

## **Dedication**

*To my dear father and mother, to my dear brother and sisters.*

## **ACKNOWLEDGMENT**

Above all, I thank almighty god who help me to complete this dissertation and who surround me with so many wonderful people.

I would like express my gratitude and deepest appreciation to my dear supervisor, **Dr. Talaat Mohyeldin Wahby** for this kind support, sharing of knowledge and experience, continuous encouragement, feedback and idea toward my research direction.

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## ABSTRACT

Visual impairment is the consequence of a functional loss of vision, rather than the eye disorder itself. Eye disorders which can lead to visual impairments can include retinal degeneration, albinism, cataracts, glaucoma, muscular problems that result in visual disturbances, corneal disorders, diabetic retinopathy, congenital disorders, and infection.

The software (web application) is an increasingly important resource in many aspects of life: education, employment, government, commerce, health care, recreation, and more. It is essential that the Web be accessible in order to provide equal access and equal opportunity to people with disabilities. An accessible Web can also help people with Visual impairment more actively participate in society.

The Web offers the possibility of unprecedented access to information and interaction for many people with Visual impairment. That is, the accessibility barriers to print, audio, and visual media can be much more easily overcome through Web technologies.

This research provides software solutions rely on Scripting only of what makes the users with visual impairment are better able to interact with web content compared to high cost software.

Centric of solutions in building a Web site depends on the scripts produces user interface aligning with various kinds of visual disabilities, blind, color blindness, low vision .By adopting the member is not disabled for the blind, such as ear (hearing), speech (voice commands) to interact with Web sites, as designed Internet browser supports the same methodology.

Adopted Find results on the level of interaction between visual impairments users and other users of the software provided to people with visual disabilities

And it found that follow the development of the methodology provided in the search more effective and less expensive, which makes its application on websites guarantor of the interaction of users with visual disability with Web sites in better way.

## المخلص

الإعاقة البصرية هي نتيجة لفقدان العين لوظيفة الرؤية أو اضطراب في العين نفسها، اضطرابات العين التي يمكن أن تؤدي إلى الإعاقة البصرية يمكن أن تشمل مشاكل الشبكية، وإعتام عدسة العين، ومشاكل العضلات التي تؤدي إلى اضطرابات بصرية.

البرمجيات (تطبيقات الويب) هي مصدر متزايد الأهمية في كثير من جوانب الحياة: التعليم، والعمل، والحكومة، والتجارة، والرعاية الصحية، والترفيه، وأكثر من ذلك. فمن الضروري أن شبكة الانترنت يمكن الوصول إليها من أجل توفير فرص متساوية وتكافؤ الفرص للأشخاص ذوي الإعاقة. يمكن للوصول الي شبكة الويب ان يساعد الأشخاص الذين يعانون من الإعاقة البصرية المشاركة بصورة أكبر في أنشطة المجتمع. يقدم الويب إمكانية وصول غير مسبوقه على المعلومات والتفاعل لكثير من ذوي الإعاقات البصرية. الحواجز والمعوقات التي تقابل ذوي الاعاقة البصرية في الوصول إلى المحتوى المسموع و وسائل الإعلام المرئية صعوبات يمكن التغلب عليها من خلال تقنيات الويب.

يقدم هذا البحث حلولاً برمجية تعتمد علي الاسكريبت فقط من ما يجعل المستخدمين ذوي الضعف البصري اكثر قدرة علي التفاعل مع محتوى الويب مقارنة بالبرمجيات الجاهزة ذات التكلفة العالية.

تتمحور الحلول في بناء موقع ويب يعتمد علي اسكريبتات(كود) ينتج واجهة استخدام موائمة مع مختلف انواع الاعاقات البصرية عمي. عمي الوان،ضعف بصر وذلك باعتماد عضو غير معاق للمكفوف مثل الاذن (السمع) والكلام (الاوامر الصوتية) للتفاعل مع مواقع الويب، كما صمم متصفح انترنت يعتمد نفس المنهجية

اعتمدت نتائج البحث علي مستوي تفاعل ذوي اعاقات بصرية تم اختيارهم من معهد للمكفوفين ومستخدمين اخرين للبرمجيات المقدمة لذوي الاعاقة البصرية، ووجدت ان اتباع منهجية التطوير المقدمة في البحث اكثر فعالية واقل تكلفة مما يجعل تطبيقها علي مواقع الويب ضامنا لتفاعل المستخدمين من ذوي الاعاقة البصرية مع مواقع الانترنت بصورة افضل.

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