**Time on Task Test Plan**

System NAME

Red-eye ALGORITHM

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**Version 1.0**

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**Human Factors—Imaging Research**

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# 1. Purpose and Objectives

**Purpose** — The purpose of the time on task study is to evaluate the time required for operators to correct red-eye in images on the XXX system. The operators will be asked to correct a total of n images. Time on task information will be gathered for the last n-50 images and the first 50 images will be used for training purposes.

**Objectives** — Objectives for the activity are:

1. To identify the time required to correct all n-50 images.

2. To identify the time required to correct the individual images.

1. To identify the time required to correct individual pairs of red-eyes.
2. To identify the time required to correct a single red-eye.

# 2. Test Procedure

**Summary of procedure** — The plan for conducting the time on task study and collecting data is to introduce and orient representative users to the XXX System to the red-eye removal features and functions, provide instructions to perform the red-eye removal task, capture the time required to complete the corrections, collect demographic data, compile findings, and determine conclusions.

**Place and time** — Each participant will use the XXX System version YY red-eye removal functionality individually. The session will be held in the **TBD** laboratory in Building X. The usability test is planned for three hours for each participant.

# 3. Participants

**Test participants** — Five current operators will be the participants in the study. One participant is a COMPANY employee but works part time for an external photo specialty store. The remaining four participants are members of the COMPANY photofinishing laboratory.

They should have the following skills, experience, and characteristics:

* Actual optical minilab operators
* Various levels of experience
* No specific gender or age.
* Willingness to sign and abide by a non-disclosure agreement with XXX Company for proprietary information.
* Normal or corrected-to-normal color vision.
* Normal dexterity with at least one hand, either right or left, adequate for using a mouse cursor positioning device.
* No specific gender or age requirement.
* Willingness and enthusiasm to freely give opinions about good and bad features of the software being used and tasks being performed.

**Compensation** — The compensation for participants will be XXX.

# 4. Site

**Requirements for facility** — The site for the time on task study will be the **TBD** lab. This location will have the following capabilities:

* The "Intergraph" computer will be used with version **TBD** of the software with the optimized renderer. The scanner server will be used to load up the images.
* A scan converter will be attached between the monitor and hard drive to facilitate the recording of the screen.

# 5. Experimental Design

The design of the experiment is a within subjects design.

**Independent variables** — We will categorize the participants according to the following independent variables:

* Minilab experience, knowledge, and skills of participants.
* Handedness—right, left.
* Gender—male, female.
* Age range.

**Dependent variables** — Quantitative performance measures for the validation testing will include some or all of the following:

* Time required to complete all n-50 pairs of eyes.
* Time required to complete the correction on each image.
* Time required to complete the correction for individual pairs of eyes or single red-eyes.

# 6. Resources and Preparation

**Equipment** — Equipment needed for the validation test includes:

* "Intergraph" computer
* Build **TBD** with the optimized renderer.
* Scanner server.
* scan converter and recorder.
* n red-eye images.

**Materials** — Materials needed for the test include:

* Orientation and training support materials for the session.
* Confidentiality agreement.
* Background characteristics questionnaire.

# 7. Data Collection

**Sources of data** — The sources of data for time on task data collection are:

* Videotape of the participant’s completing the n-50 images and the time recordings for each element.
* Background demographic questionnaires.

**Data topics -** The data collection topics will include:

* Time for completing all n-50 images.
* Time for completing each image.
* Time for completing each pair of red-eyes.

# 8. Data Analysis

**Purpose** — The purpose of data analysis is to determine the time required to complete red-eye corrections with version **TBD** of the XXX system. The sample size is not large enough to apply parametric or non-parametric statistical analysis of variance with validity, but some descriptive statistics of central tendency are appropriate.

**Activities** — Data analysis activities are:

* Review videos to capture the time required to complete the corrections.
* Compile the times for each pair, each image, and the entire set of images.
* Compile descriptive statistics of the data, such as means and standard deviations, and graph the results.

# 9. Deliverables

The following products of the time on task study will be delivered:

* Timing data—raw data, compilation, descriptive statistics, and graphs.
* Report describing results and conclusions.

# 10. Schedule

**Schedule for the study** — The schedule for preparation and conduct of the time on task study is:

Pilot tests May X-2, 199X

Usability test data collection May X - Y, 199X

Data analysis completed June X, 199X

Deliverables provided June X, 199X

**Schedule for data collection** — The schedule for conducting the data collection is shown below.

Orientation 10 minutes

Training 85 minutes

Break 10 minutes

Exercises 60 minutes

Questionnaire/debriefing 15 minutes

TOTAL 180 minutes

# 11. Operational Scenarios

**Training Scenario:** Correct 50 images with red-eye.

The operator will be asked to correct the red-eyes in 50 images. The first couple of images will be used by the tester to show the operator how to use the red-eye removal tool. After the first couple of images, the operator will be asked to simply work through all the images to become fluent with the tool.

**Timing Task:** Correct n-50 images with red-eye.

The operator will be asked to correct n-50 images. The operator will have completed the training session with 50 red-eye images. The timing will begin when the operator begins correcting the last n-50 images.

# 12. Check List

**Supplies**

Tapes (5)

Video Cameras and scan converter

Copies of questionnaire

Pencils/ paper for drawing

Computer on

XXX System **TBD** started

Protocol

Welcome participant

Give overview

Sign consent forms (both confidentiality & video consent)

Questions before beginning?

Present concept

Start training scenario

Take a break

After completing first n images:

Scan converter on and recording

Work through the final n-50 images.

After scenario give them the questionnaires

Demographic questionnaire

Debriefing

# 13. Scenario Image Information:

*{narrative only}*

# General Orientation

"We are conducting a study on the red-eye removal algorithm which is part of the XXX System. We invited you to participate in this study because you represent the type of user who might benefit from a product like this."

"Today, you will use the XXX software to correct red-eye in n images. The task is minilab photofinishing red-eye correction. The purpose of the session is not to evaluate your performance but to evaluate the system."

"The information we will share with you today is confidential to COMPANY. It's important that you do not disclose it to other people. We will also be video taping the screen during this session for data analysis purposes only. Your personal identity will not be associated with any results from this study; a number, for instance, 1-1, will identify you. No one will know which comments you made about the system."

*{Sign confidentiality agreement and consent.}*

"You will use has a personal computer, and a mouse. You should not need to use the keyboard. The chair is adjustable for height and back angle so you can make it comfortable."

*{Adjust chair for comfort.}*

"I will ask you to correct 50 images for red-eye problems. The first 50 images are training images, which means it is the time for you to learn how to use the red-eye removal tool. Once you have completed working with the first 50 images we will take a 10-minute break. Then you will work with the final n-50 images. If at any time during the session you feel uncomfortable or that you are unable to continue, you may discontinue your participation.”

"Today we would like you to “Talk Aloud” while you work. During your work you should say out load what you are thinking. You should offer as many comments as you can about what you're doing, what you see on the screen, and your opinion about good and bad features. If you don't know what action to take, I can give you some advice, but I won't offer any help unless you really need it."

"I’ll spend a few minutes now to give you an introduction to red-eye removal tool. After that, you will work on the training images. Do you have any questions before getting started?"

# Background Information

Name (optional):

Gender:  Female  Male

Handedness:  Right  Left

Age:

Job title:

How long have you done this job:

How long have you worked on minilabs:

Primary job duties:

*For each item below, 0 = No experience at all.*

*give a rating for amount of 1 = Less than 1 hour per week.*

*experience, at work 2 = 1 to 10 hours per week.*

*and at home... 3 = 10-20 hours per week.*

*4 = More than 20 hours per week.*

**Experience using computers:**

\_\_\_\_ Macintosh

\_\_\_\_ PC or compatible

\_\_\_\_ Workstation (Sun, VAX)

\_\_\_\_ Mainframe

\_\_\_\_ Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Experience with Optical Minilab Systems:**

\_\_\_\_ Noritsu : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_ Gretag: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_ Kodak: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_ Fuji: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_ Other product(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Experience digitally removing red-eye:**

\_\_\_\_ Photoshop

\_\_\_\_ IFS

\_\_\_\_ Digital Enhancement Station

\_\_\_\_ Picture Maker Kiosk

\_\_\_\_ Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Confidentiality Agreement and Consent Form

Use Charleston Southern University IRB format

* [Informed consent guidelines](http://www.csuniv.edu/facultyandstaff/irb/docs/informed_consent_instructions.docx)
* [Informed consent form](http://www.csuniv.edu/facultyandstaff/irb/docs/informed_consent.docx)

*{10 minutes}*

# Training Guide *{Session procedure plan for session coordinator.}*

**XXX System Red-eye Removal Background information.** *(10 min.)*

**General Description:** This section will be used to orient the participants to the red-eye removal tool.

1. Present the Red-eye Edit screen.

2. Demonstrate how to correct red-eyes.

3. Present the levels of correction.

1. Present the ability to move to the next or previous image.
2. Present the undo and remove options.

# General Overview Debriefing:

*{Remember to write the participant’s responses to your clarification or debriefing questions down.}*

1. Ensure that the participant has answered all questions on the demographic questionnaire.

2. Ensure that you can read any written responses. If the writing is questionable, please re-write.

3. Review the individual questions with the participant.

* Ensure that you understand the operator’s actual level of computer usage. For instance, “do they use browse the web?”