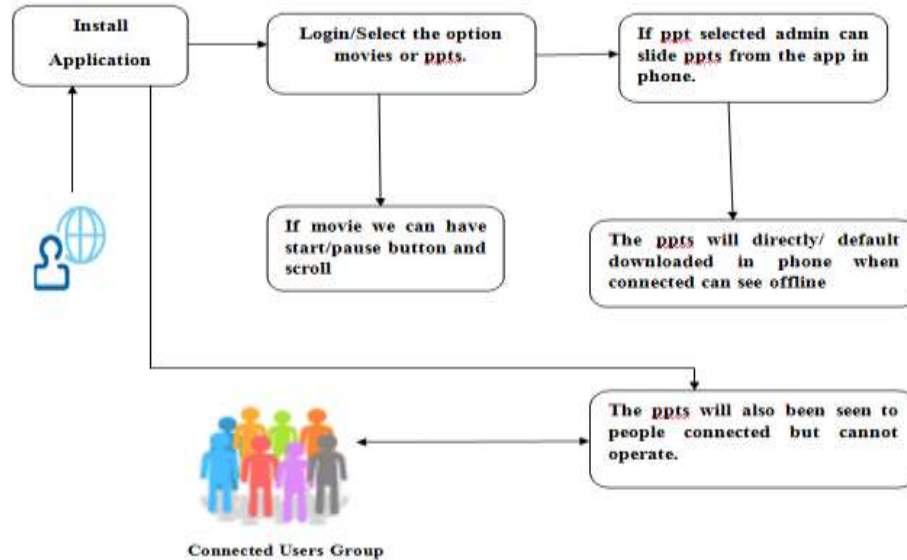


Fig 1. System Architecture

The user and his or her friends will need to sit very close to each other just to watch that video, which is an uncomfortable experience. If users connect their smart phones to an external display such as projector using cable, the limited cable length confines the users' movement. Users only manage to control the screen by standing near to the cable.

4. CONCLUSIONS

In this system we have presented a model framework for Smart Class Room. Smart screen sharing is designed to help faculties, instructors to compete with new challenges and developing students capabilities and performance. Institutions and organizations financial condition will force them to contemplate adopting a simple and inexpensive solution. This model provides improved way of education in which teachers teach and students learn in colleges or universities with advanced and significant use of technology. They can interact directly without any hesitations. Smart class has many benefits to the students and faculties. It is very clear that innovation in technology is impacting everywhere and bringing new opportunities for schools, universities and educationalists. The system architecture proposed differs in such a way that it provides flexible learning style which is adaptable to students favorite learning styles. It means to offer a personalized learning environment which suits individuals learning style. Smart class system helps to increase the learning abilities. It can also be used as a alternative learning method to teach the different IQ level students. There must be technological strategy for the classes, schools and entire learning atmosphere. We can help students as well educators by using advanced technologies to make the future bright. Thus we conclude that this application will reduce the human work and we can operate the slide of ppt from our mobile handset, and we can play and pause our movie/video clip from this application. The system will help our user to manipulate and work in easy mode.

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