

**University of Science and Technology**  
**College for Graduate Studies & Academic**  
**Advancement**

Enhancement of a Screen Video Capture Tool for  
Lecture Recording

Thesis submitted in Partial Fulfillment of the  
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## Abstract

Video Conferencing (VC) technology is now commonly used in distance education. The use of VC technology for distance education is not because of its cost effectiveness only, but also because of its practicality. Even though there are several issues with the use of VC for education, such as the effectiveness compared to a face-to-face session, but the benefits of VC in education is more than its shortcomings. Thus it is becoming a trend in the education institution to use video conferencing in the classroom.

In this thesis, we developed a Screen Video Capture tool (SVC) that can be used to capture the movements and actions on the screen, such as mouse and cursor movement, the SVC is helpful in an online presentation such as video conference (VC) and lectures about computer software by giving the ability to show the actions and using the audio for better illustration.

## المستخلص

تكنولوجيا مؤتمرات الفيديو (VC) اصبحت شائعة الاستخدام وتستخدم عادة في التعليم عن بعد، ليس فقط بسبب فعاليتها من حيث التكلفة، ولكن أيضاً من حيث التطبيق العملي. بالرغم من وجود العديد من القضايا في استخدام مؤتمرات الفيديو (VC) في التعليم، مثل فعاليتها مقارنة بطريقة التعليم المعروفة (وجها لوجه)، ولكن لها فوائد كثيرة بالرغم من بعض القصور. وبالتالي اصبح استخدام مؤتمرات الفيديو (VC) في القاعات الدراسية هو الاتجاه المستقبلي.

تستخدم (SVC) Screen Video Capture tool في هذا البحث تم تطوير أداة تسمى لتسجيل تحركات الماوس ومؤشر الكتابة وكل الاحداث التي تظهر علي الشاشة، هذه الأداة مفيدة في تسجيل مؤتمرات الفيديو بغرض التعليم وفي محاضرات برمجيات الحاسوب وغيرها، وذلك لانها تمكن من مشاهدة الأحداث واستخدام الصوت لمزيد من التوضيح.

# Introduction

## 1.1 An Overview

The quick development of technologies in the storage, distribution, and production of multimedia has created new sources of knowledge.

Among these new knowledge sources, video is extremely useful for knowledge sharing and learning because of its great capability of carrying and transmitting “rich” information. Nowadays videotaped lectures are more and more commonly provided in computer based training systems, and they can create a virtual learning environment that simulates the real classroom learning environment [2].

Screen capture software has the capacity to record screen activity from the desktop into a movie file or video format. Audio is added, and sometimes annotation may be available. Screen capture is sometimes also known as "screen casting" or "screen recording."

Initially screen capture was developed to demonstrate software

features or to provide step-by-step instructions while demonstrating on-screen.[13]

## **1.2 Research Objectives**

The objective of this thesis is to develop and evaluate a tool for screen recording called (ScreenVideoCapture) to record lectures videos for e-learning. The tool will enhance the quality of e-learning and reduce the effort to prepare the learning materials.

## **1.3 Research Problem**

Recording a lecture requires dedicated equipments and trained technical staff, not just for the recording, but more importantly is during production to edit, cut and author the material. This is the reason why the whole process is time consuming and costly.

## **1.4 Research Tools**

In the development of the Screen Video Capture tool (SVC) proposed in this thesis, the following tools were used:

1- Software:

C sharp language: to develop the application.

2- Hardware:

Video camera: to record the lecture (optional).

Microphone: to record the sound (optional).

Computer device.

### **1.5 Thesis Organization**

This thesis is organized as following:

Chapter one presents an introduction to the thesis, chapter two includes the related works, chapter three presents the implementation and testing, chapter four present the conclusion and recommendation.