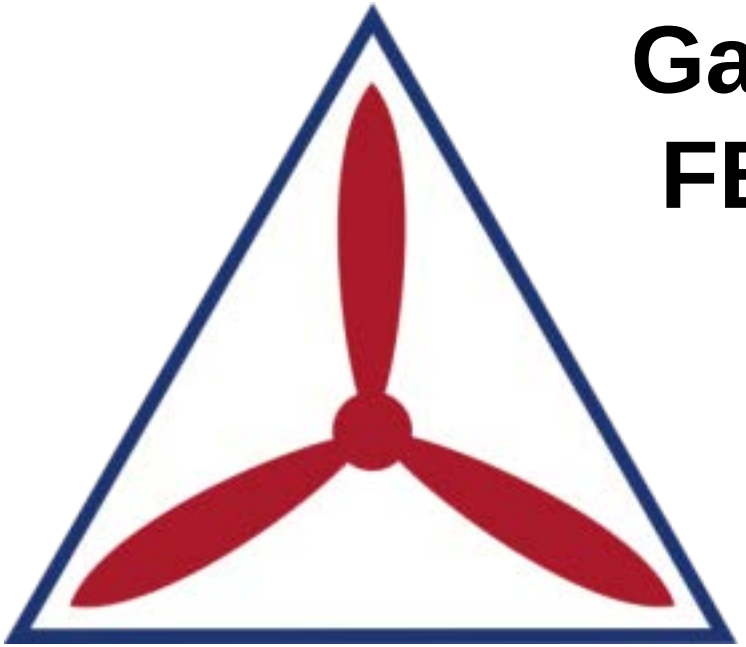
Civil Air Patrol



Garmin Virb Camera Kit & FEMA Uploader Training

Lt Col Eric Templeton, CAP

&

Mr. John Desmarais

Post Disaster Photography for Rapid Damage Evaluation

External Mount Camera Nadir Photography

Webinar Presenters

John Desmarais
Director of Operations
National Headquarters

Lt Col Eric Templeton
Mission Aircrew School Commandant
National Emergency Services Academy

Webinar Rules of Engagement

- Members in the field will be in listen only mode. We have several hundred members signed up, so having everyone with an open microphone is not supportable.
- We will try to answer questions throughout the webinar though. Just type your questions, and we will either answer you directly via text or provide a voice answer to your question.
- The webinar itself, questions, and chat log are being recorded, so please remain respectful.

Garmin Virb Kit Deployment

- CAP will be deploying 142 units by the end of November and then another 233 in early January once all of the remaining parts arrive.
- We will be making an even distribution across the aircraft fleet.
- The goal is to have these kits deployed to 68% of the fleet by the end of January
- Prior to shipment, NHQ will coordinate with each Wing Commander to determine where these resources will be assigned.
- Do not contact NHQ requesting one for your unit. Please work with your command staff.

Disaster Photography

- **Project Definition**
- Project Goals
- Customer Use of Imagery
- Equipment – Garmin Virb Kits
- Application
- State of Testing / Next Steps

Project Definition

- Fast Delivery of Imagery
- Sufficient Detail for Initial Damage Assessment
- Simple to use system of Camera’s and mounts
- Ability for use with all Disaster Types

Disaster Photography

- Project Definition
- **Project Goals**
- Customer Use of Imagery
- Equipment – Garmin Virb Kits
- Application
- State of Testing / Next Steps

Project Goals

- Stand alone Application for loading imagery
- Web site for advanced support of imagery loading
- Support for Geo-Tagged
- Support for Non Geo-Tagged images with NEMA track log file
- Simple kits including a camera and mounts to be issued to wings

Disaster Photography

- Project Definition
- Project Goals
- **Customer Use of Imagery**
- Equipment – Garmin Virb Kits
- Application
- State of Testing / Next Steps

Customer Use of Imagery

- Fast online evaluation of damage
  - Wind, Flood, Fire Earthquake
- Ability to verify damage levels
  - Destroyed / Leveled
  - Major Damage
  - Minor Damage
  - No Apparent Damage

Customer Use of Imagery

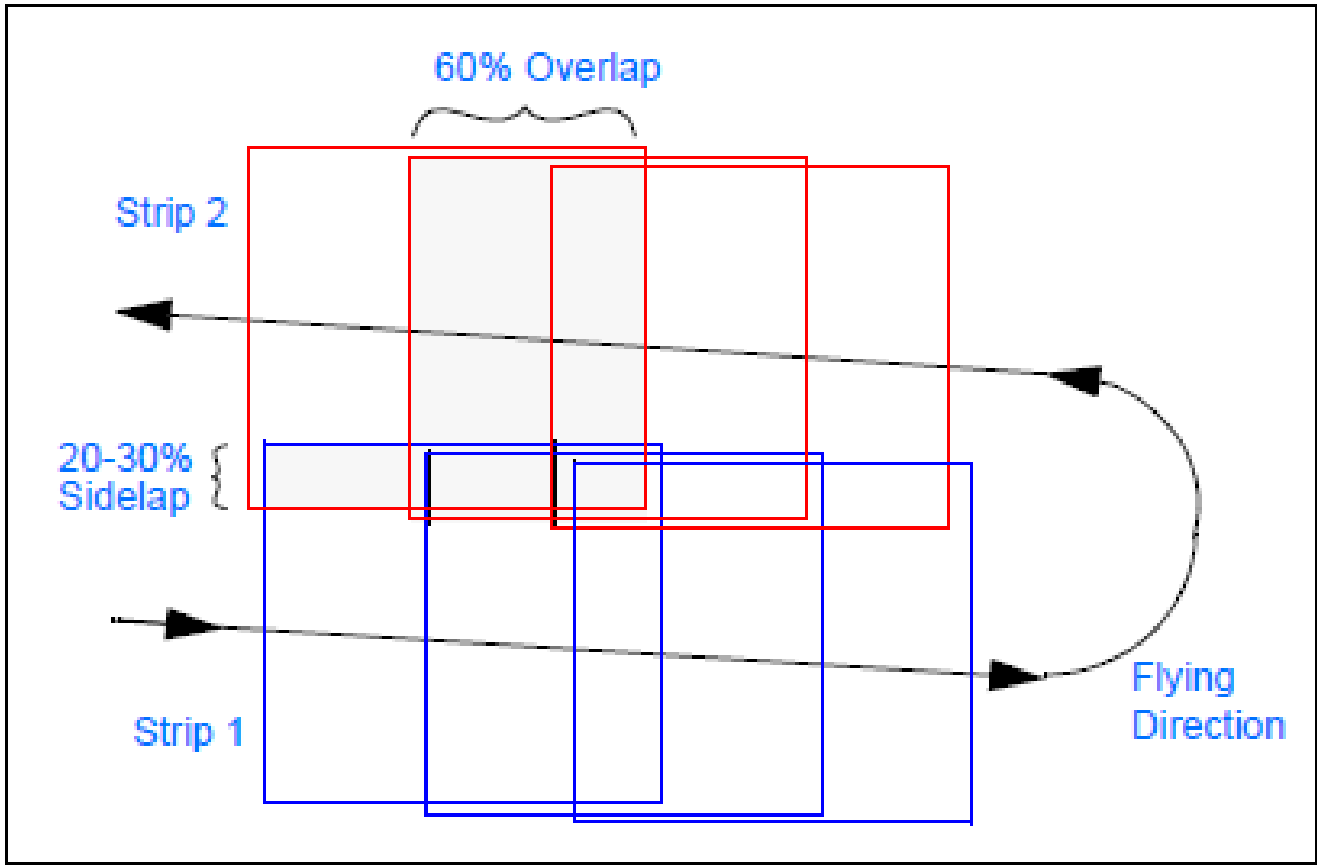
- The imagery will provide a fast evaluation to determine if the homeowner should receive emergency payment for shelter, food and clothing.
- The imagery is not for the determination of payment on the structure / automobiles etc.
- Crowd Sourcing (lots of online available people) to review and grade the images

Flight Profile

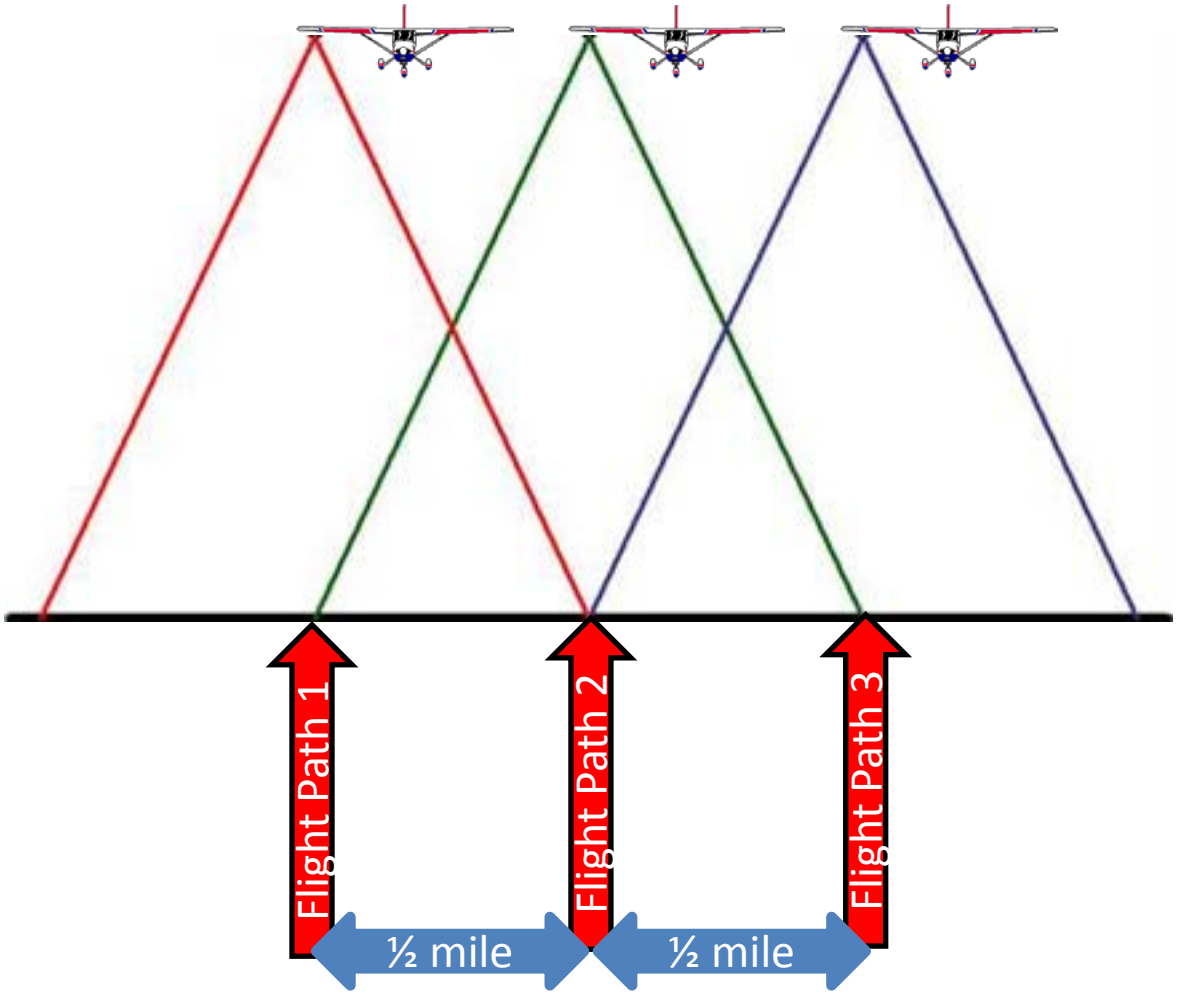
- 2500 AGL
- 100 KTS Ground Speed
- Suggest 1 notch of flaps for wing level flight
- Camera at 10 Second intervals
- 1/2 mile grid or “line to line” spacing
  - As Briefed

Flight Profile - Nadir

Flight Profile - Nadir



Flight Profile - Nadir



Flight Profile

- Flight Profile
  - 2500 AGL, 100 KTS, ½ mile grid
  - Camera at 10 Second intervals
- Flight Profile Yields
  - 2500 AGL, 100 KTS, => ~57% Endlap
    - Endlap is overlap ALONG the flight path.
  - ½ mile grid (line to line) => ~100% Sidelap
    - Sidelap is overlap flight path to flight path

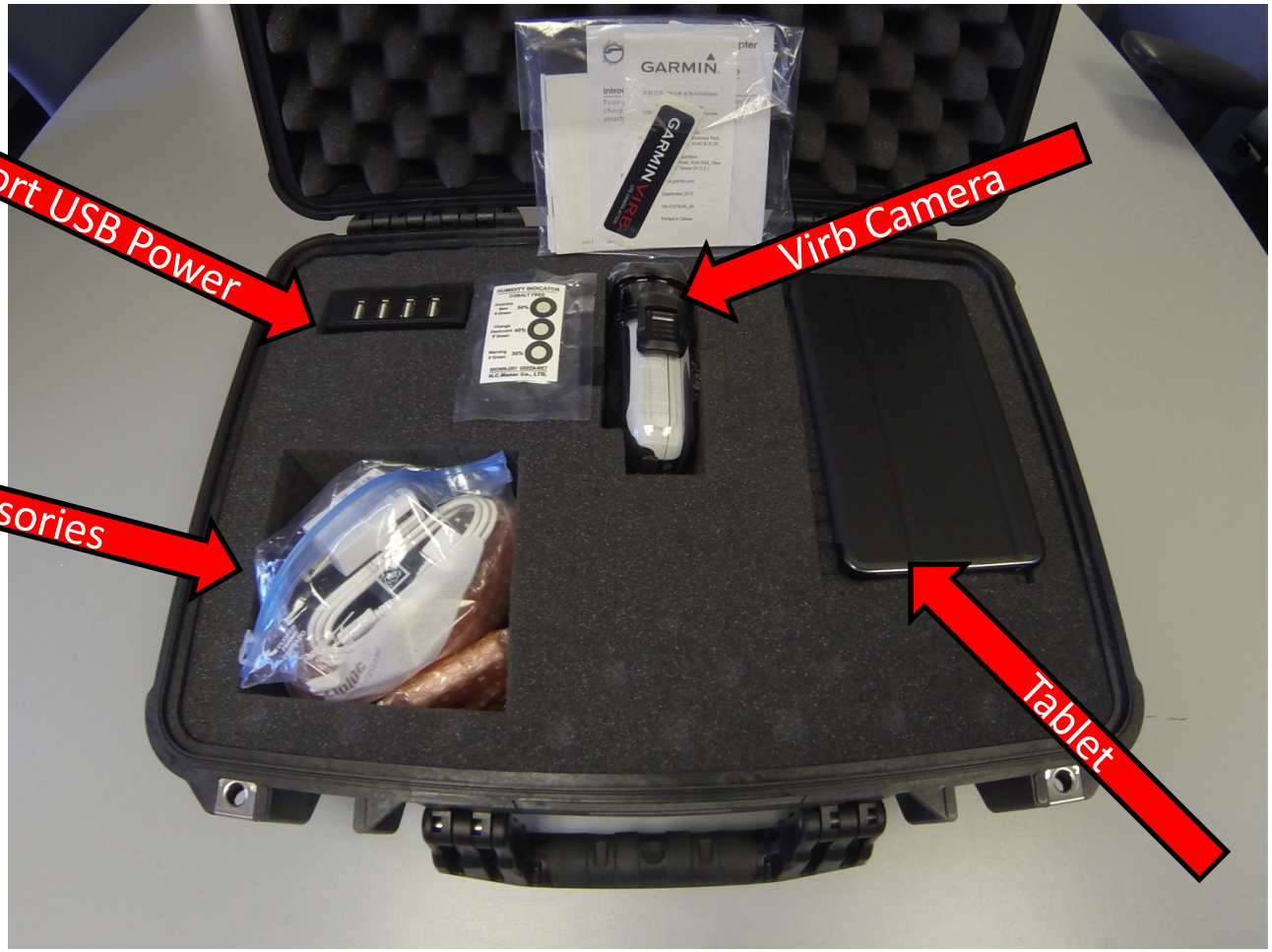
Disaster Photography

- Project Definition
- Project Goals
- Customer Use of Imagery
- **Equipment – Garmin Virb Kits**
- Application
- State of Testing / Next Steps

Equipment – Garmin Virb Kits

- Garmin Virb Elite
- Additional mounting pads & batteries, Memory card (64GB), USB charger, dive case.
- Samsung Galaxy Tab 4
- Cover
- Pelican Case
- Accessories
- Manual(s)

Equipment – Garmin Virb Kit



Garmin Virb Kit - Accessories

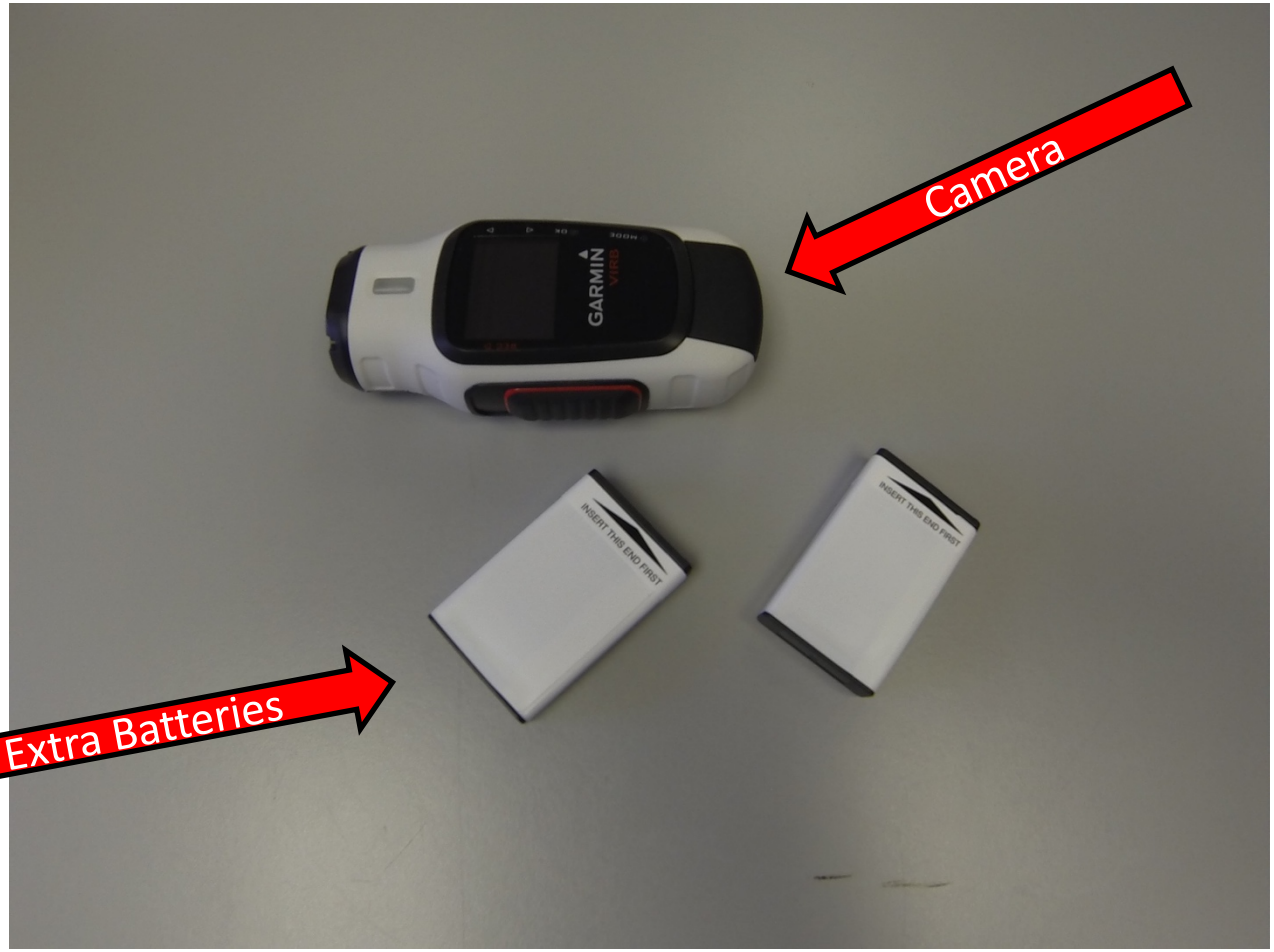
USB Power

Basic Accessories

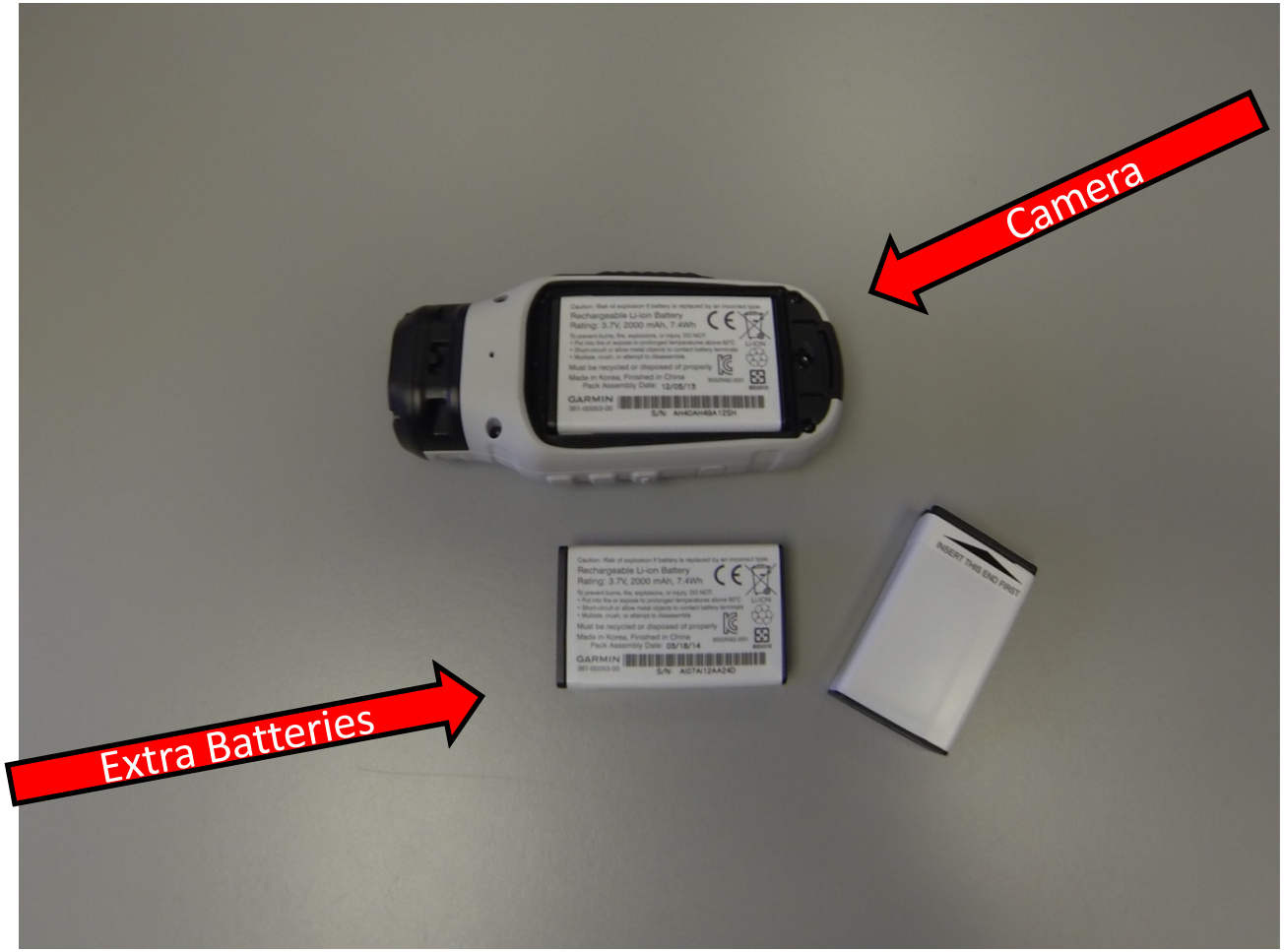
Extra Mounting Pads

Garmin Virb Kit - Camera

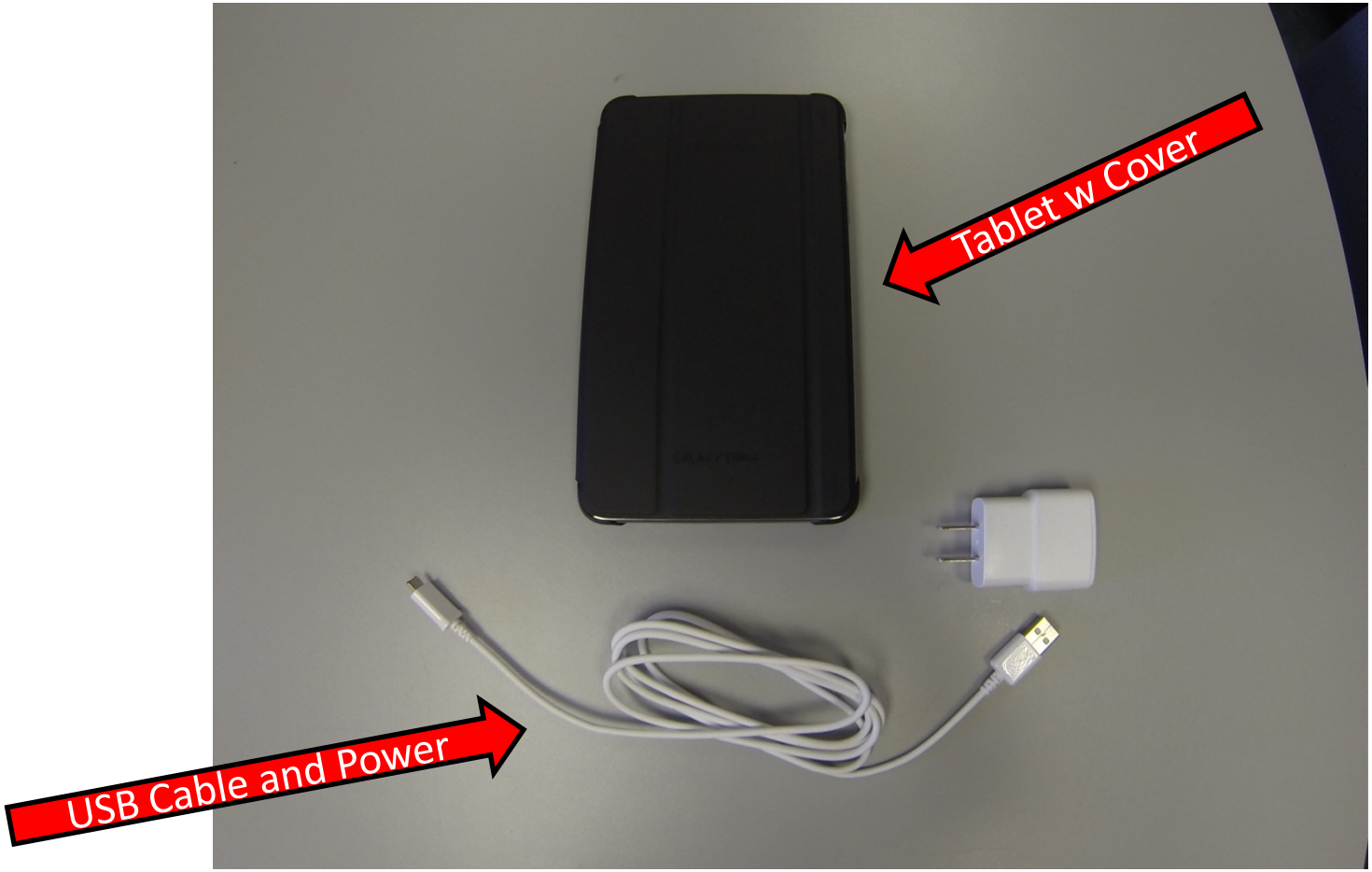
Garmin Virb Kit - Camera



Garmin Virb Kit - Camera



Garmin Virb Kit - Tablet



Disaster Photography

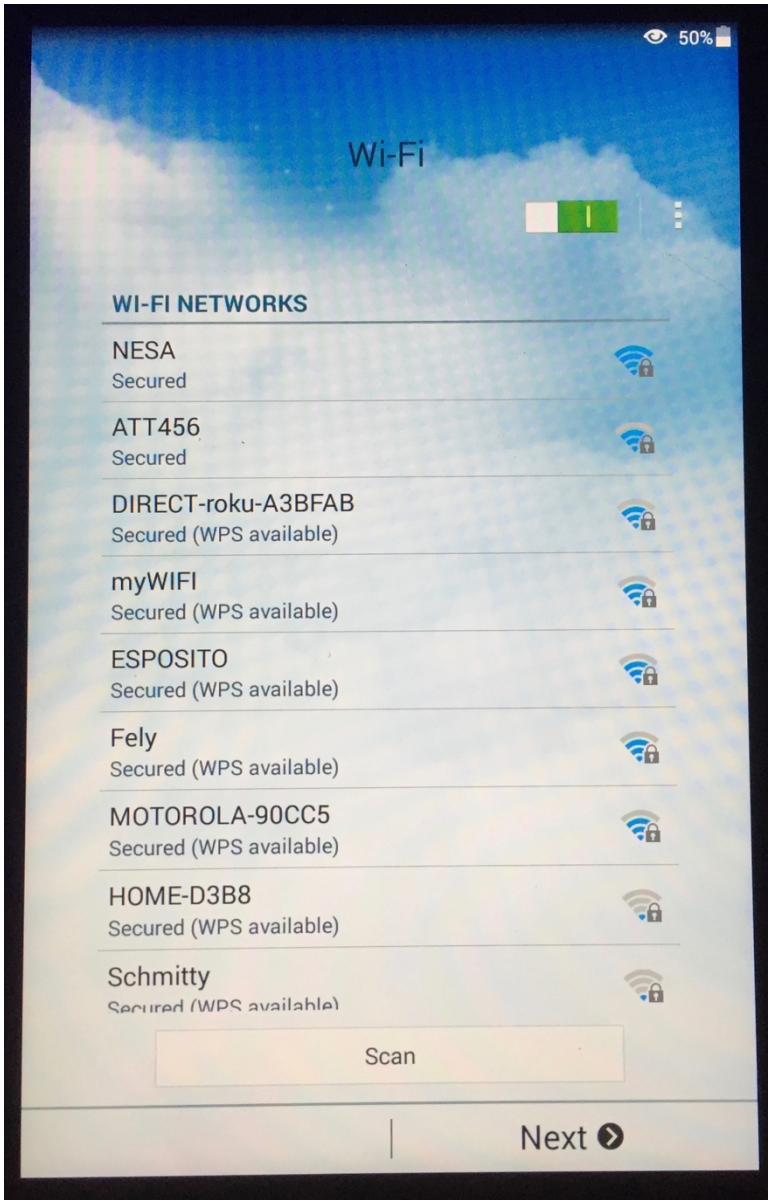
- Project Definition
- Project Goals
- Customer Use of Imagery
- **Equipment – Garmin Virb Kits**
  - **Samsung Tablet**
- Application
- State of Testing / Next Steps

Garmin Virb Kit - Tablet

Tablet w Cover

Garmin Virb Kit - Tablet

Garmin Virb Kit - Tablet



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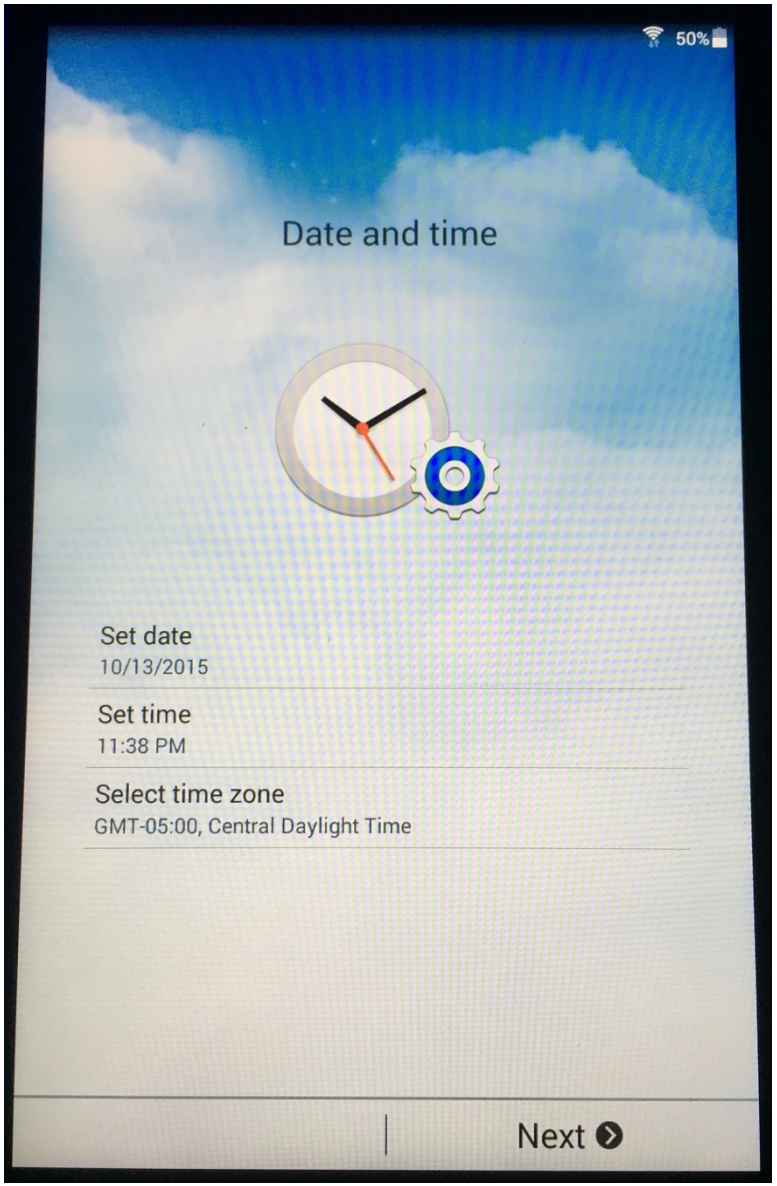

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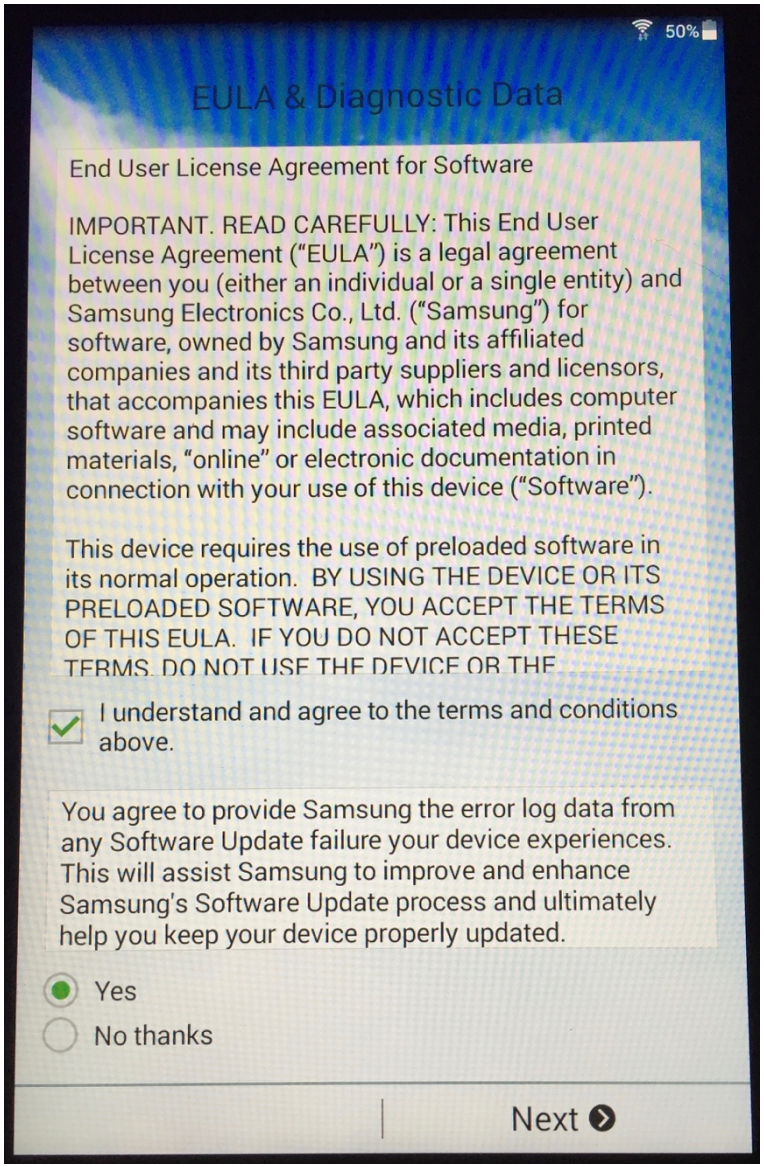

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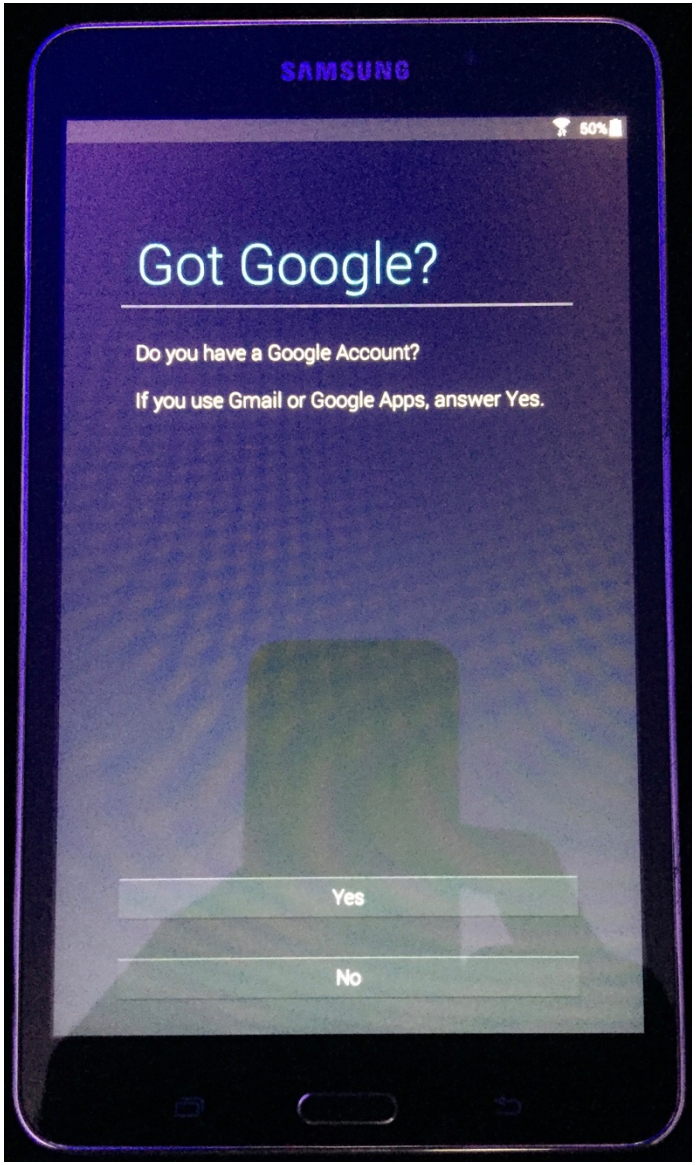

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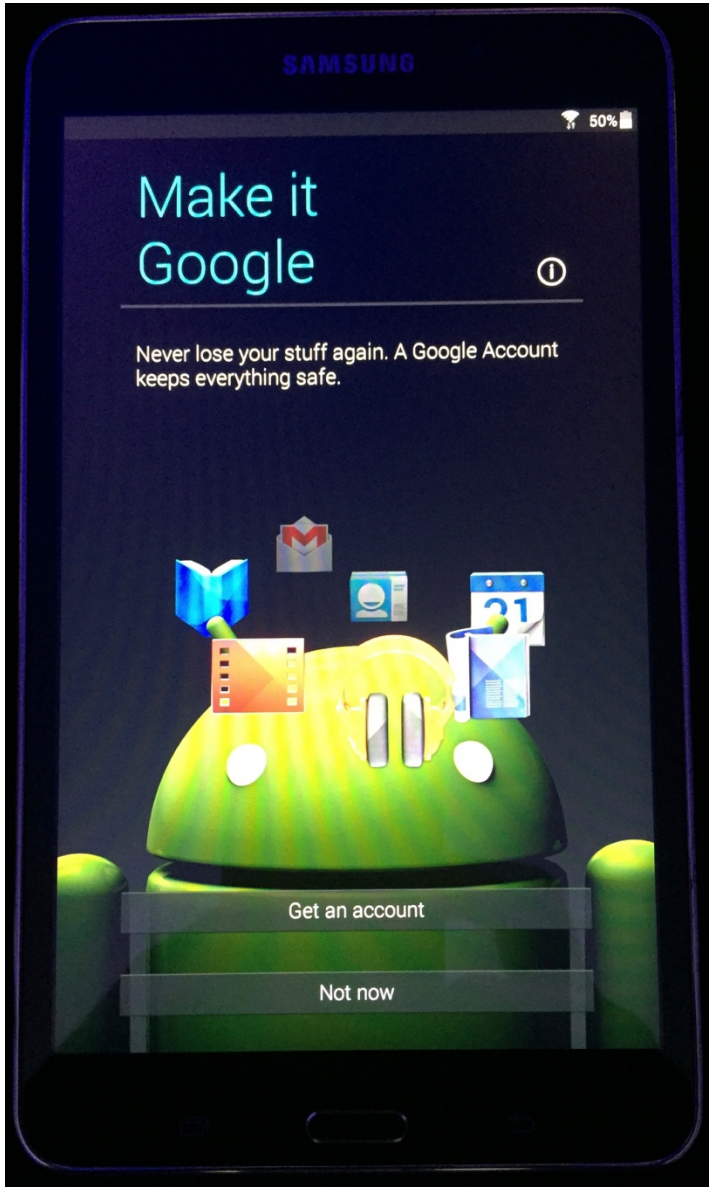

Garmin Virb Kit - Tablet

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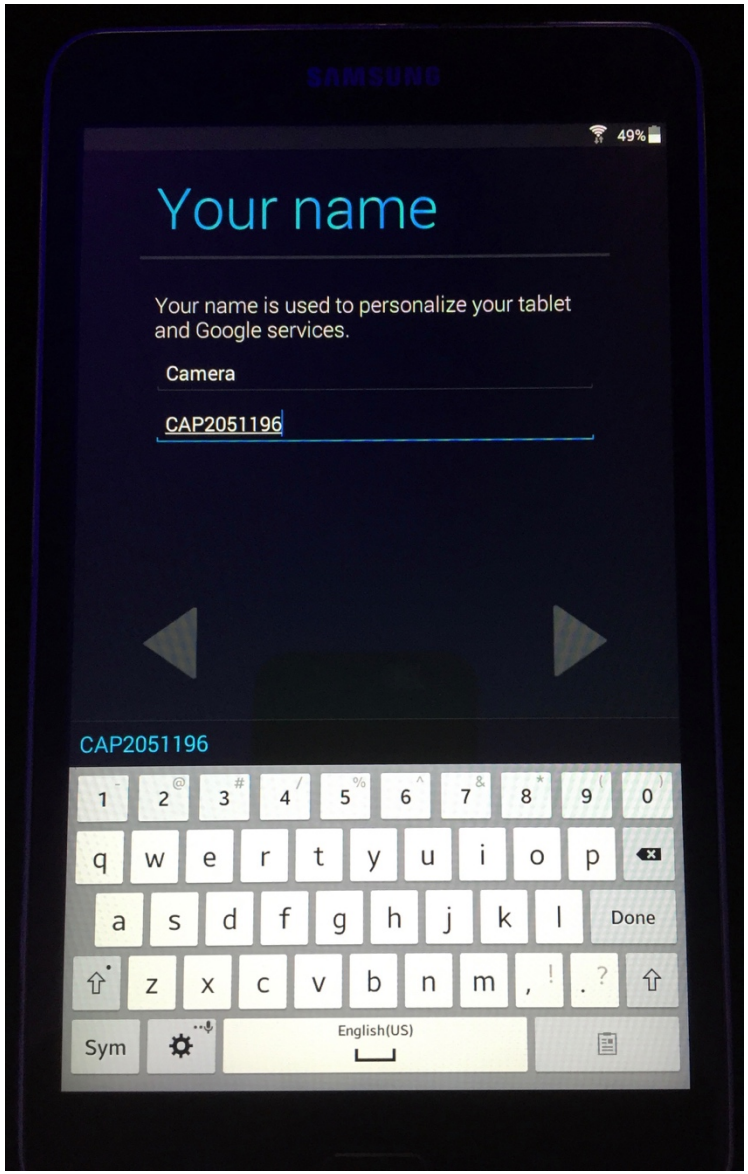

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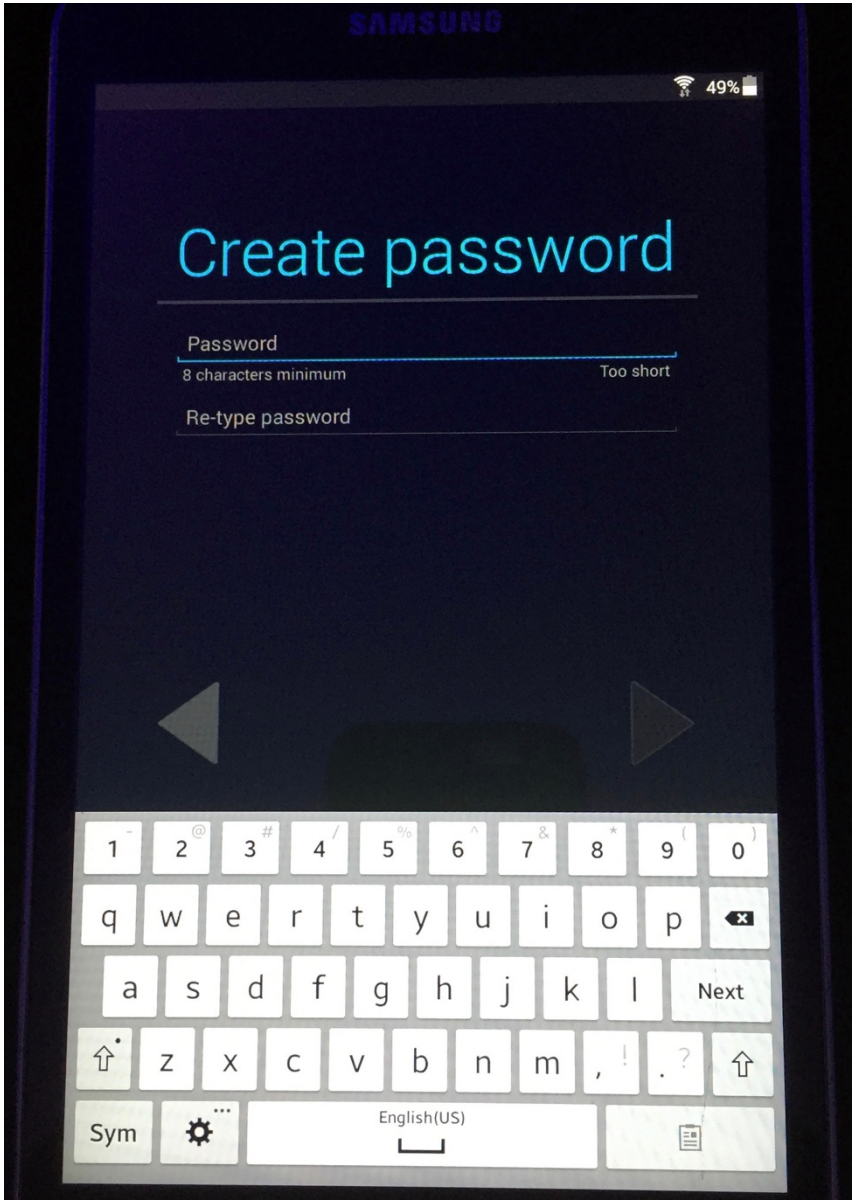

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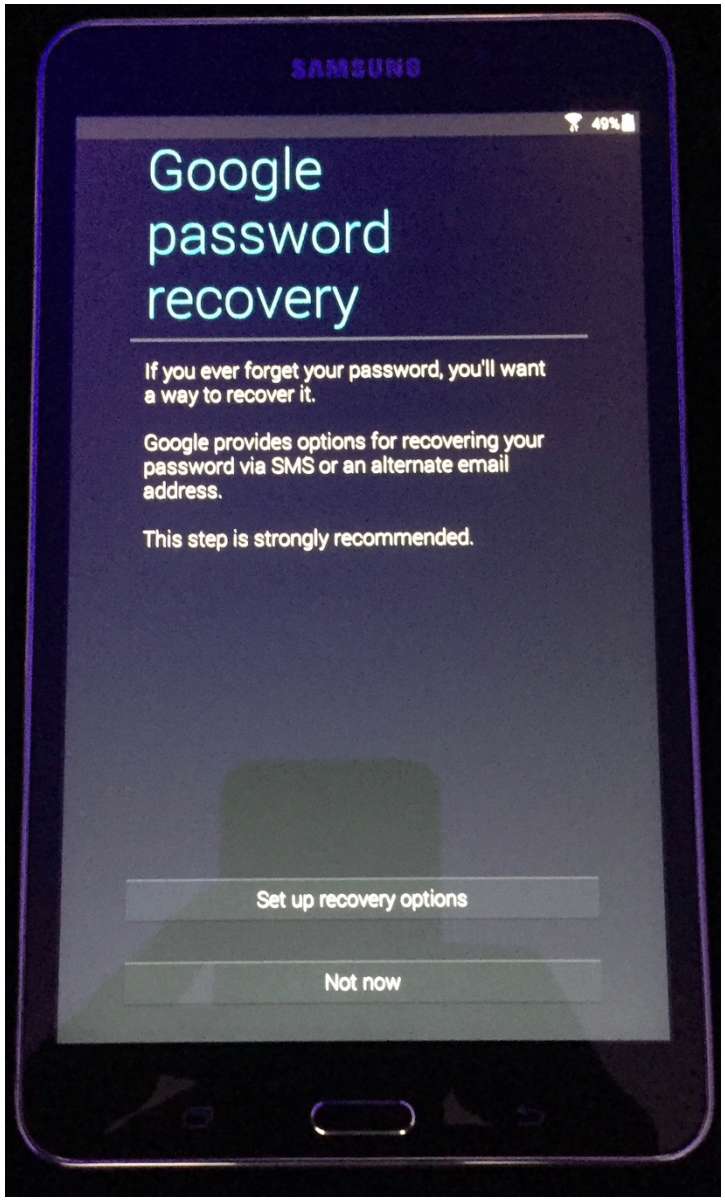

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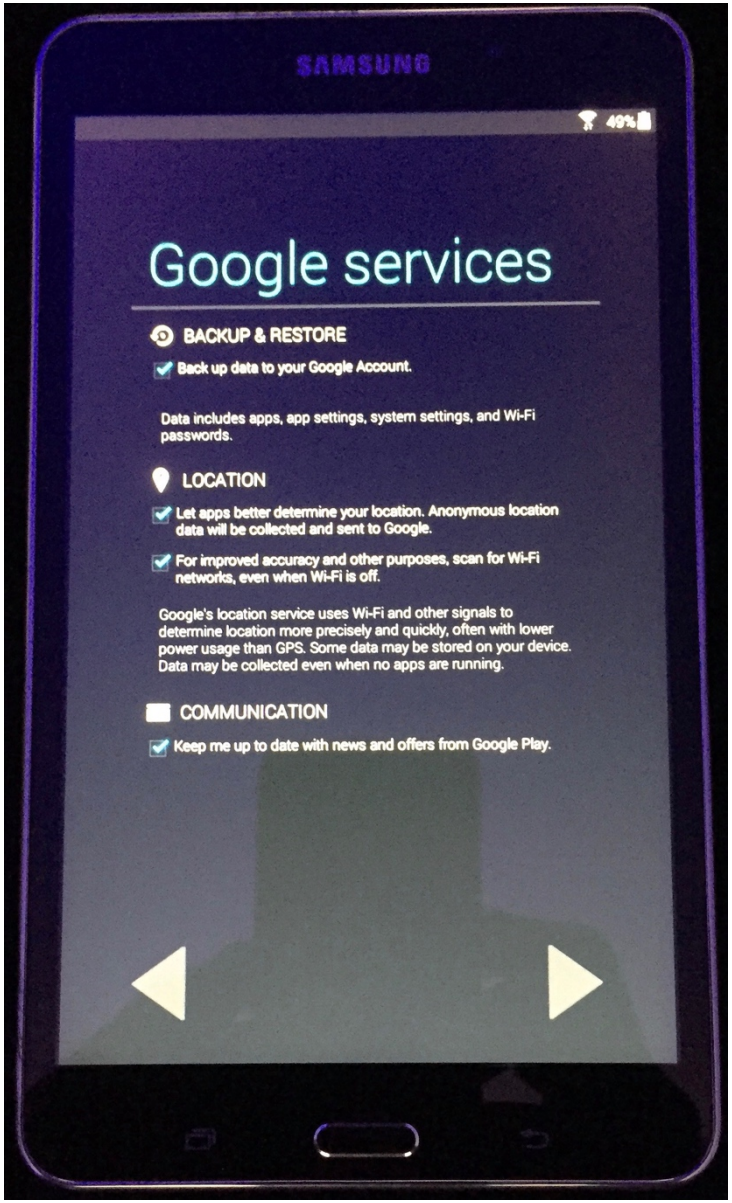

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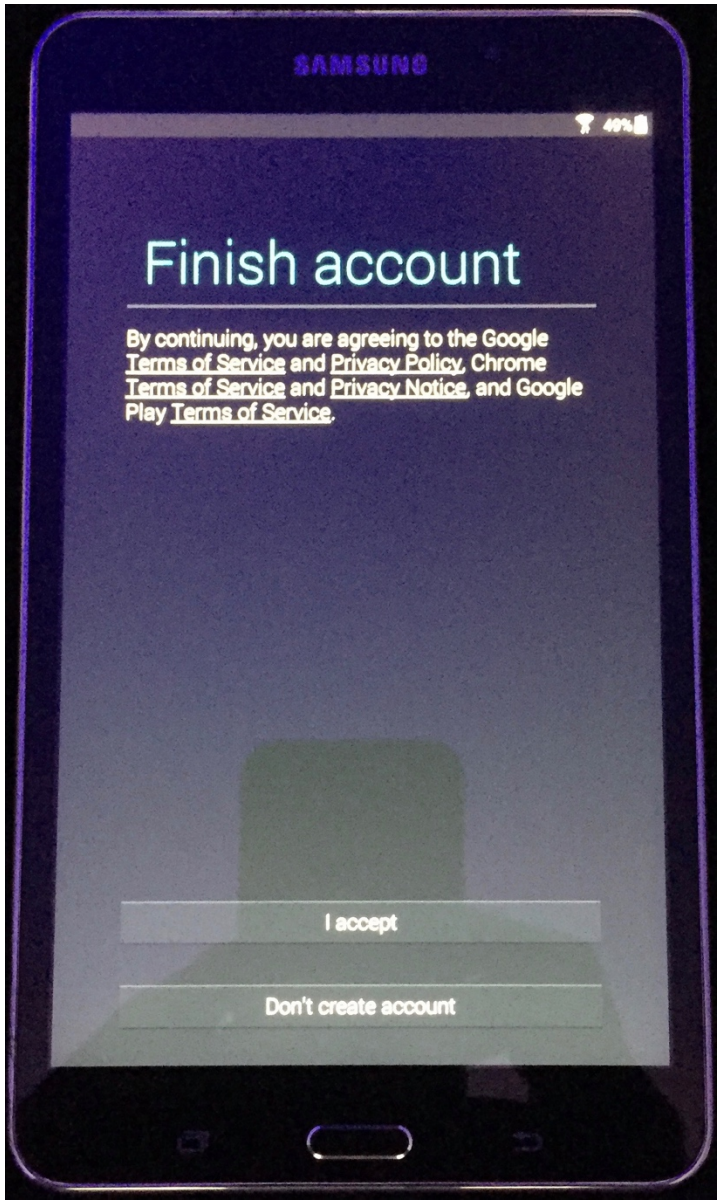

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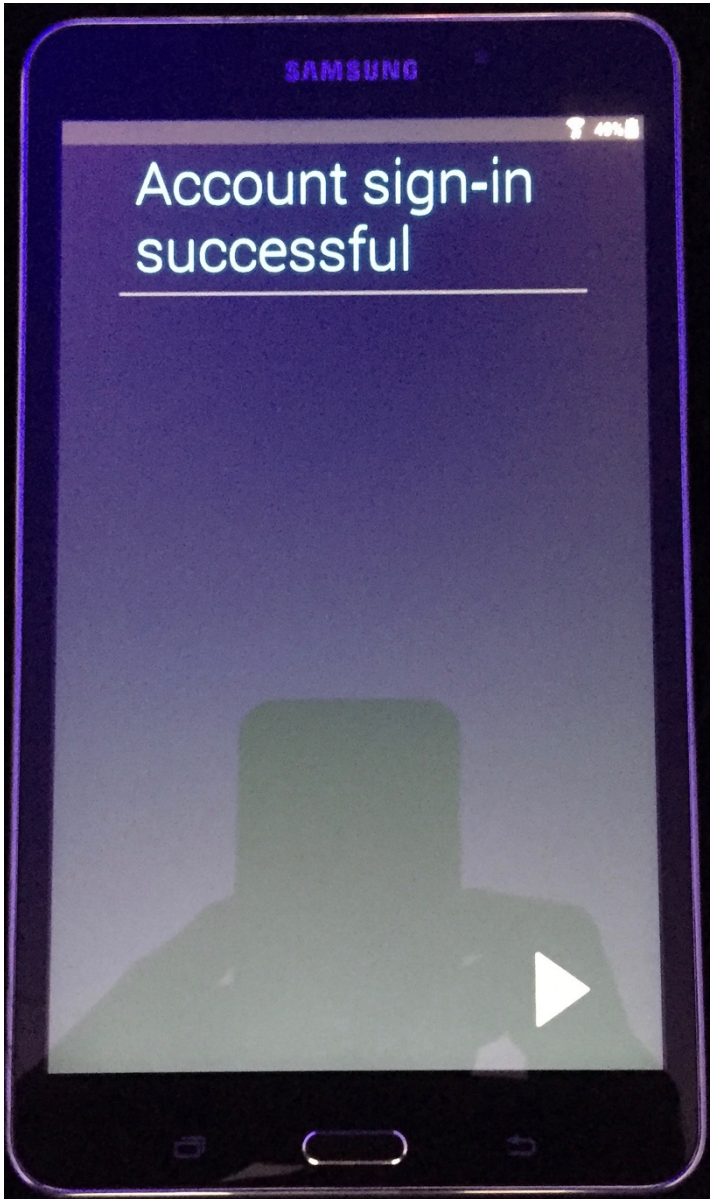

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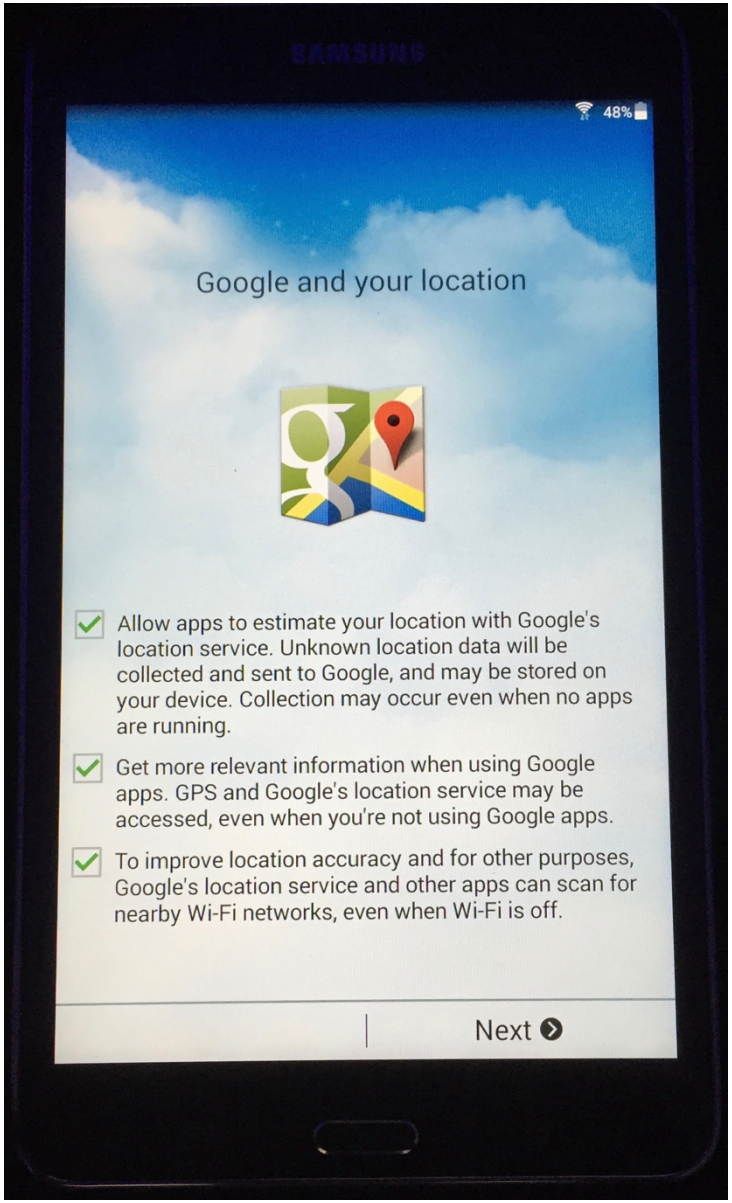

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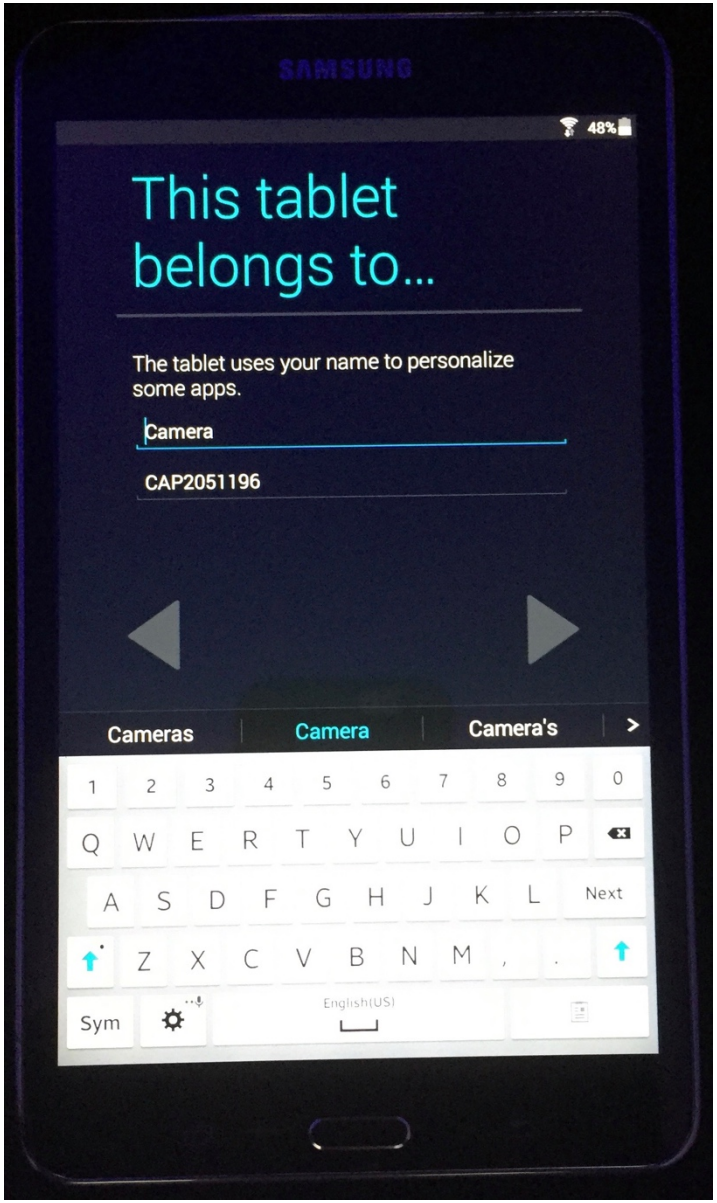

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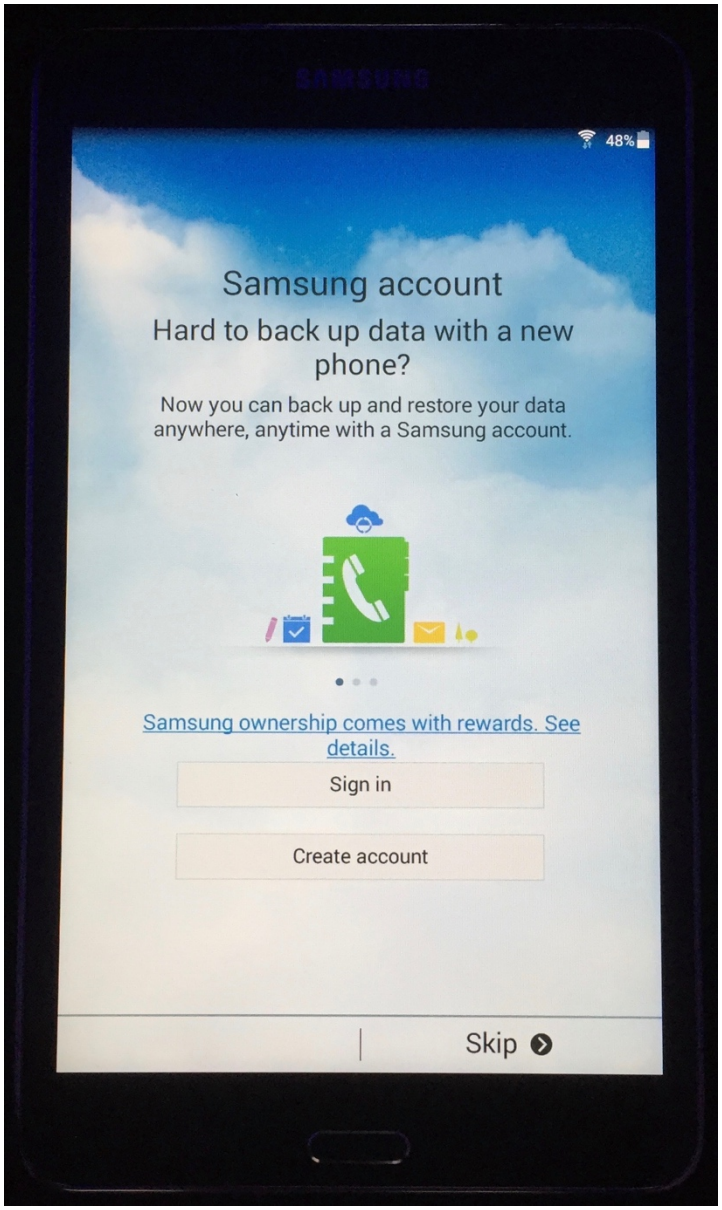

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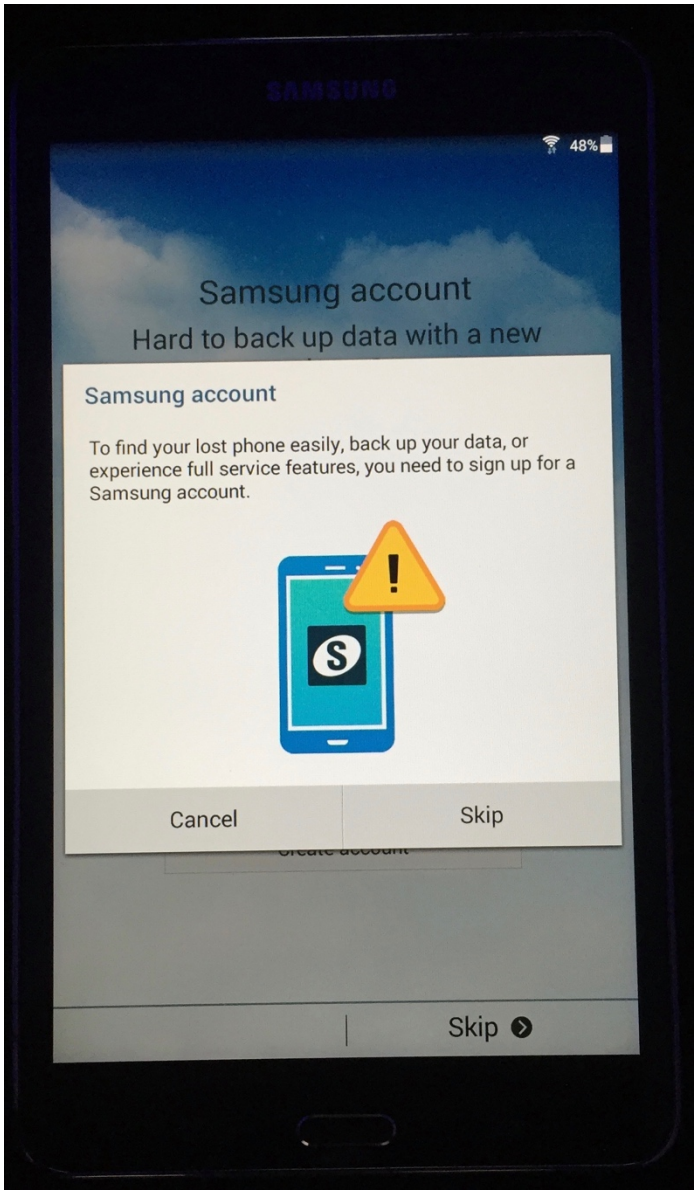

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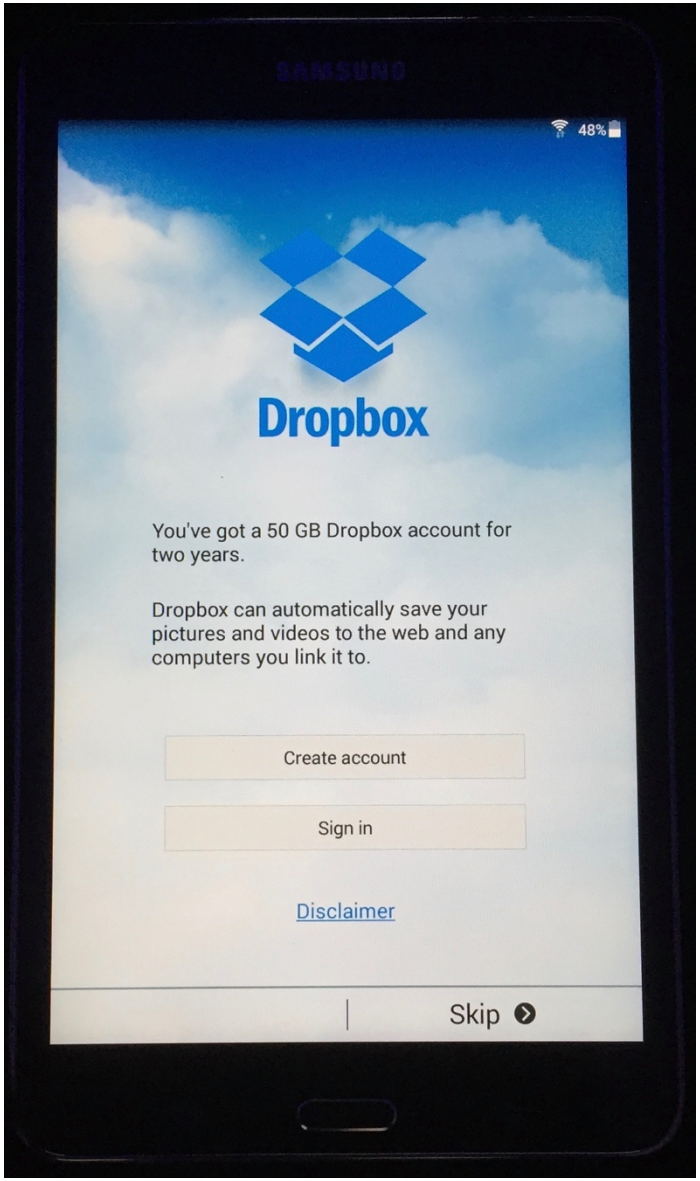

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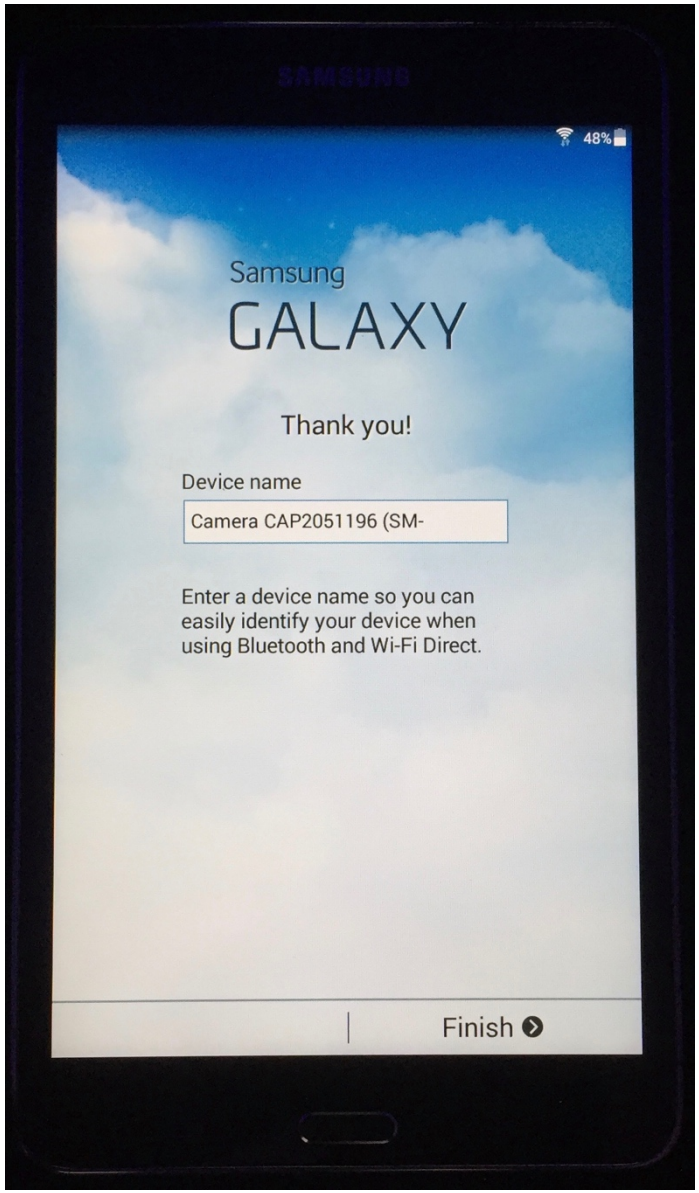

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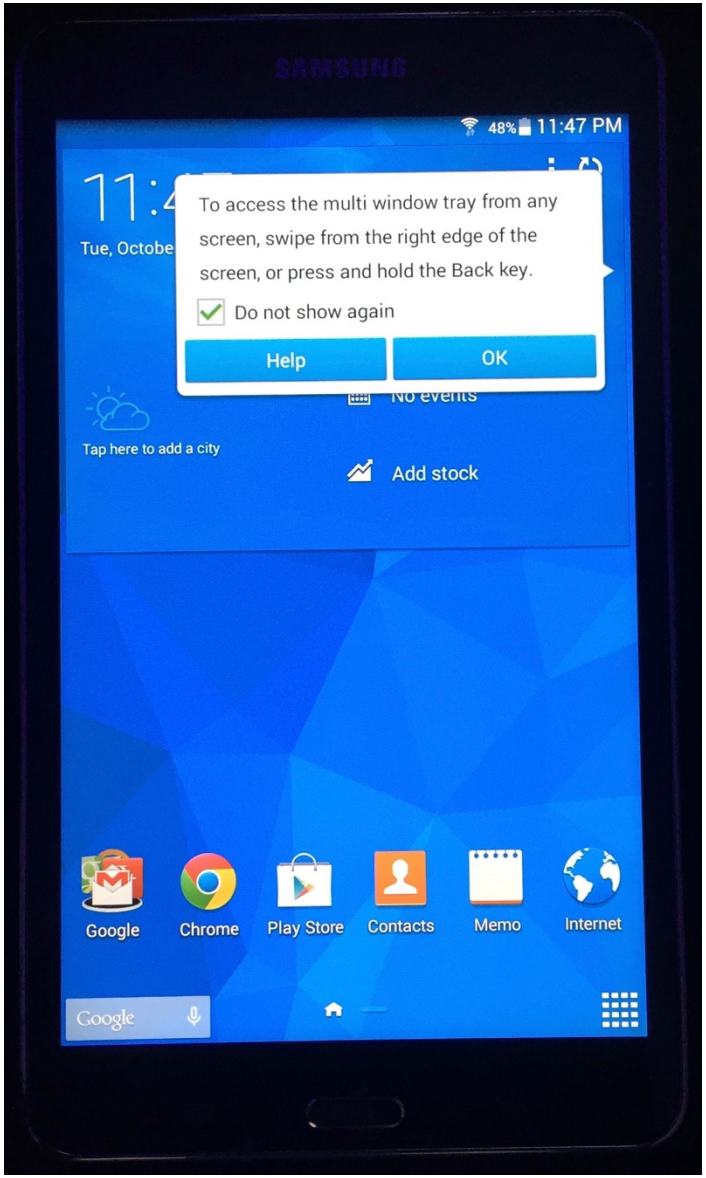

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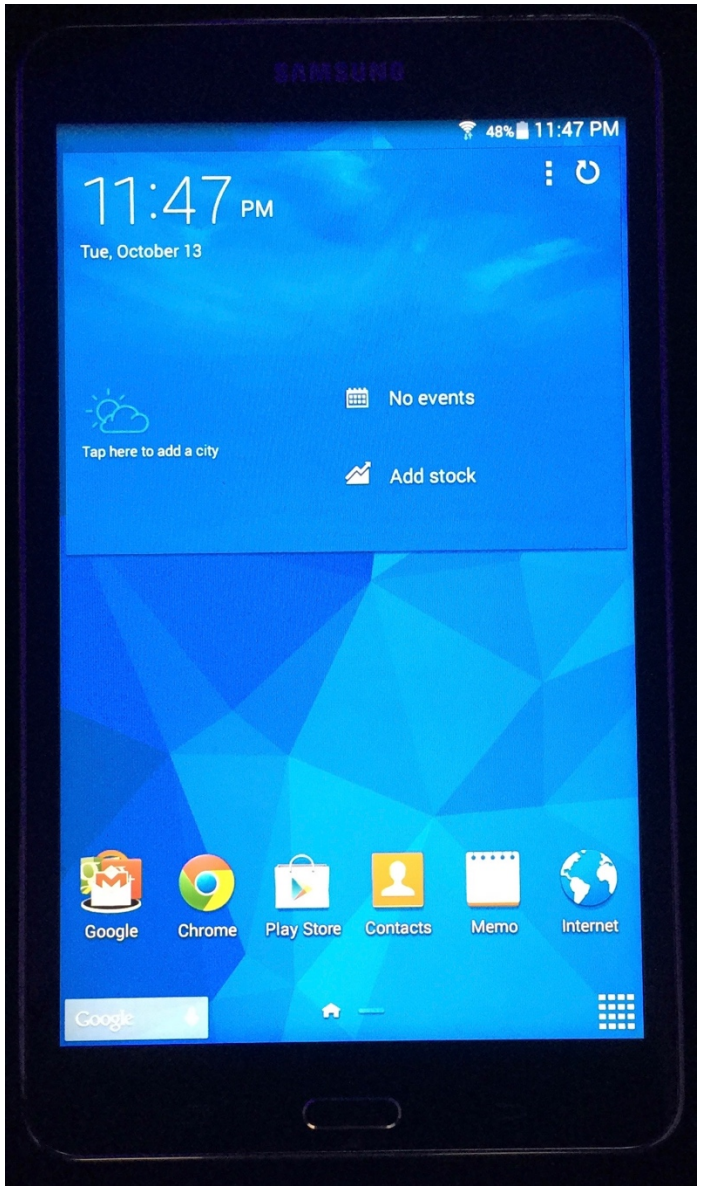

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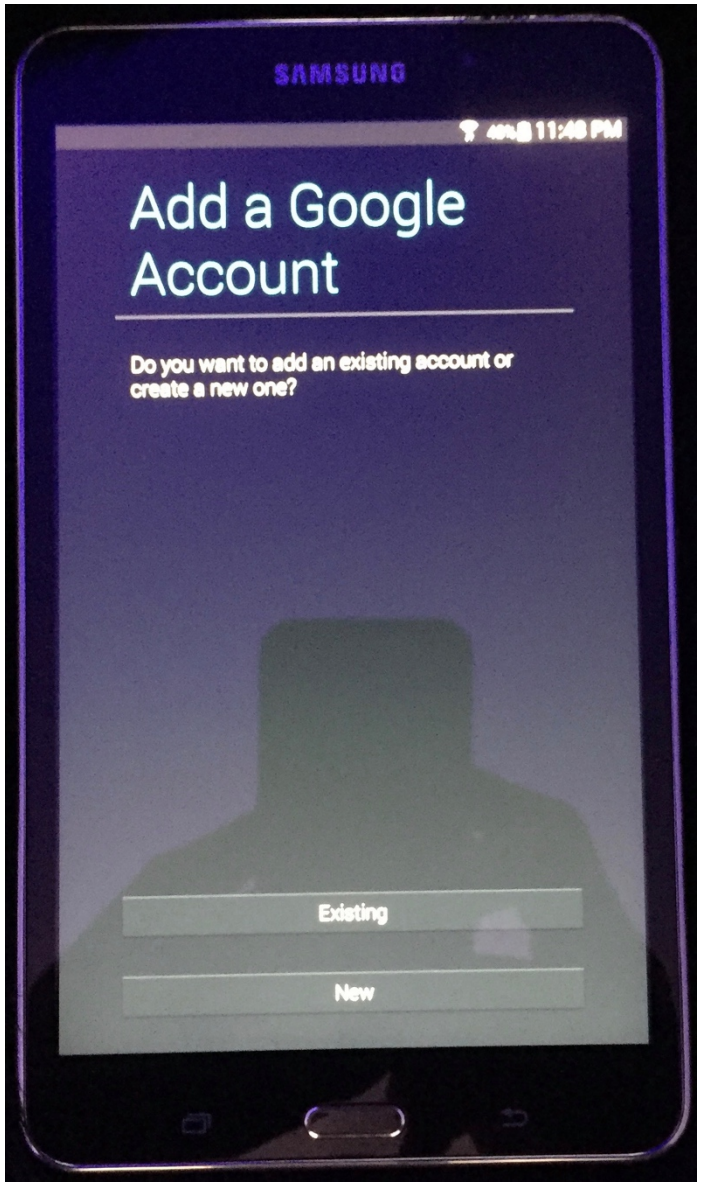

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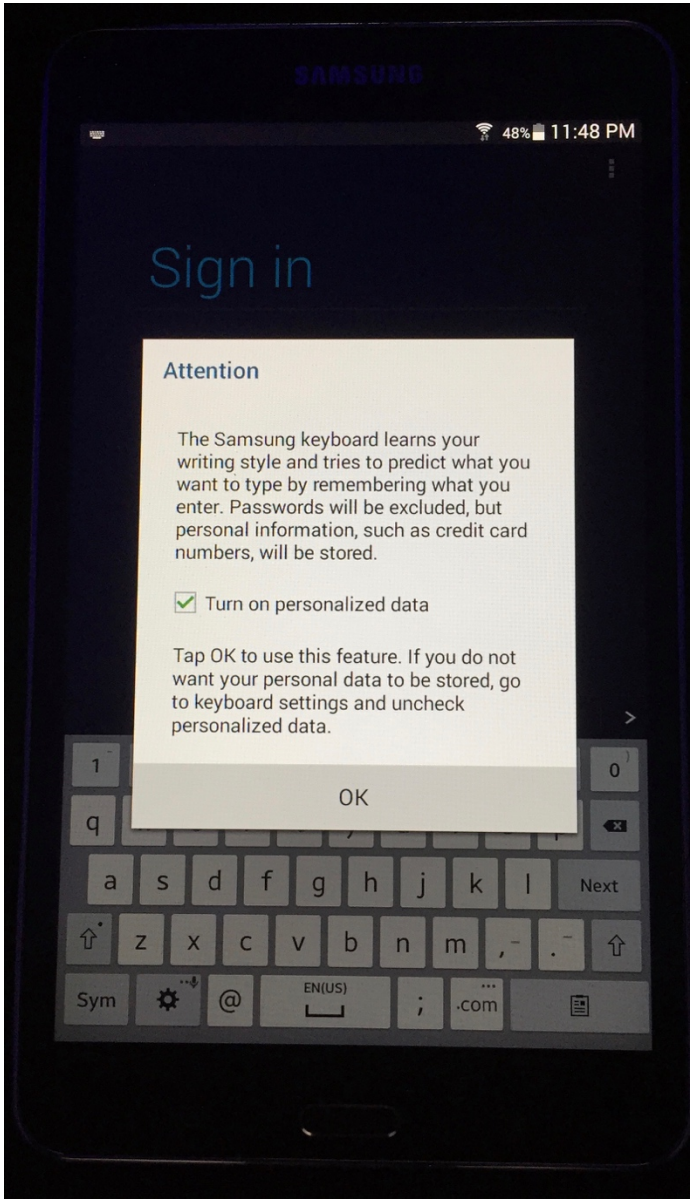

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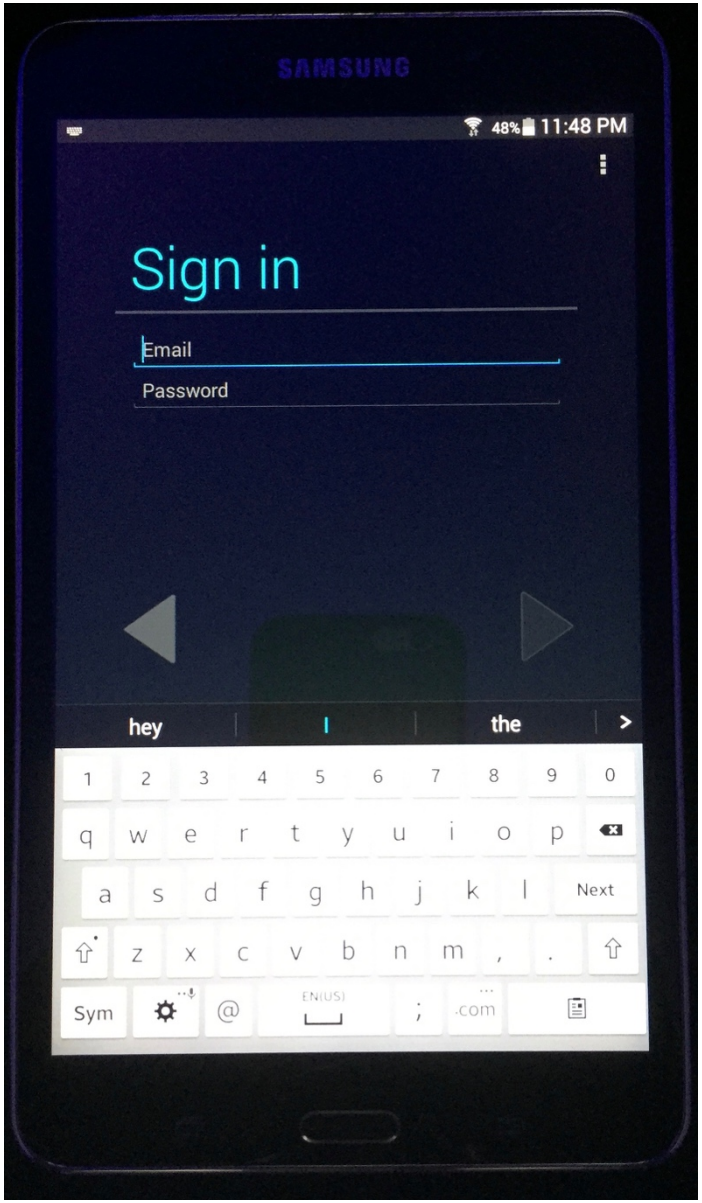
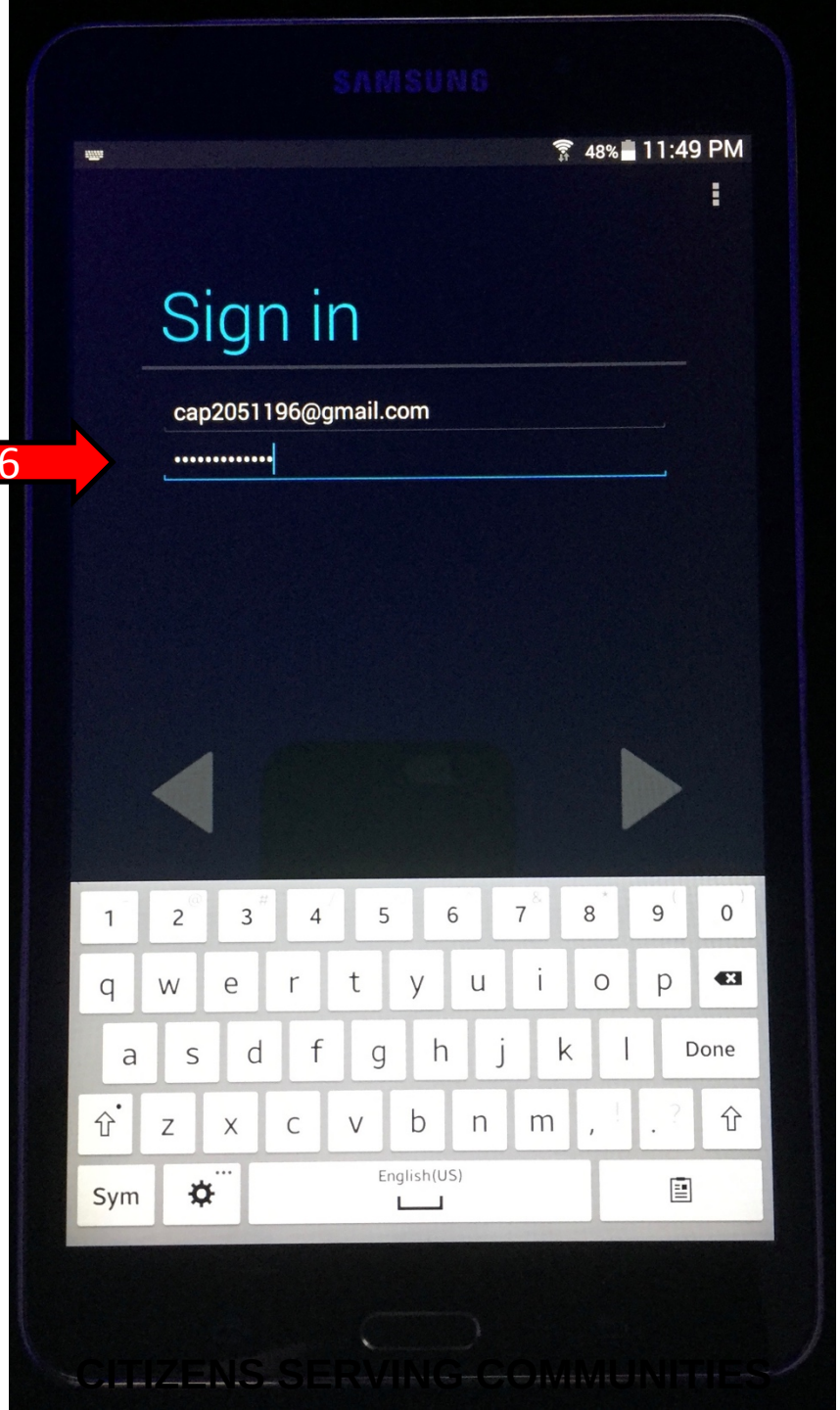


Garmin Virb Kit - Tablet

camera2051196



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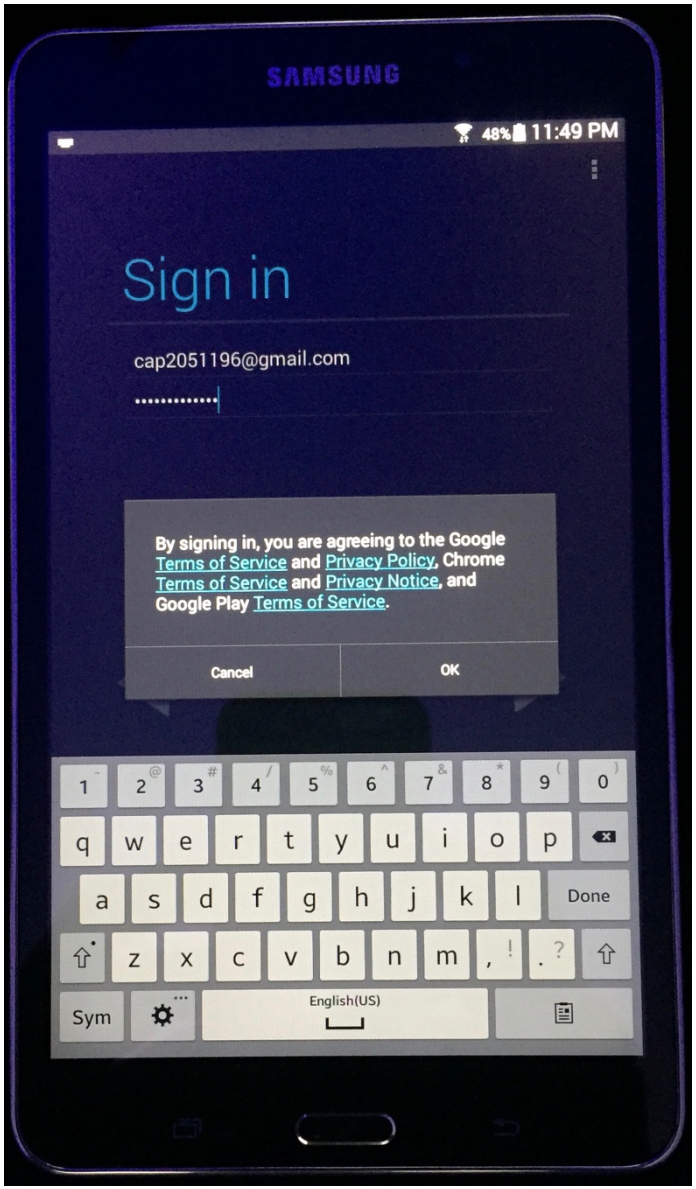

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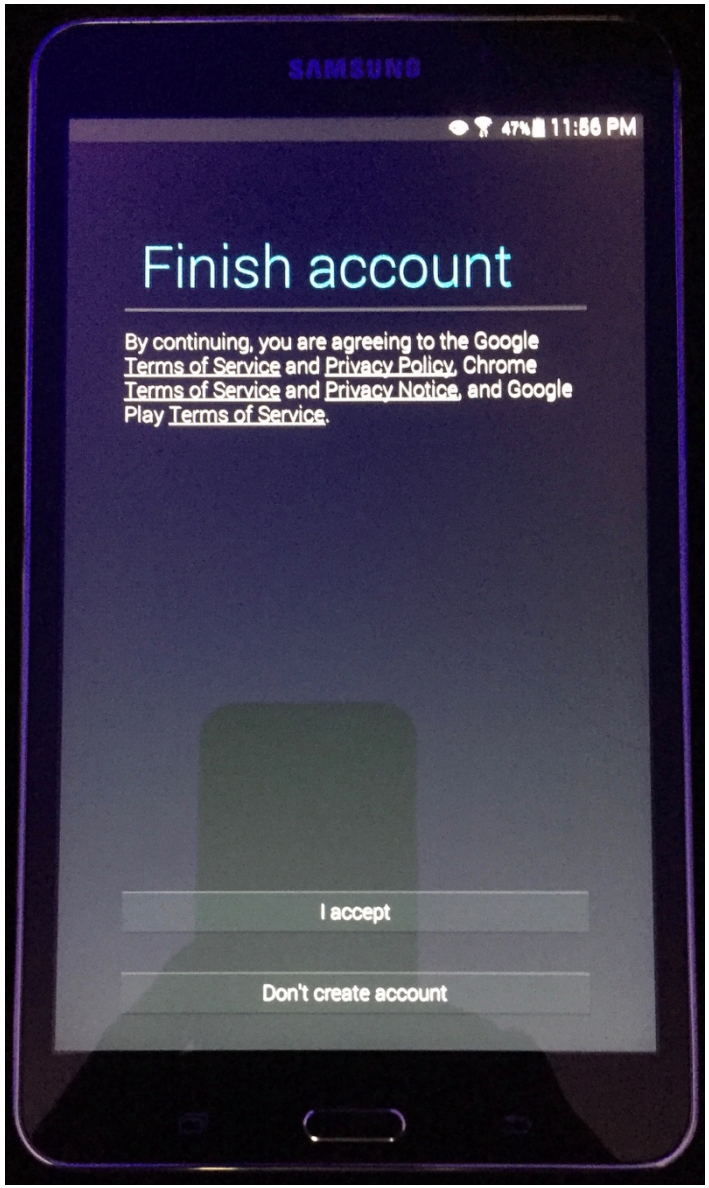

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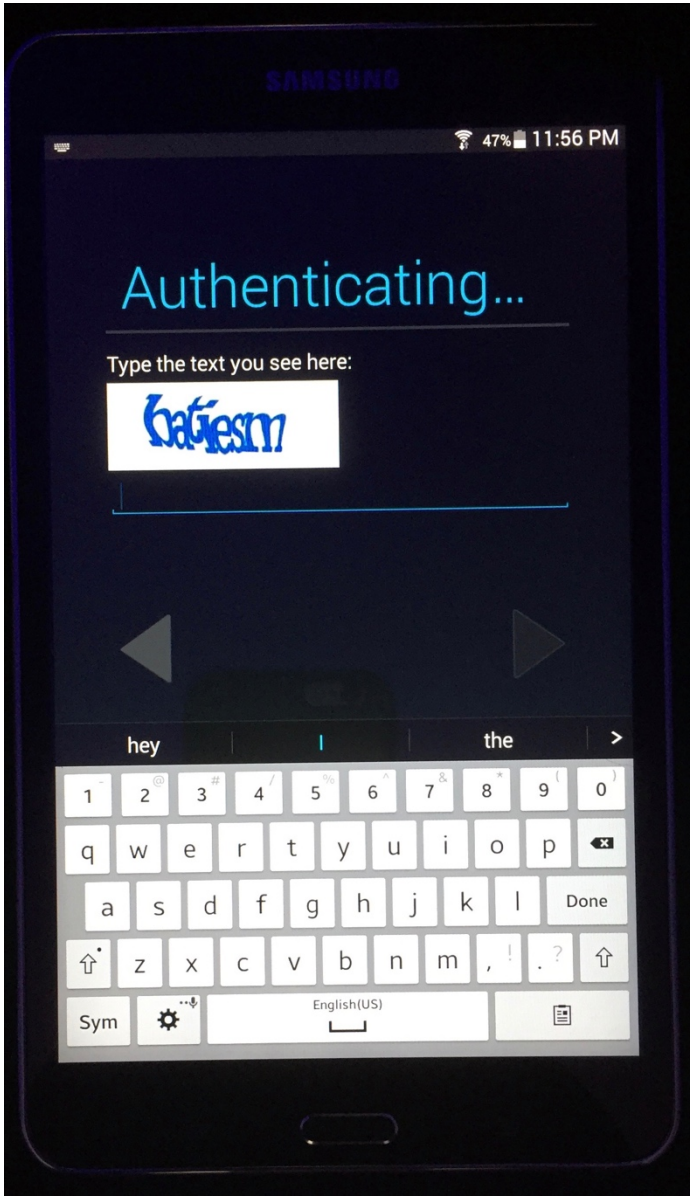

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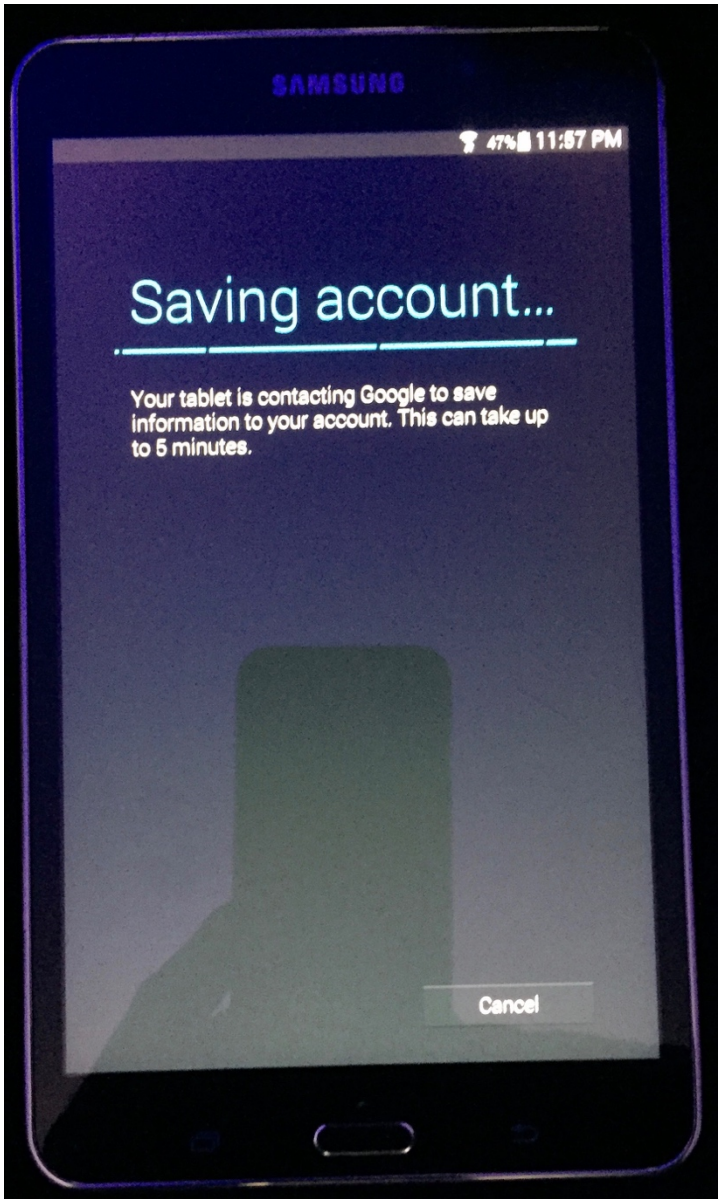

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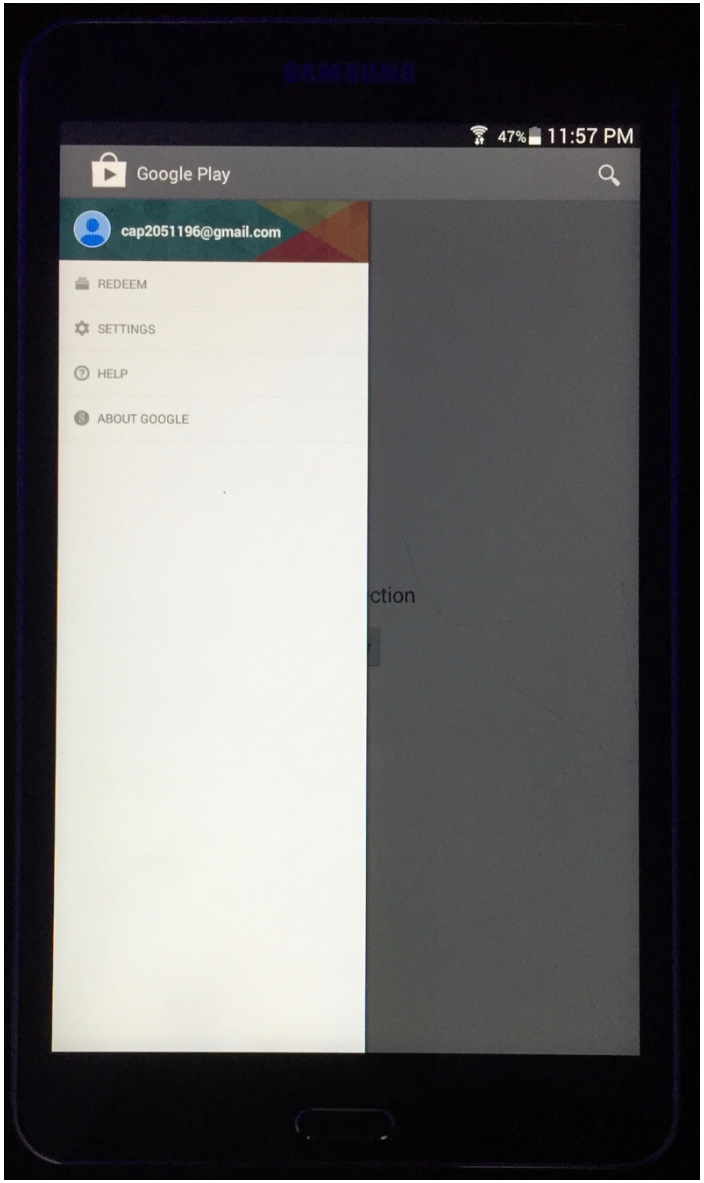

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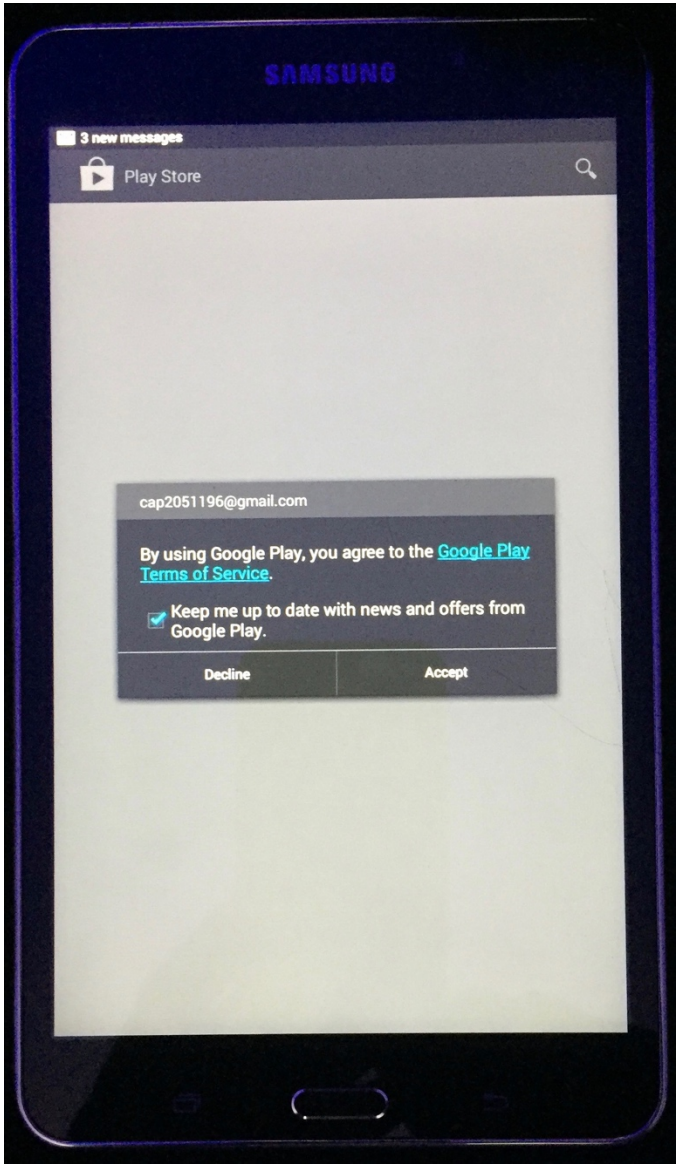
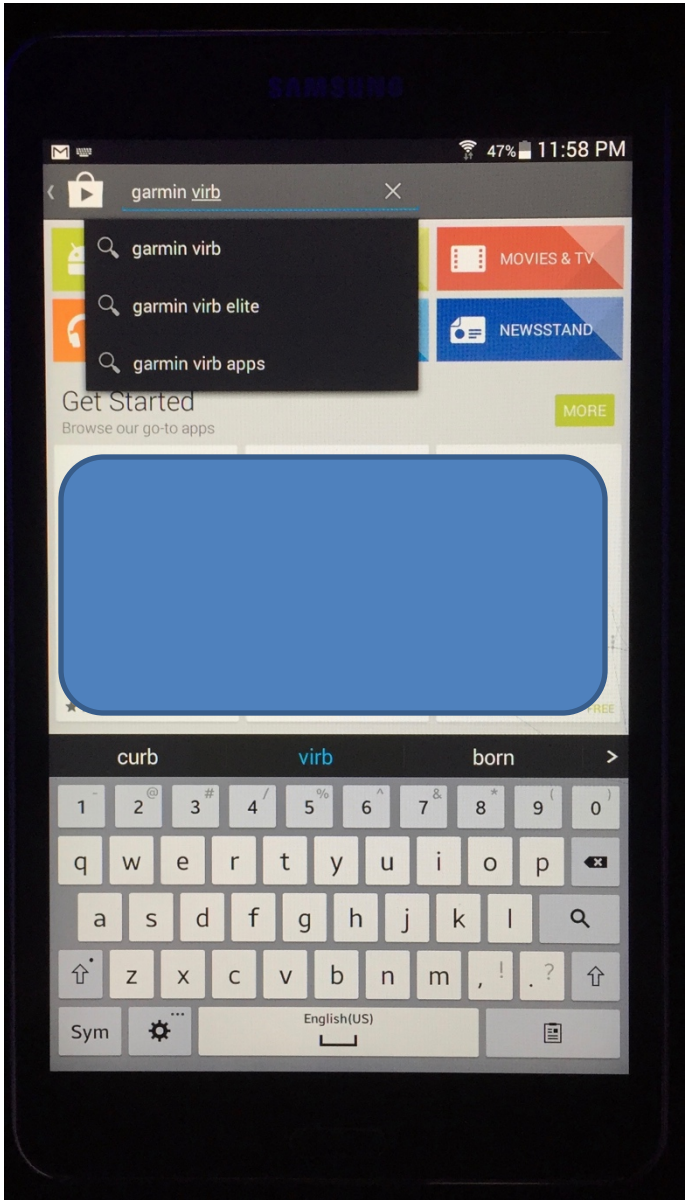


Disaster Photography

- Project Definition
- Project Goals
- Customer Use of Imagery
- **Equipment – Garmin Virb Kits**
  - **Garmin Virb - App**
- Application
- State of Testing / Next Steps

Garmin Virb Kit - Tablet



Garmin Virb Kit - Tablet

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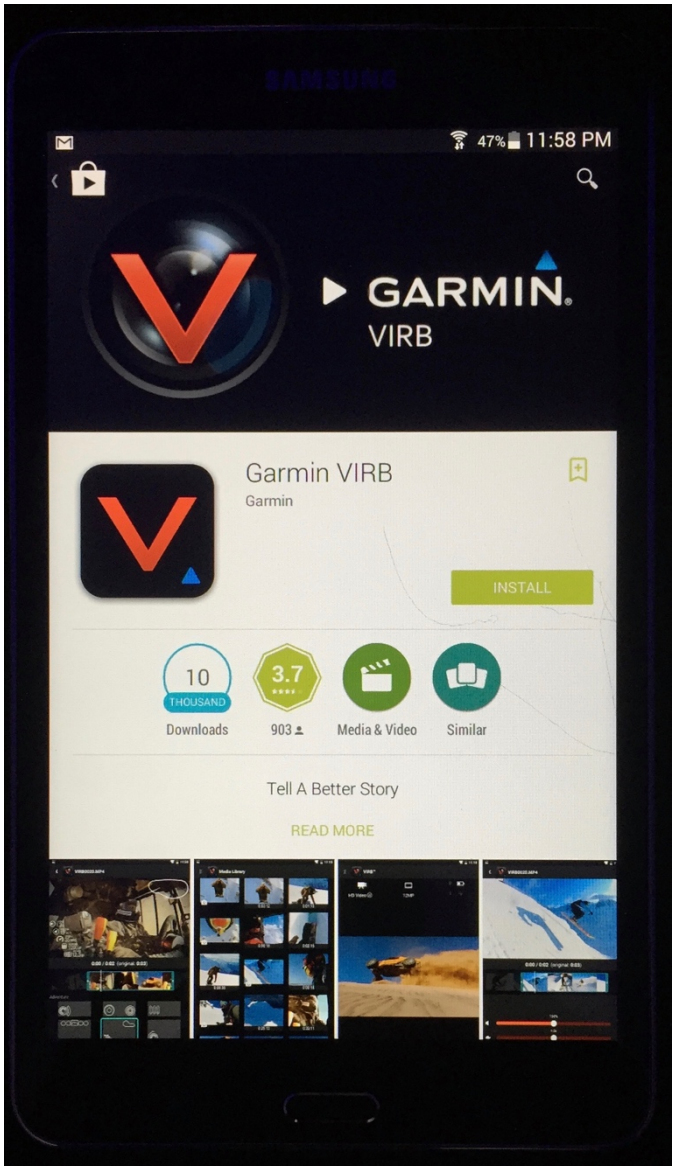
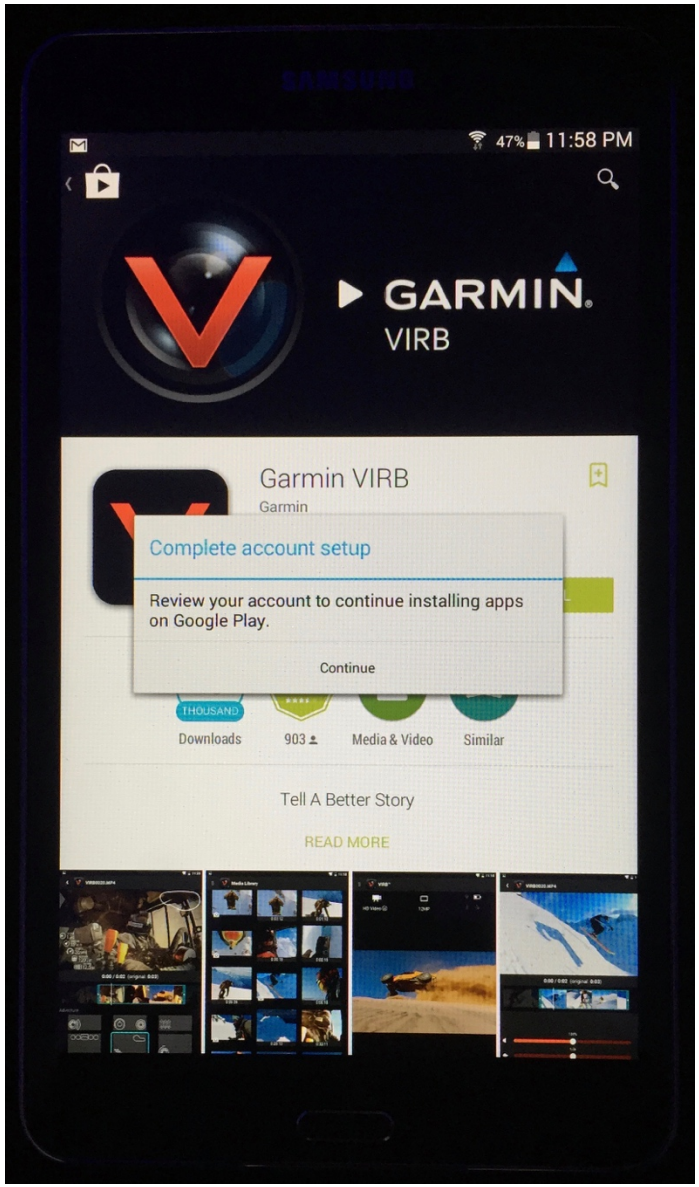
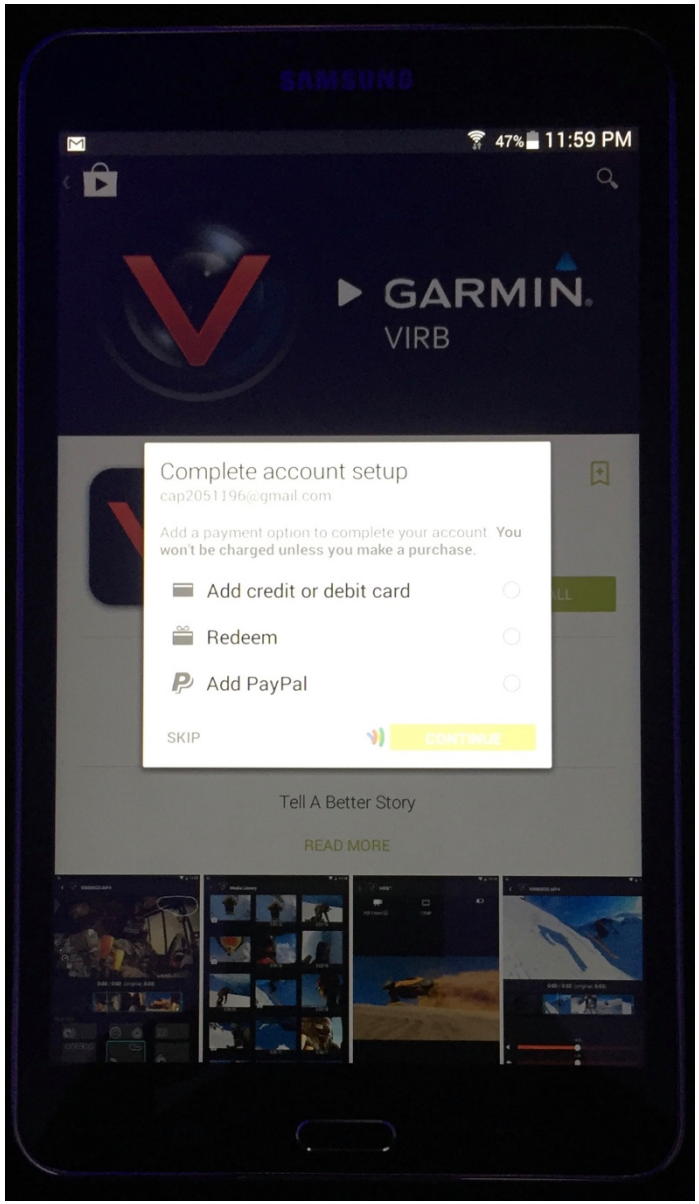


Garmin Virb Kit - Tablet

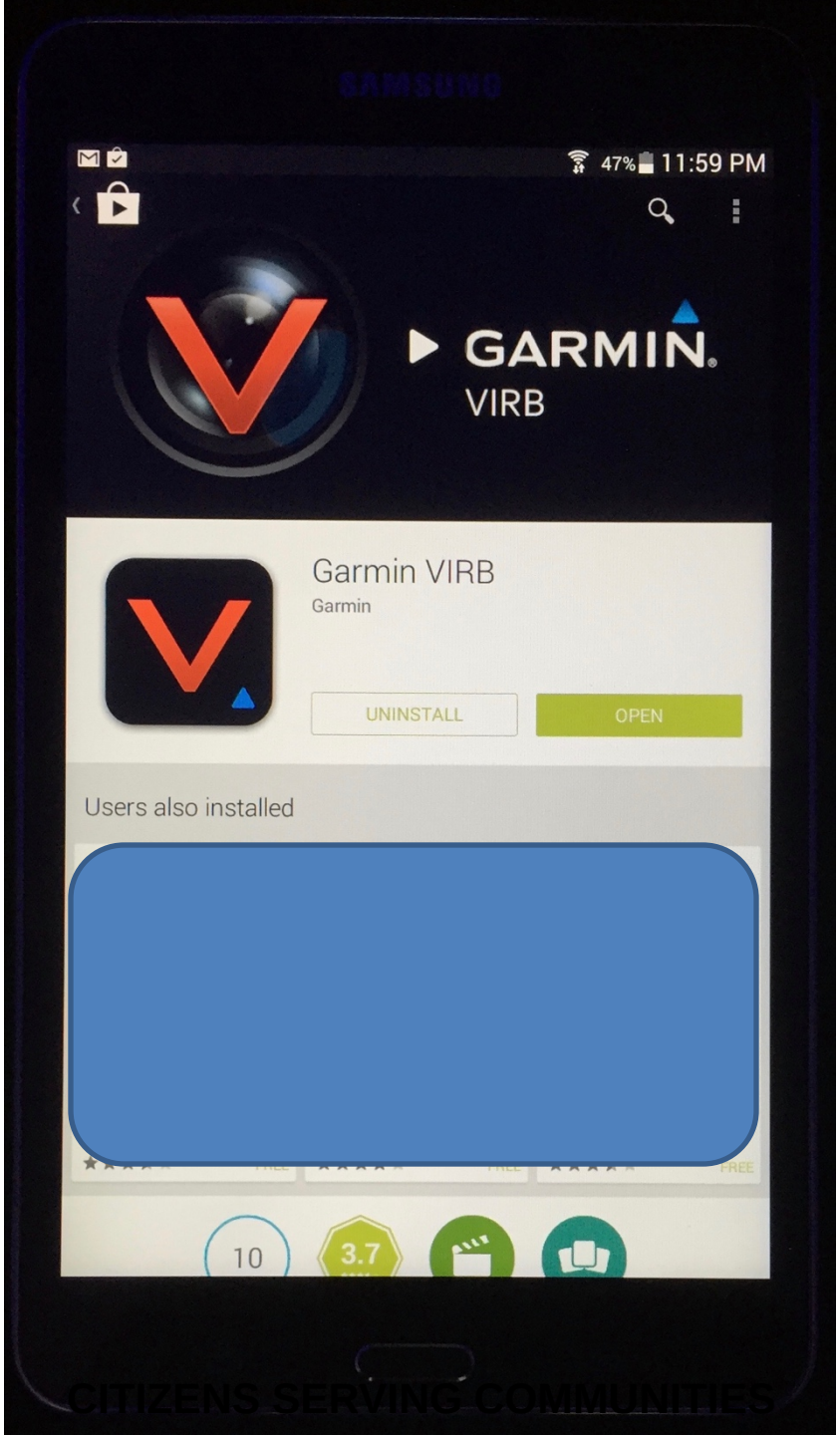


Garmin Virb Kit - Tablet

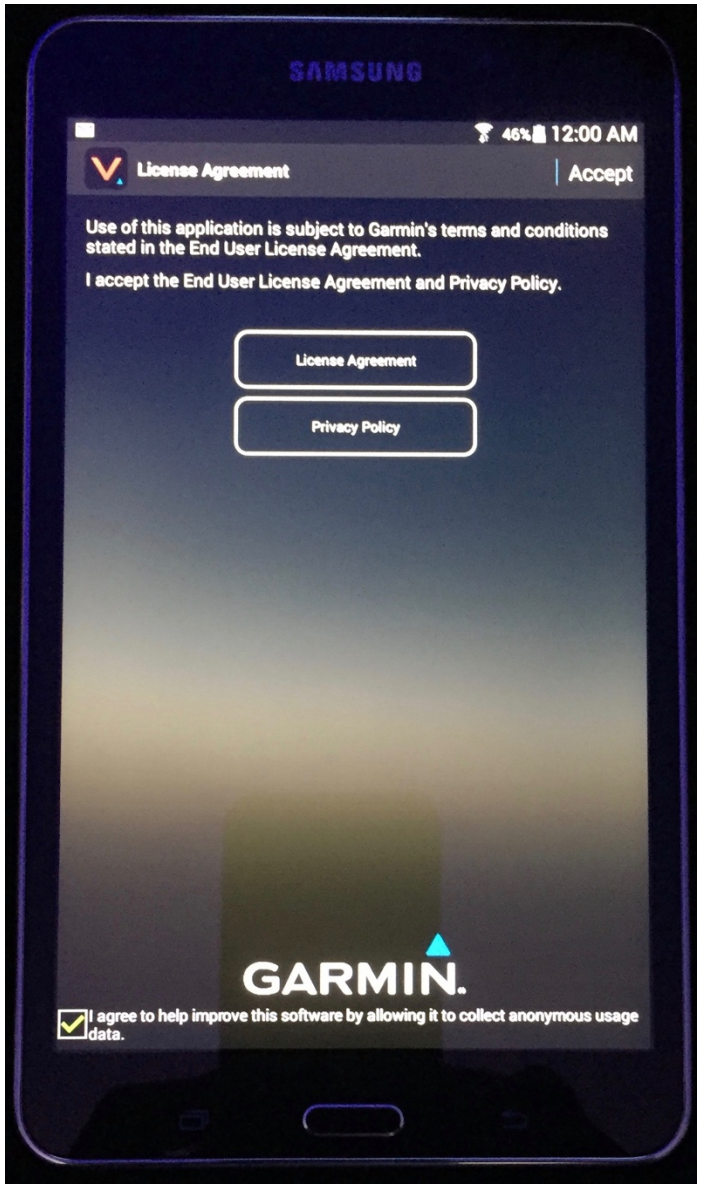


Garmin Virb Kit - Tablet

47% 11:59 PM
GARMIN
VIRB
Garmin VIRB
Garmin
25.44MB/46.38MB
54%
Users also installed
FREE
10
3.7

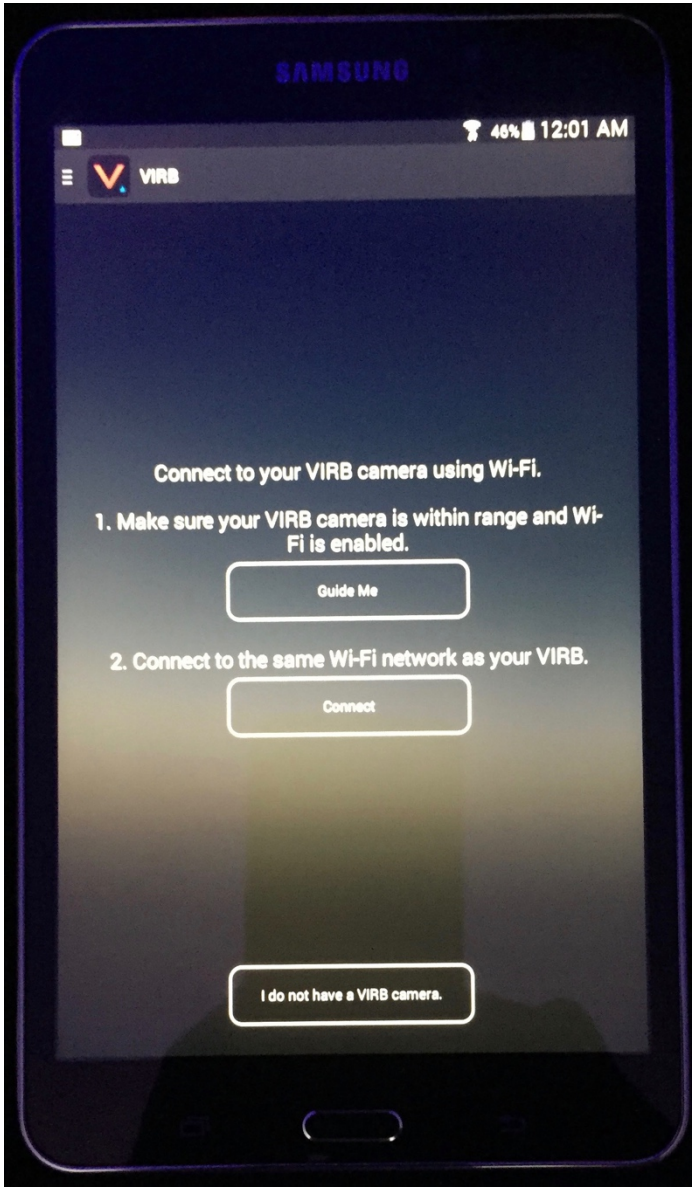

SAMSUNG
47% 11:59 PM
GARMIN
VIRB
Garmin VIRB
Garmin
UNINSTALL
OPEN
Users also installed
10
3.7

Garmin Virb Kit - Tablet

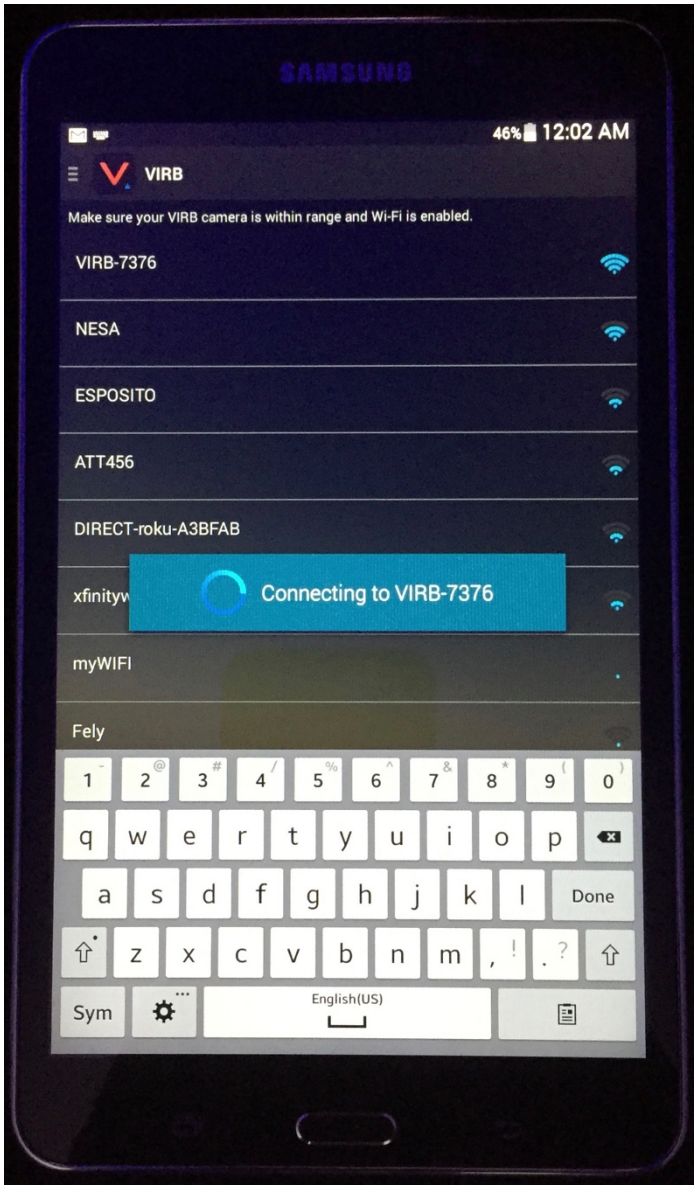


Garmin Virb Kit - Tablet

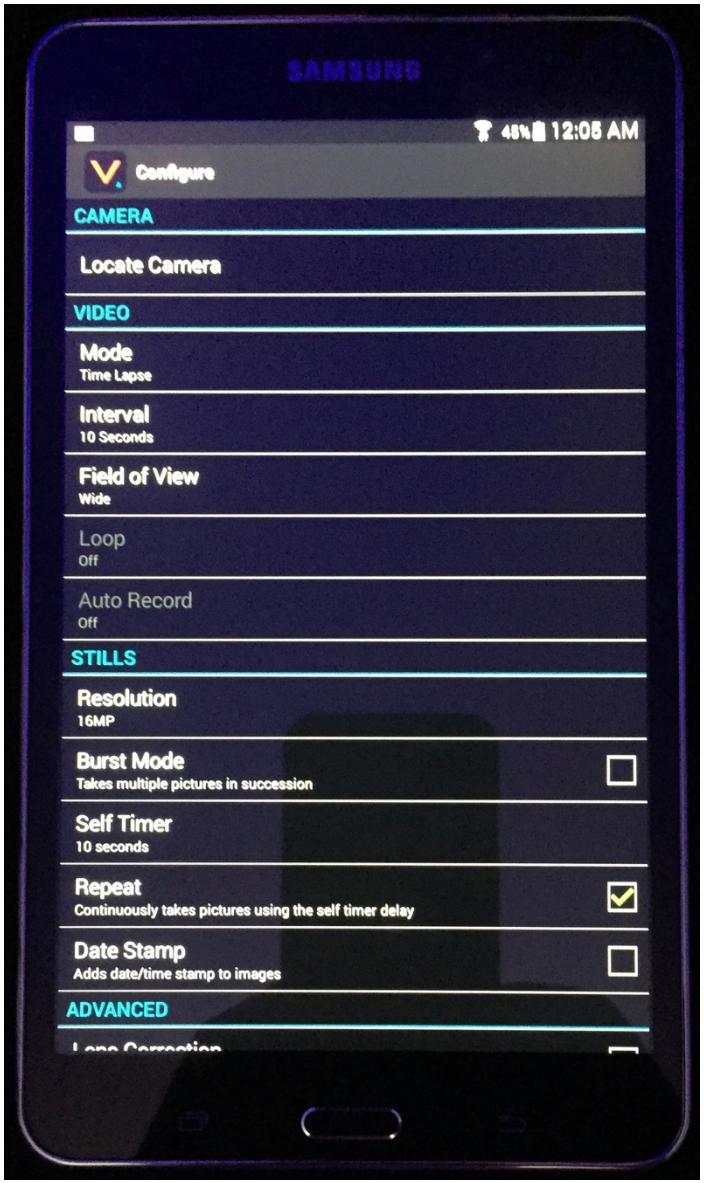
Garmin Virb Kit - Tablet



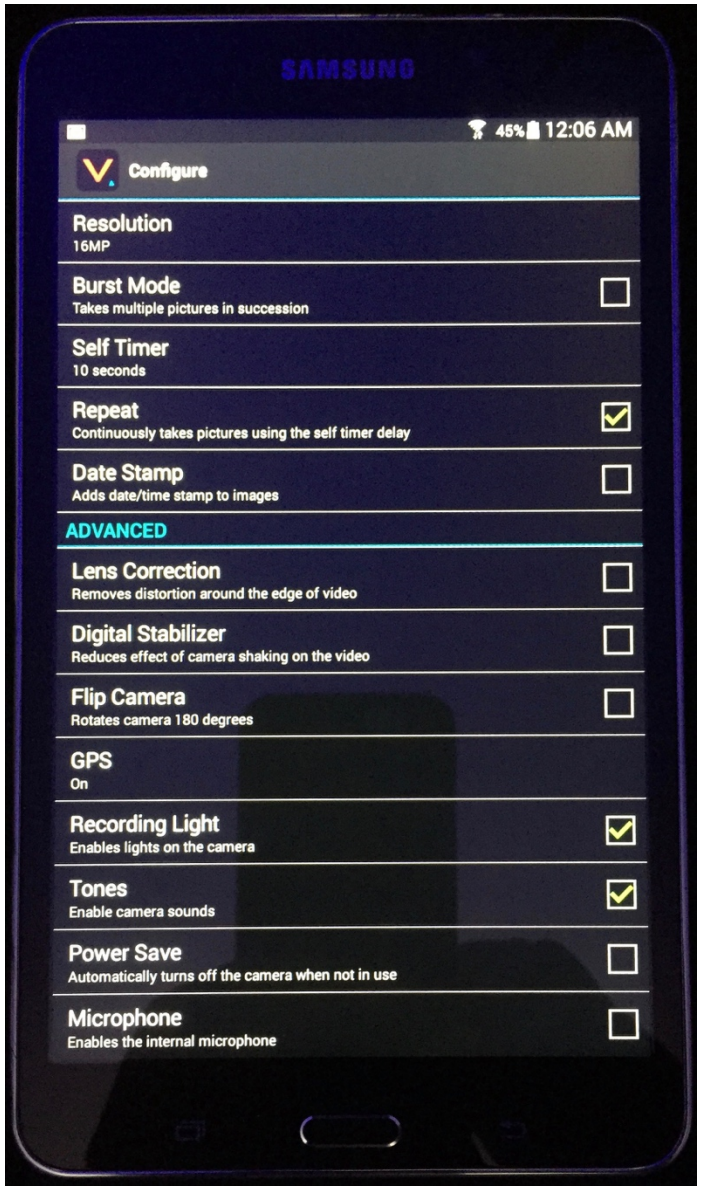
Garmin Virb Kit - Tablet



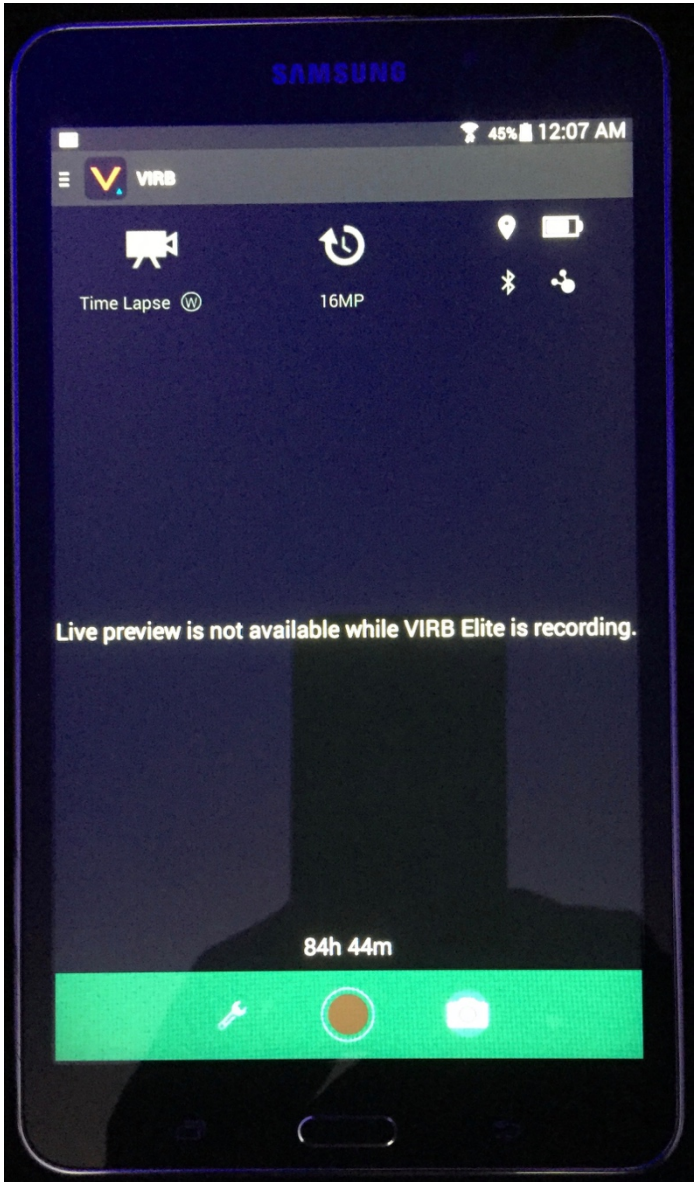
Garmin Virb Kit - Tablet



Garmin Virb Kit - Tablet



Garmin Virb Kit - Tablet

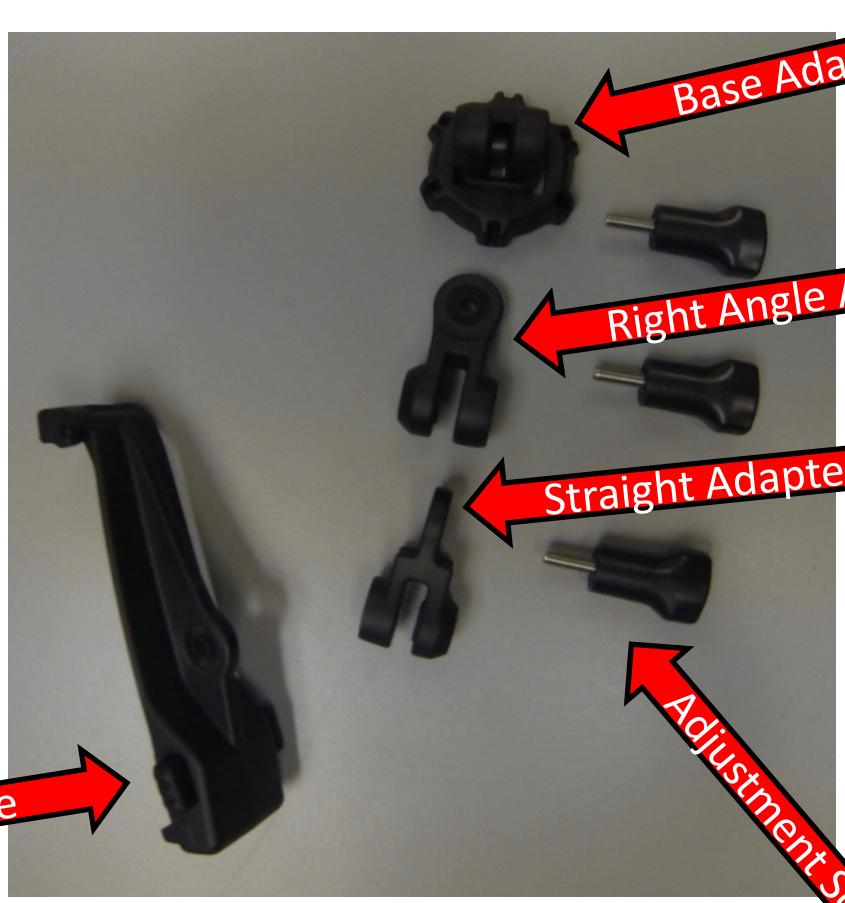


Disaster Photography

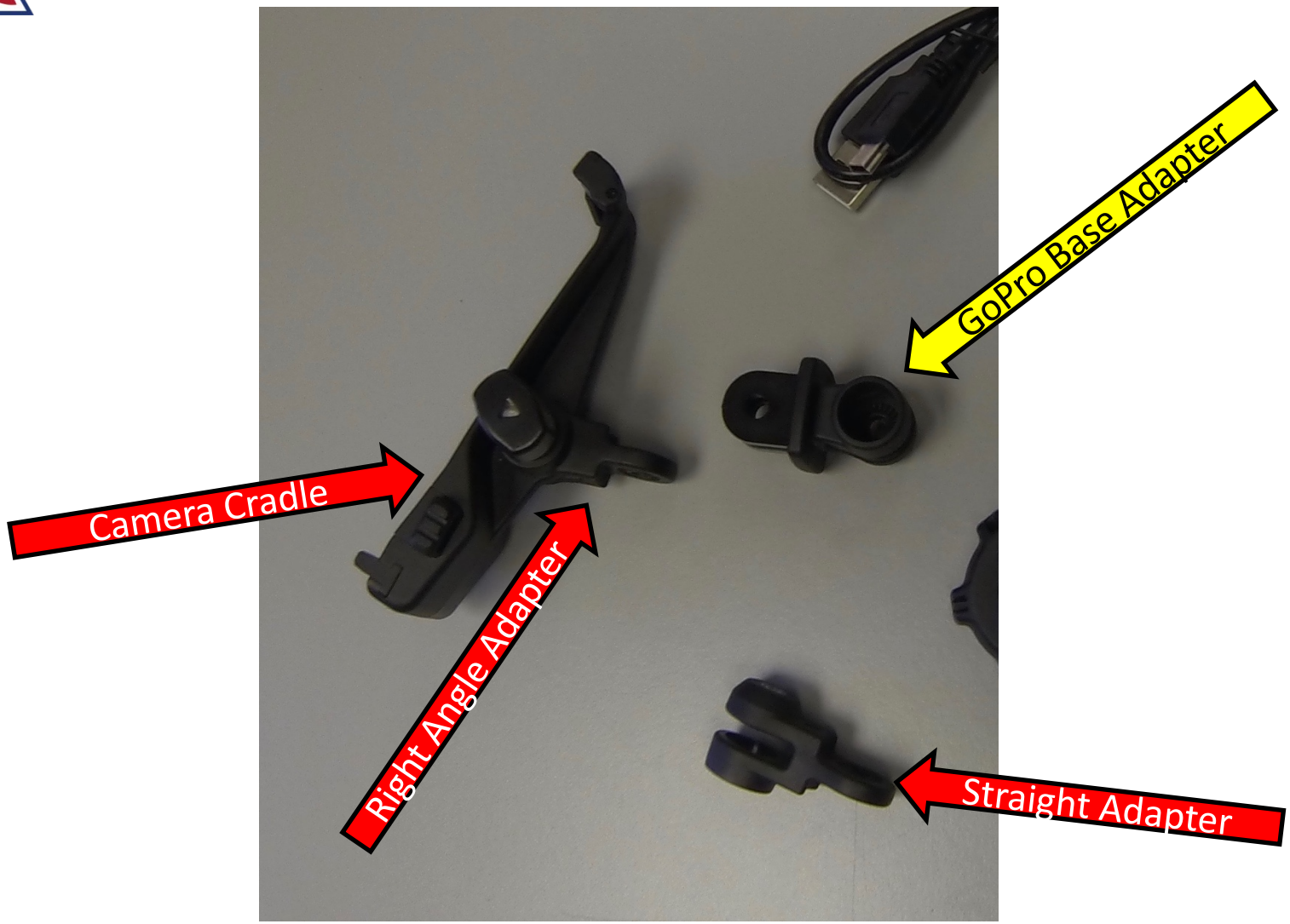
- Project Definition
- Project Goals
- Customer Use of Imagery
- **Equipment – Garmin Virb Kits**
  - **Building the mounting base assembly**
- Application
- State of Testing / Next Steps

Garmin Virb Kit – Assembling the Mount

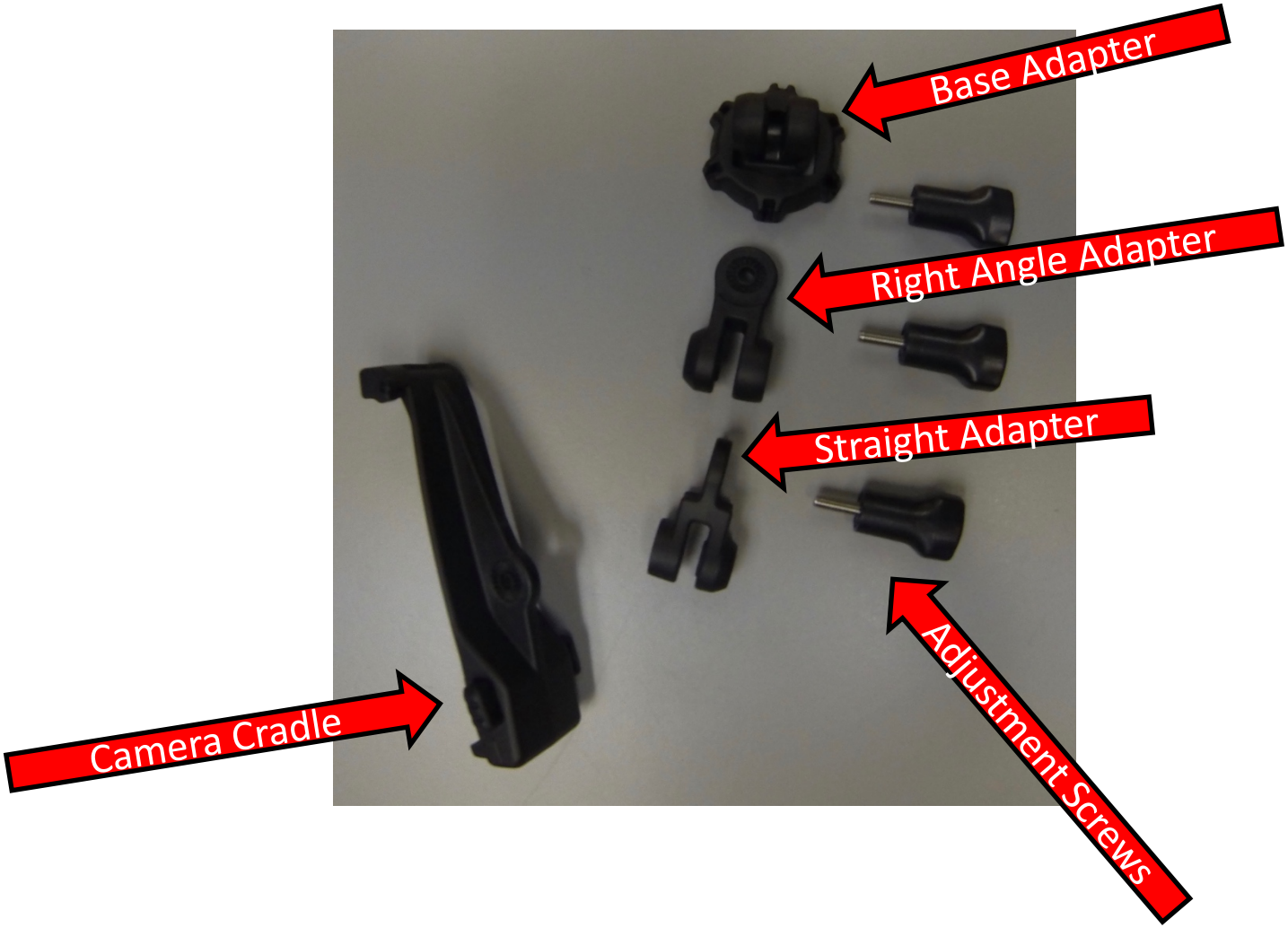
Garmin Virb Kit – Assembling the Mount



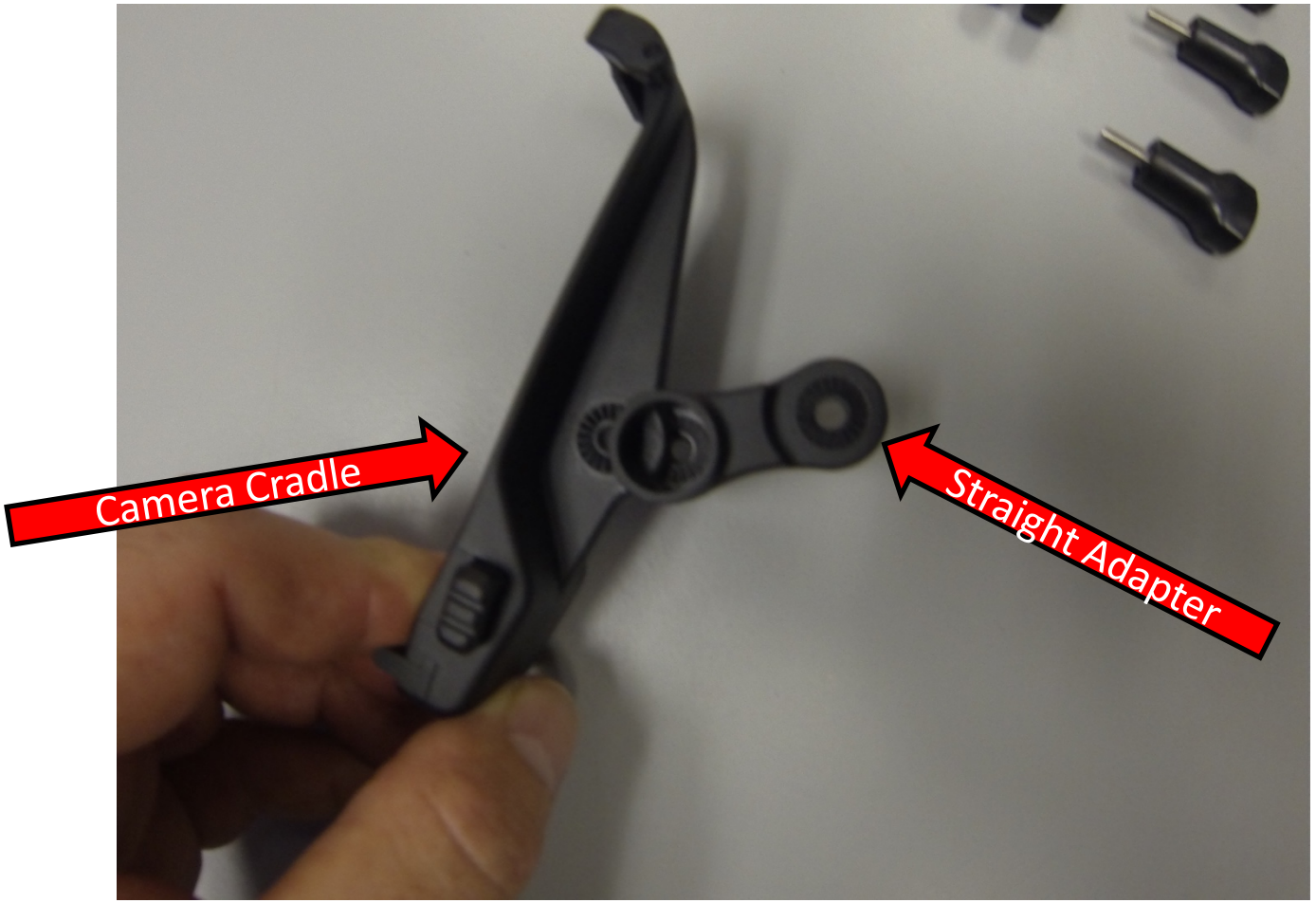
Garmin Virb Kit – Assembling the Mount



Garmin Virb Kit – Assembling the Mount



Garmin Virb Kit – Assembling the Mount



Garmin Virb Kit – Assembling the Mount

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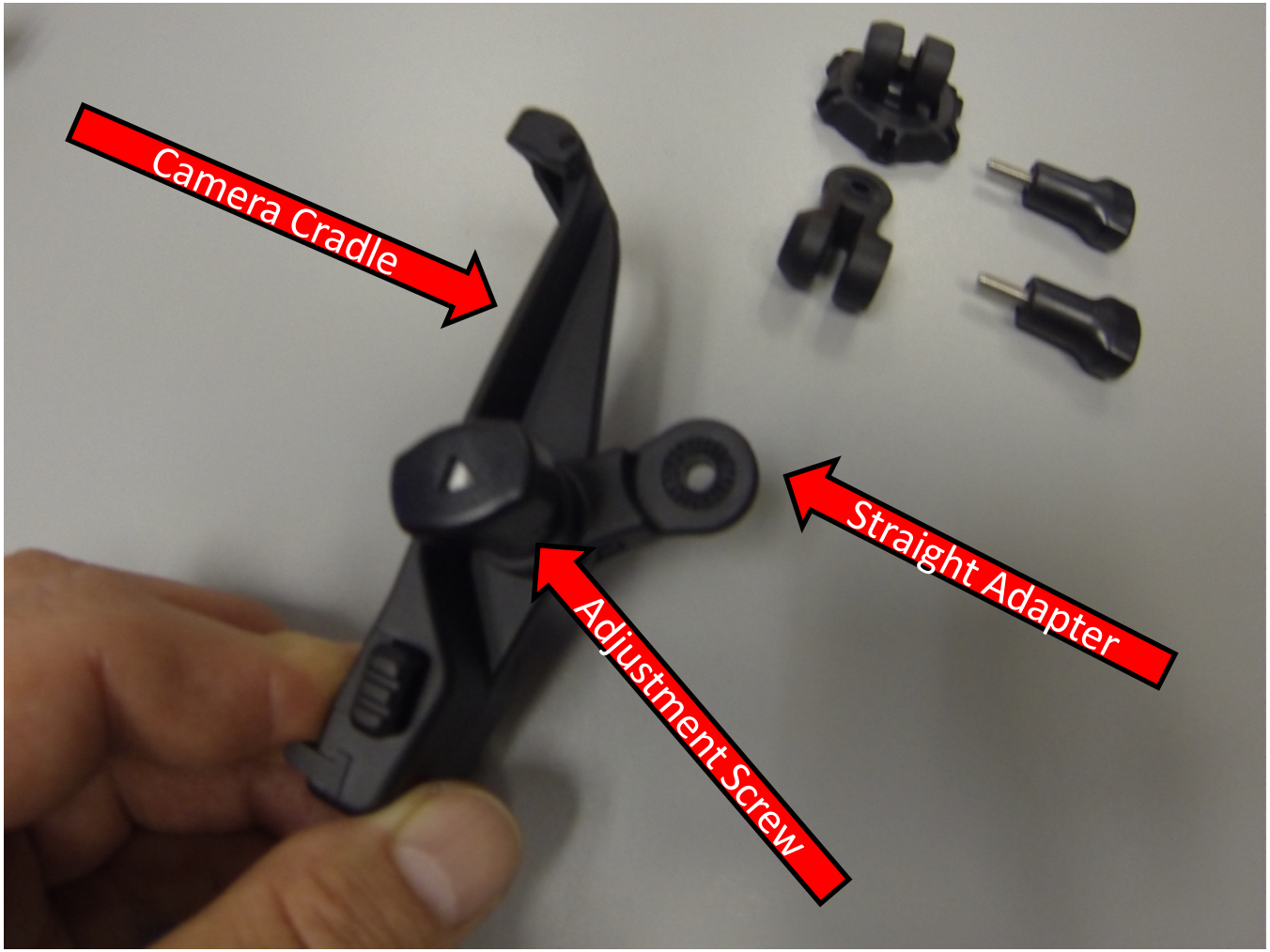
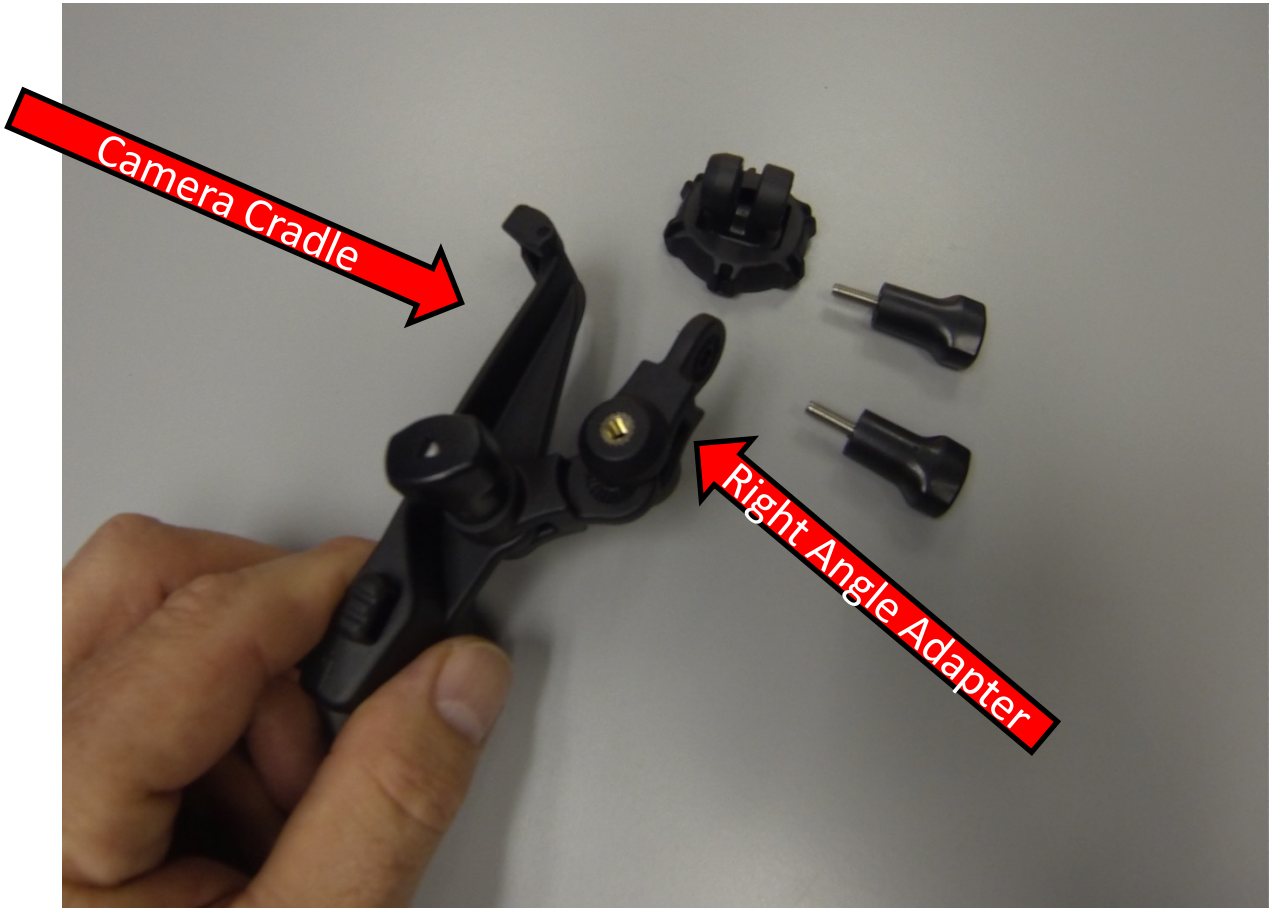


Garmin Virb Kit – Assembling the Mount



Garmin Virb Kit – Assembling the Mount

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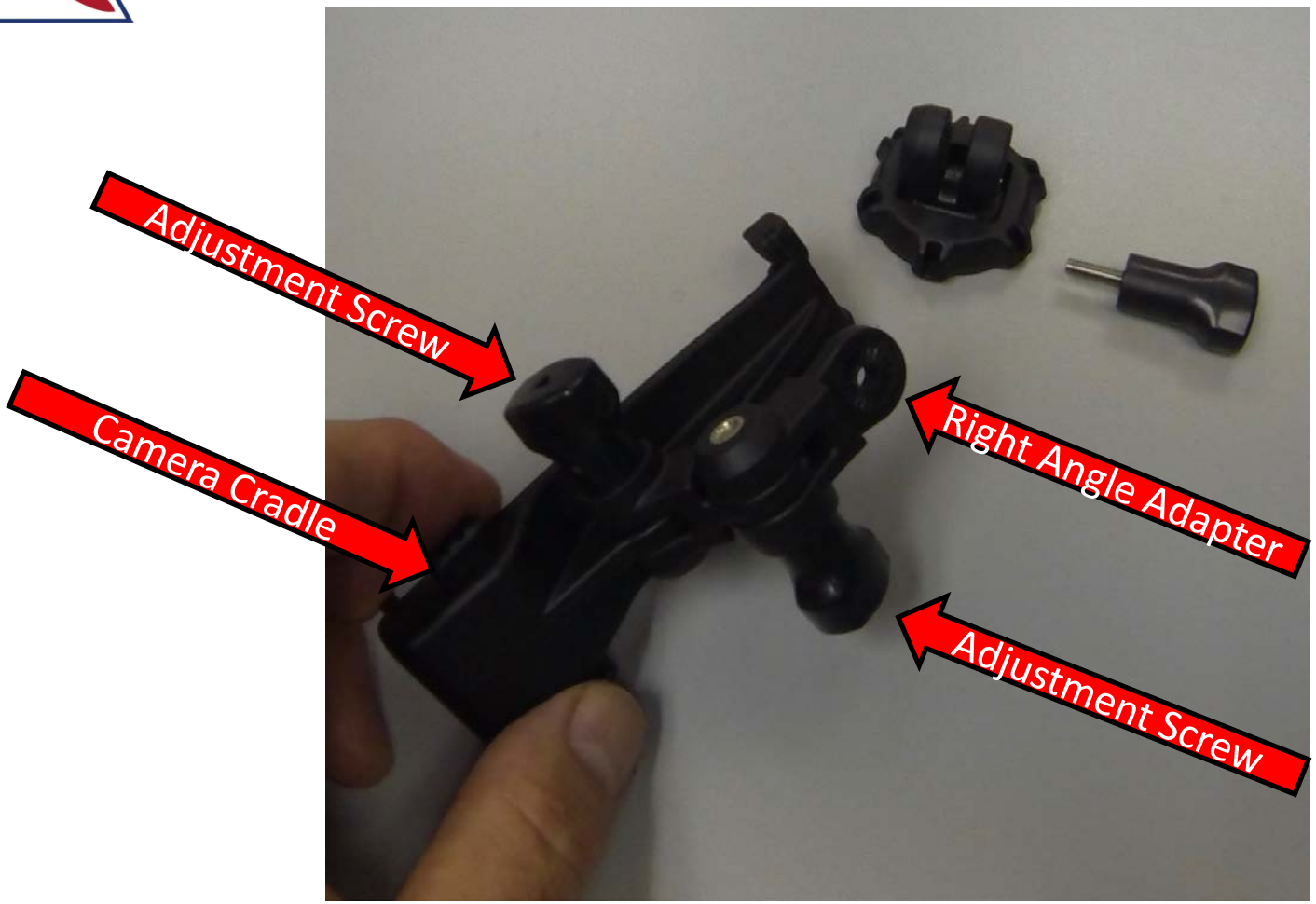

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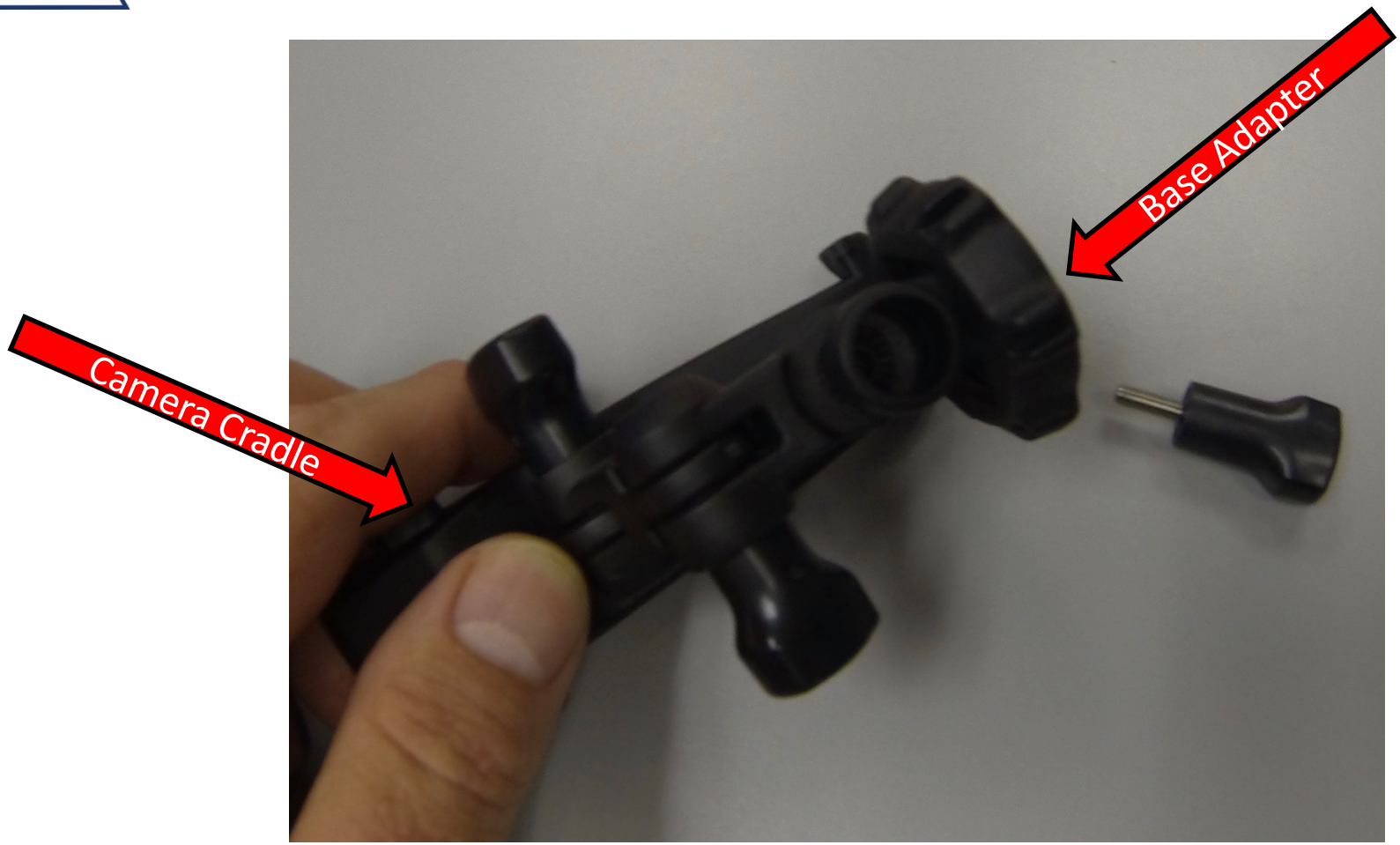
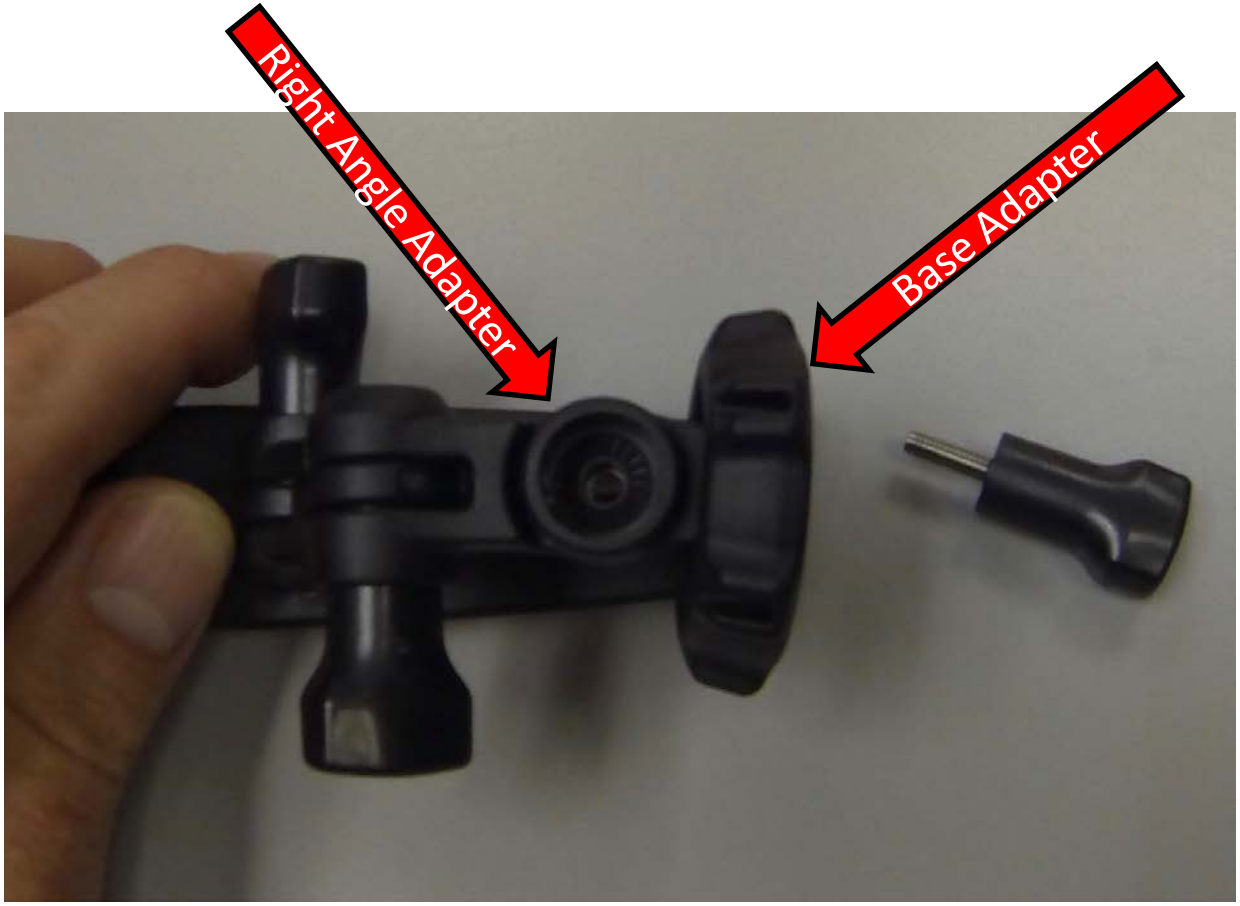


Garmin Virb Kit – Assembling the Mount



Garmin Virb Kit – Assembling the Mount

Disaster Photography

- Project Definition
- Project Goals
- Customer Use of Imagery
- **Equipment – Garmin Virb Kits**
  - **Adhering to the aircraft wing**
- Application
- State of Testing / Next Steps

Garmin Virb Kit – Adhering to the wing

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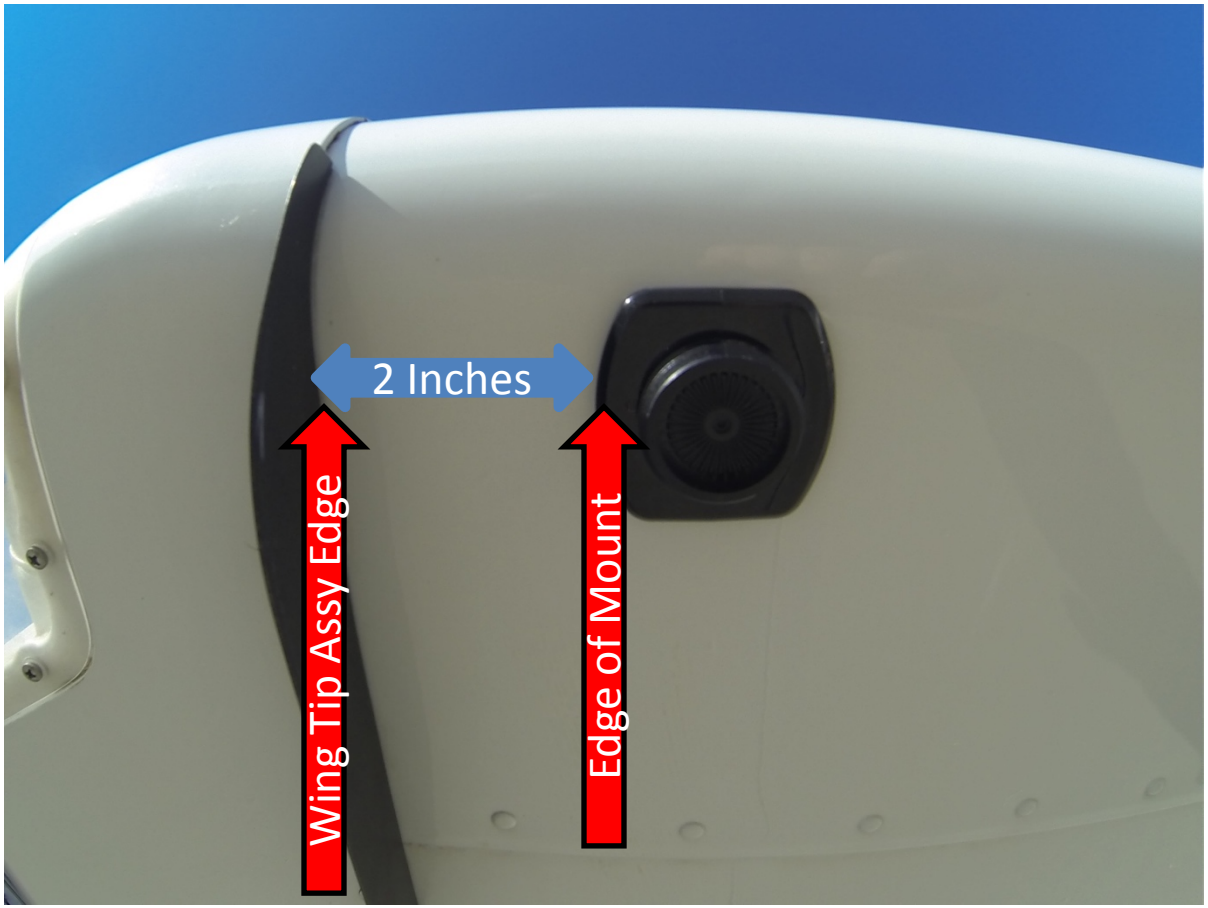
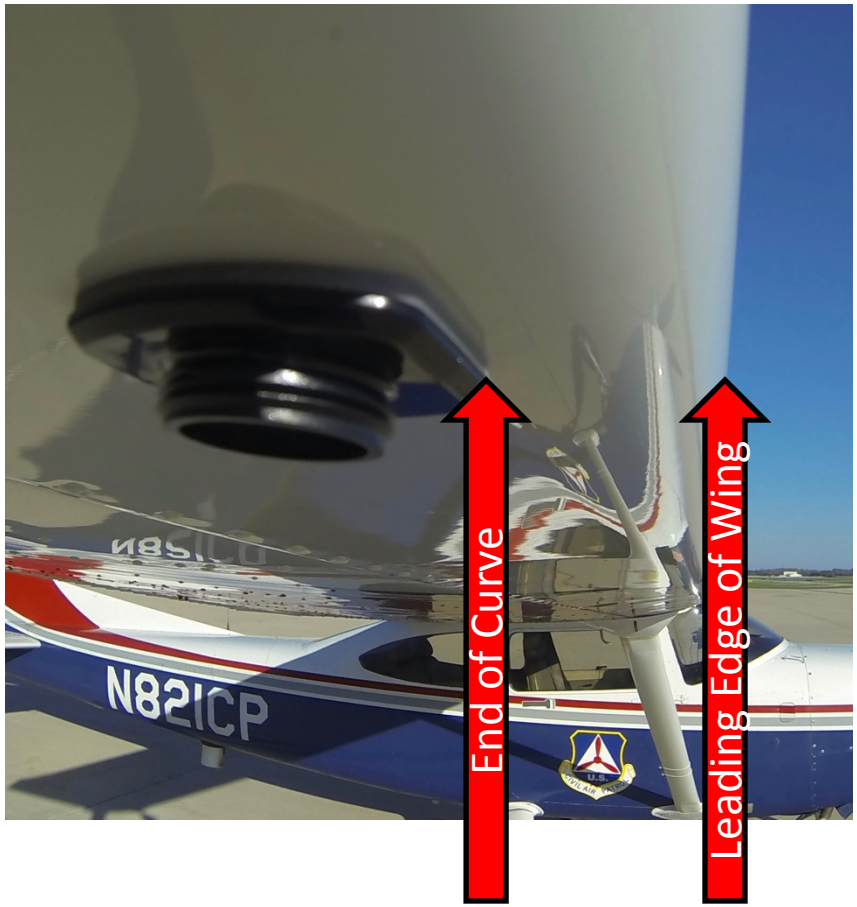
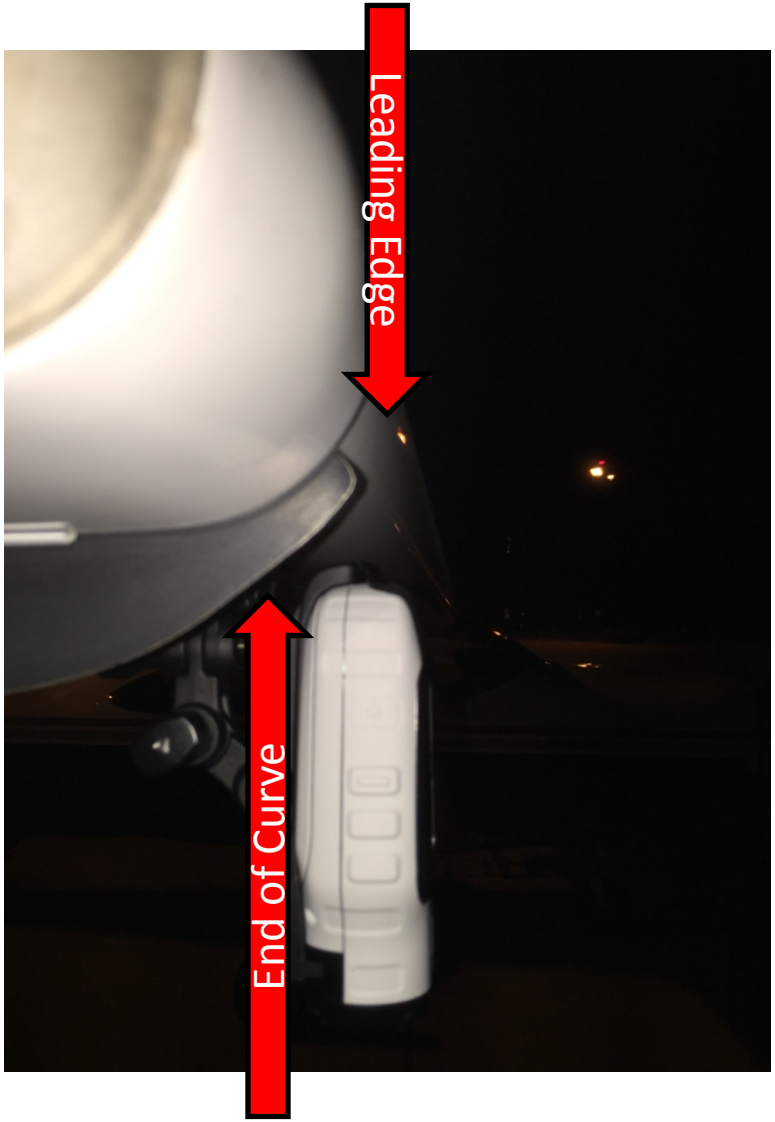


Garmin Virb Kit – Adhering to the wing



Garmin Virb Kit – Adhering to the wing



Garmin Virb Kit – Adhering to the wing

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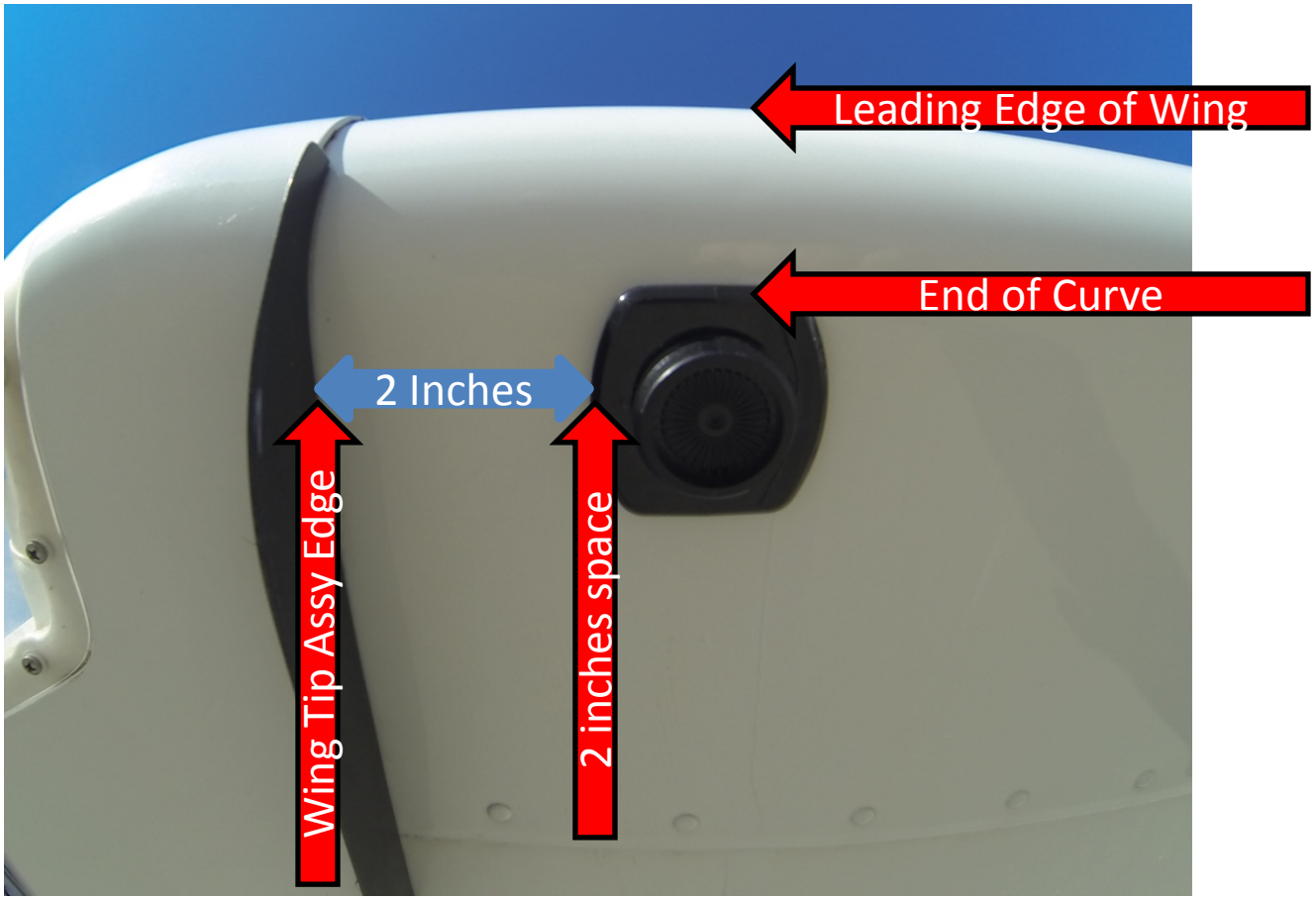


Garmin Virb Kit – Adhering to the wing

- **External Camera Mounts**
  - Clean area of all bugs, wax, oxidation etc.
  - Clean with soap and water, dry completely
  - Clean with alcohol, dry completely
  - Adhere pad, applying pressure to center of pad and around all sides.
  - Allow to cure overnight.

Garmin Virb Kit – Adhering to the wing

External Camera Mounts

- FAA Memo(s) on External Camera
  - Not considered Major Alteration
- Logbook entry similar to: “Installation of Garmin Virb mounting pad to right wing, 2 inches inboard from the right wing tip assembly. The mounting pad and when attached the Garmin Virb camera cause no change to flight characteristics of the aircraft. <Name of installer, date>”

Disaster Photography

- Project Definition
- Project Goals
- Customer Use of Imagery
- Equipment – Garmin Virb Kits
- **Application**
- State of Testing / Next Steps

Image Uploader App

- The FEMA ImageUploader is IEUploader082.zip (v0.82)
- It requires Adobe AIR to run, you may have to download the Adobe Air application at http://get.adobe.com/air/ (Mac and PC)
- After installing the App, go to the “Settings” tab and change the URL to https://apps.femadata.com/ImageEventsService/API.svc
- Your token is: <assigned to your wing by the NOC>
  - Make sure there are no spaces at the end of the token or URL when you add them.
- After adding the URL and Token, click “Save Settings” and close the App.
- Close and Re-open the application and you should see events listed in the “Event” drop down list.

Image Uploader App

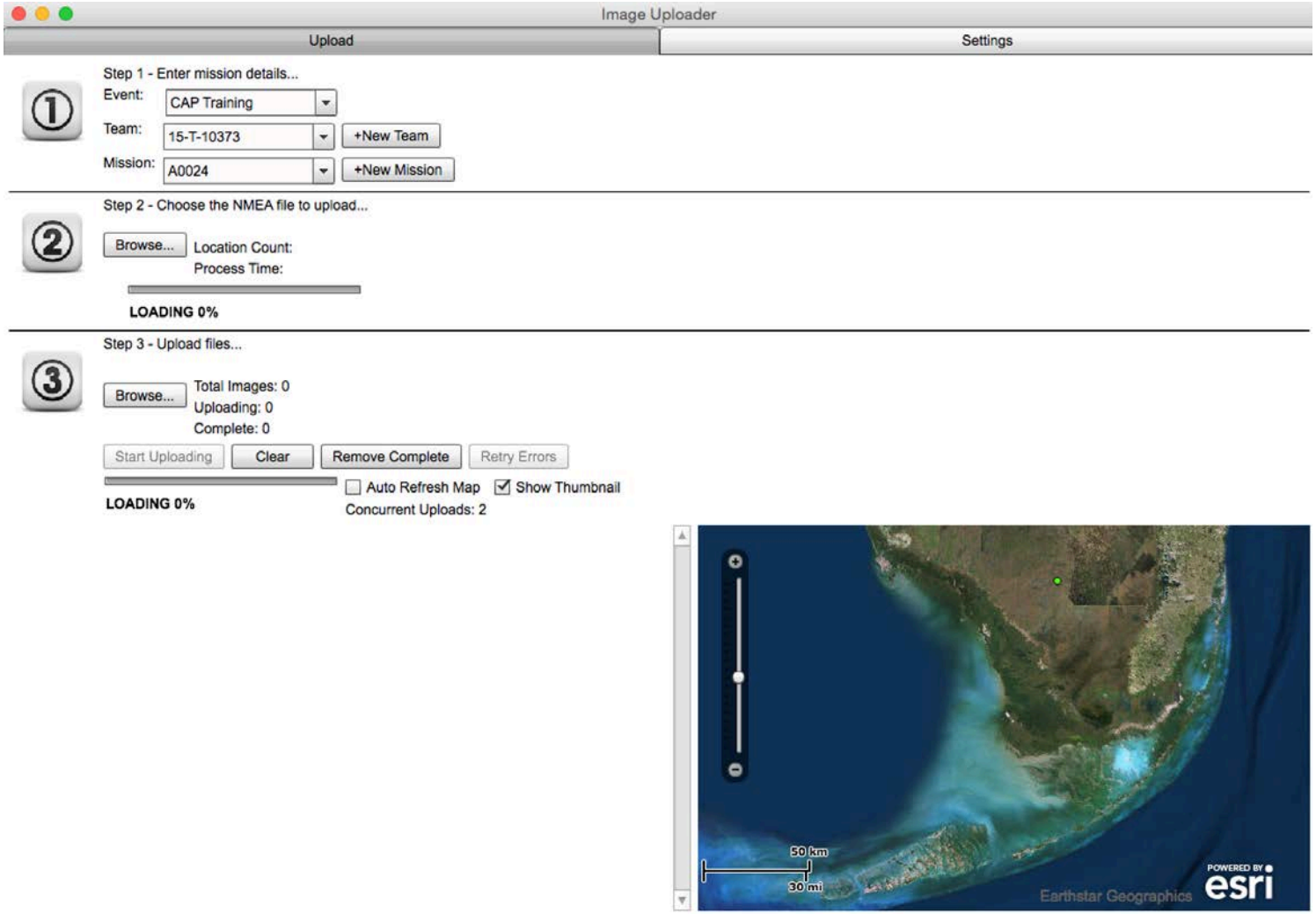
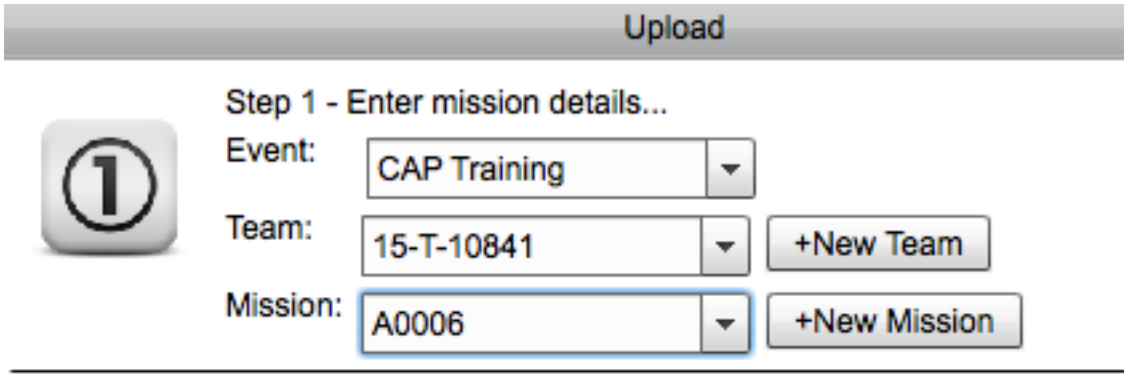


Image Uploader App



UPLOADING IMAGES

1) **Step 1** for using ImageUploader:
   a. For **Event**:
      i. For Training missions, use **Event** *CAP Training*. (Unless otherwise instructed.)
      ii. For Actual mission use the supplied **Event** from the NOC.
   b. For **Team**, use the *MISSION NUMBER*.
   c. For **Mission**, use your *SORTIE NUMBER*.

Image Uploader App

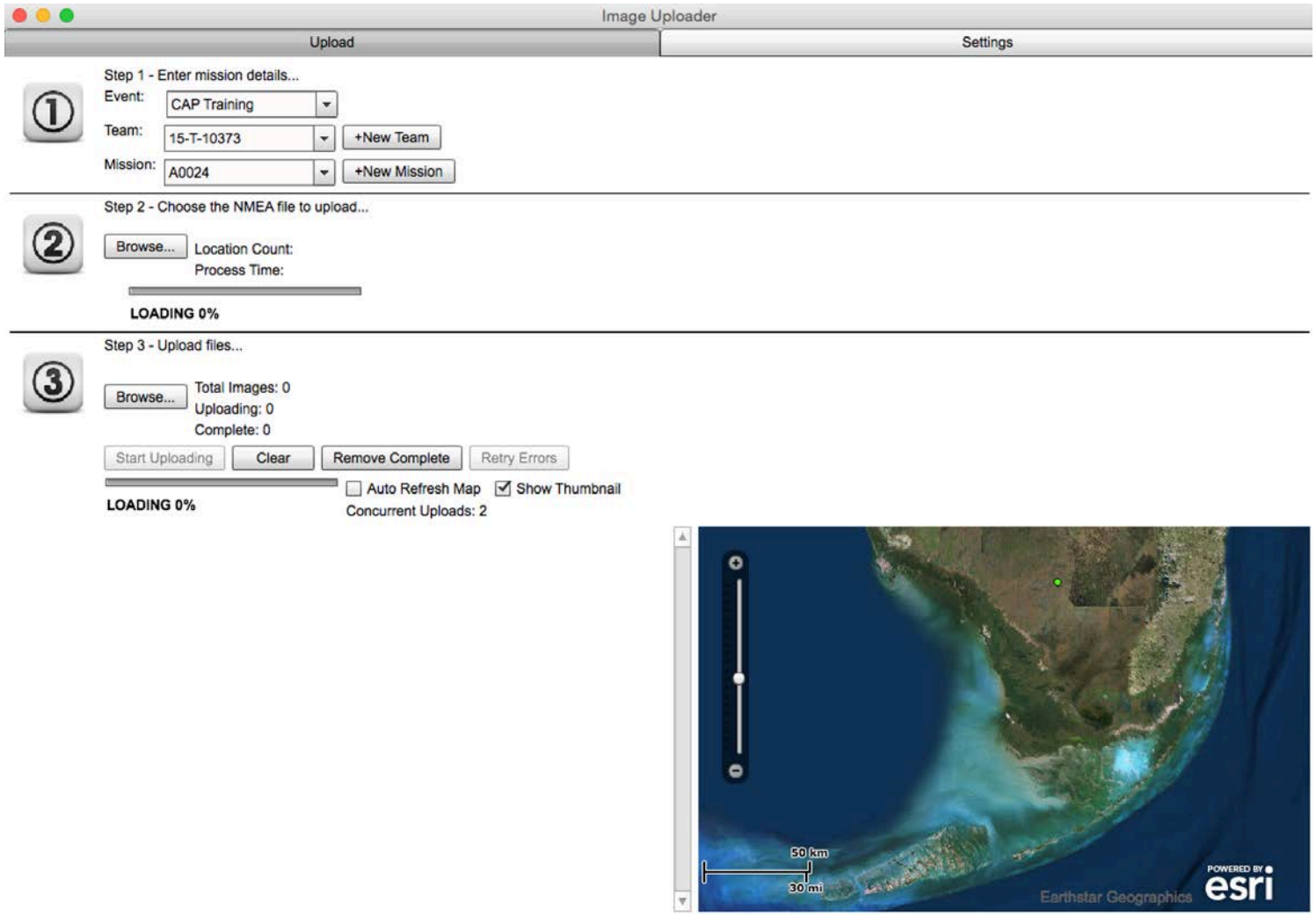
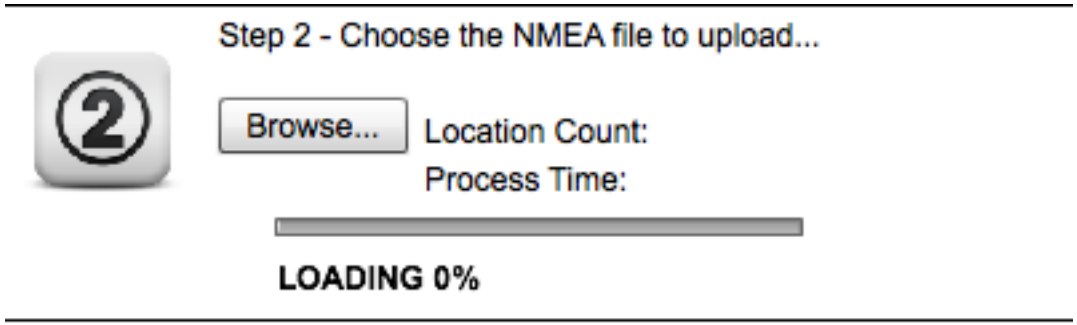


Image Uploader App

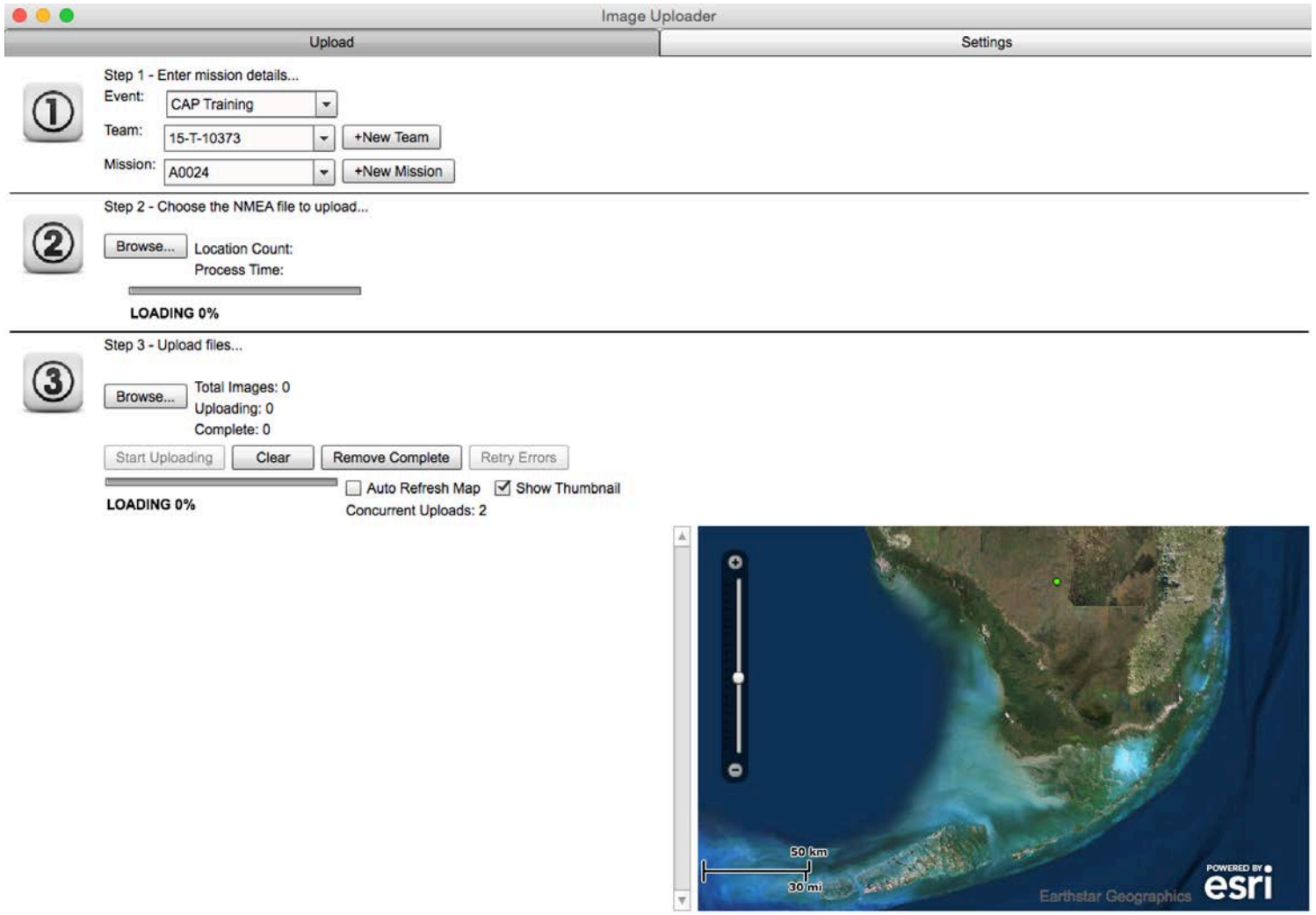


2) **Step 2: (Optional)**

Browse to the folder on your computer that contains your NEMA GPS files is used.

Select and upload.

Image Uploader App



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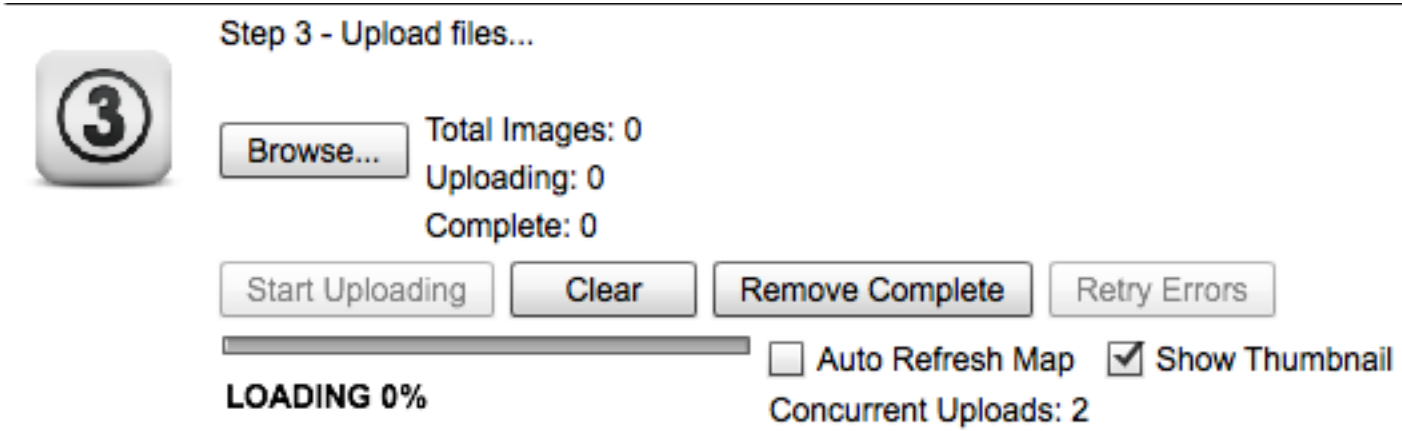
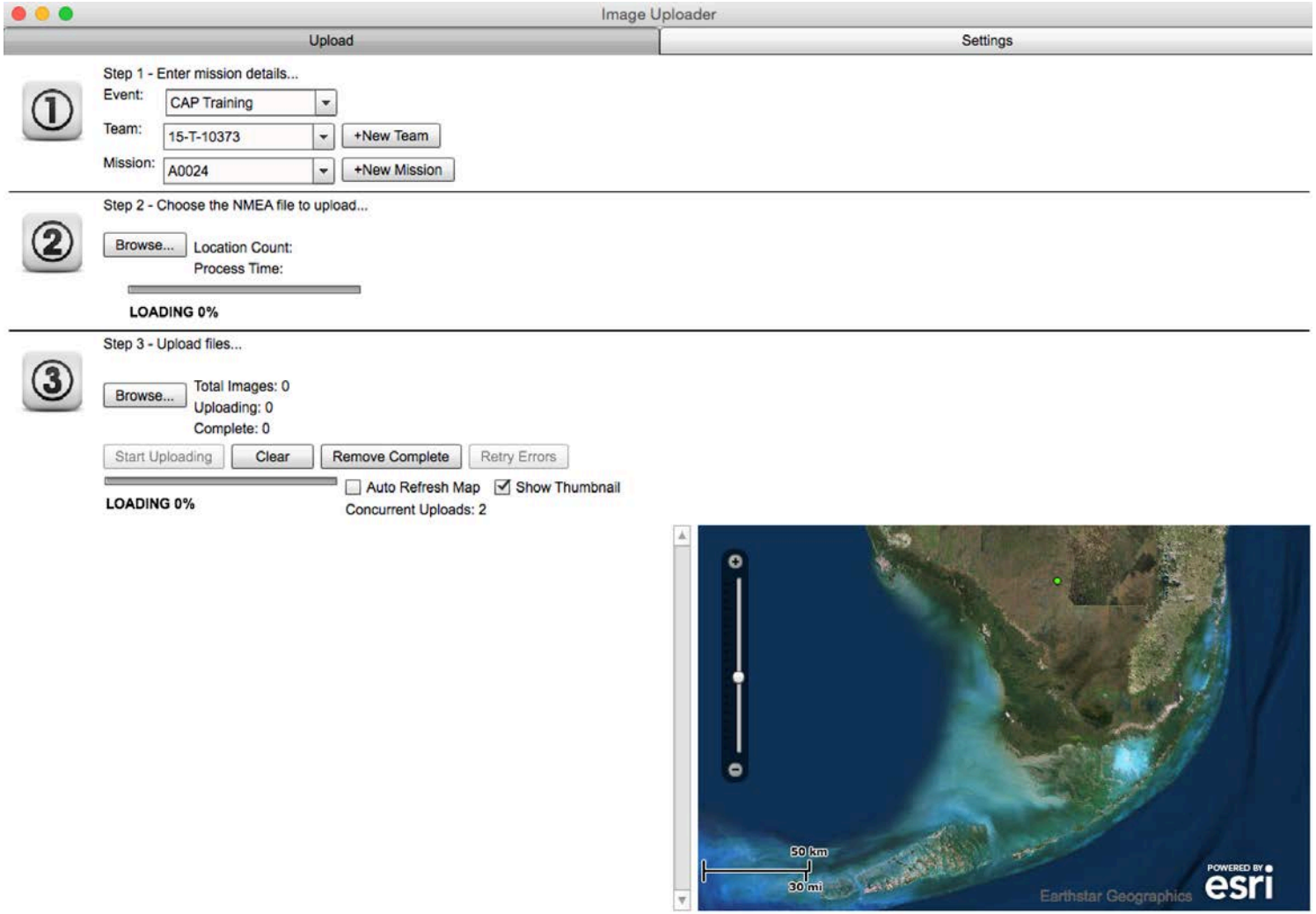


3) **Step 3:**
Browse to the folder on your computer that contains all of your photos.
Select and upload.

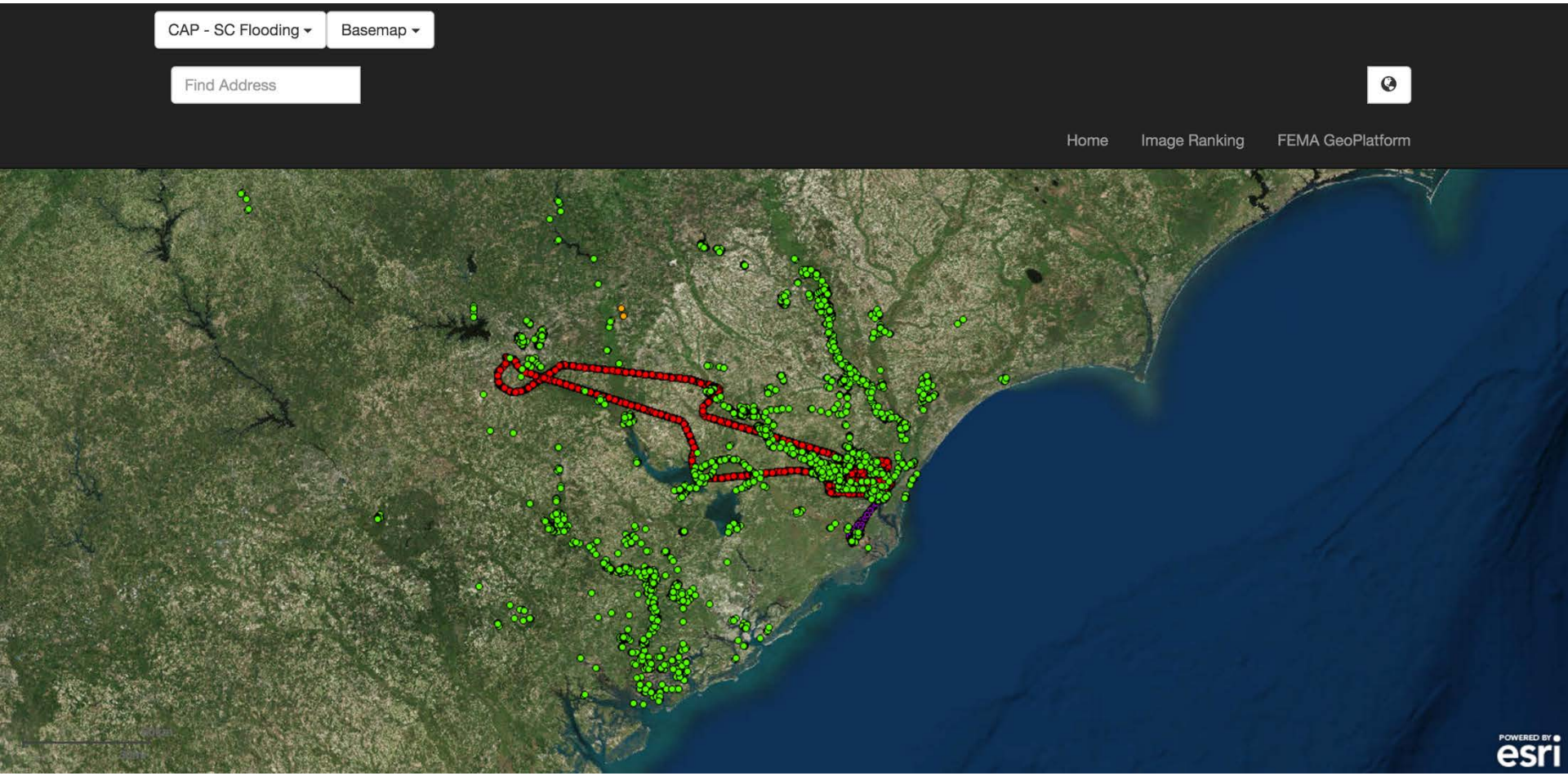
Image Uploader App



Online Access to Images

- Quick look Public Viewing Website for IMAGES
  - Public Site: http://apps.femadata.com/ImageEventsPublic
- FEMA GeoPlatform used to view the map and control layers, use this URL
  http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=990b93d2522441a48bf2aaf536518419

Online Access to Images



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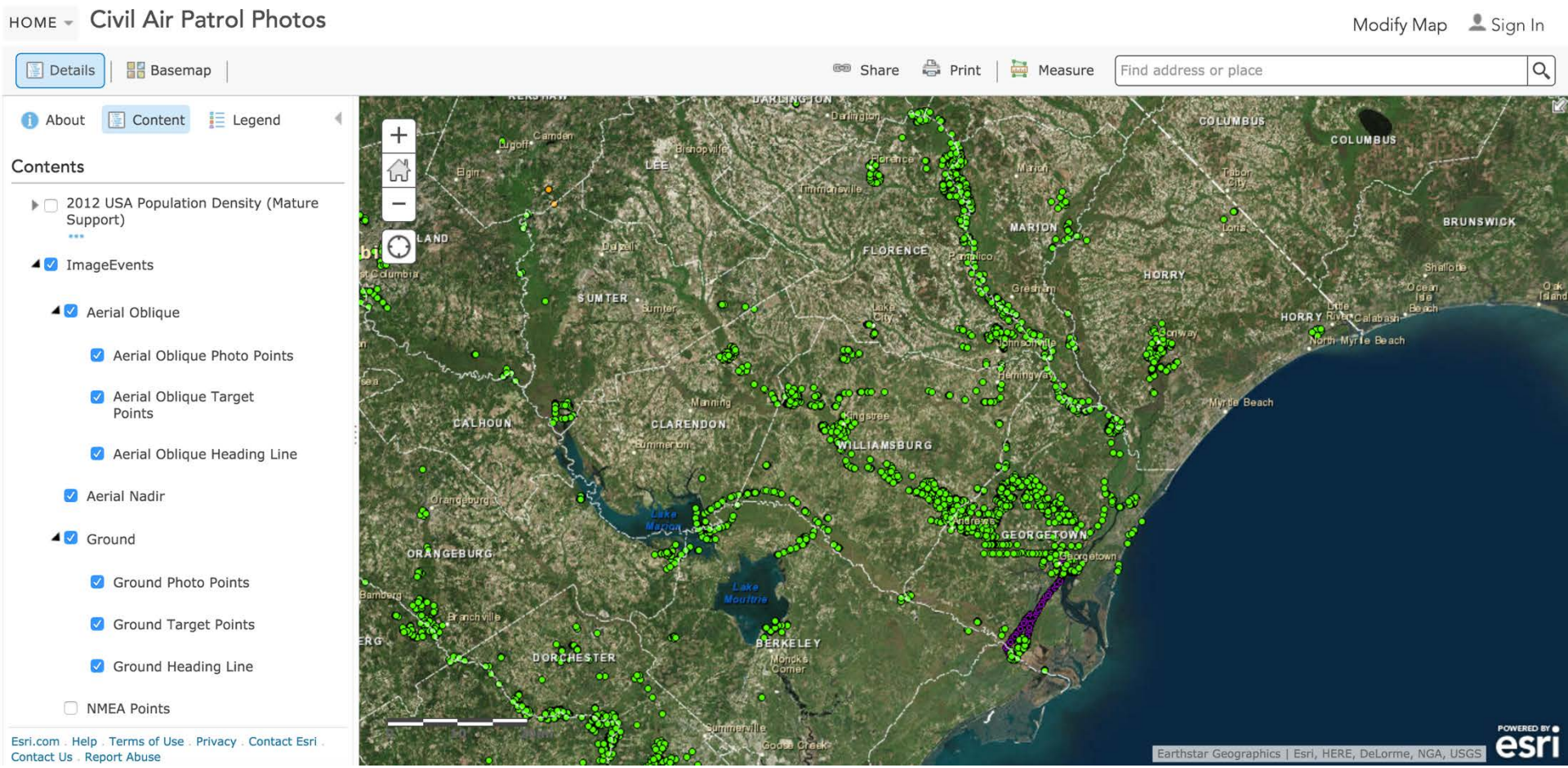

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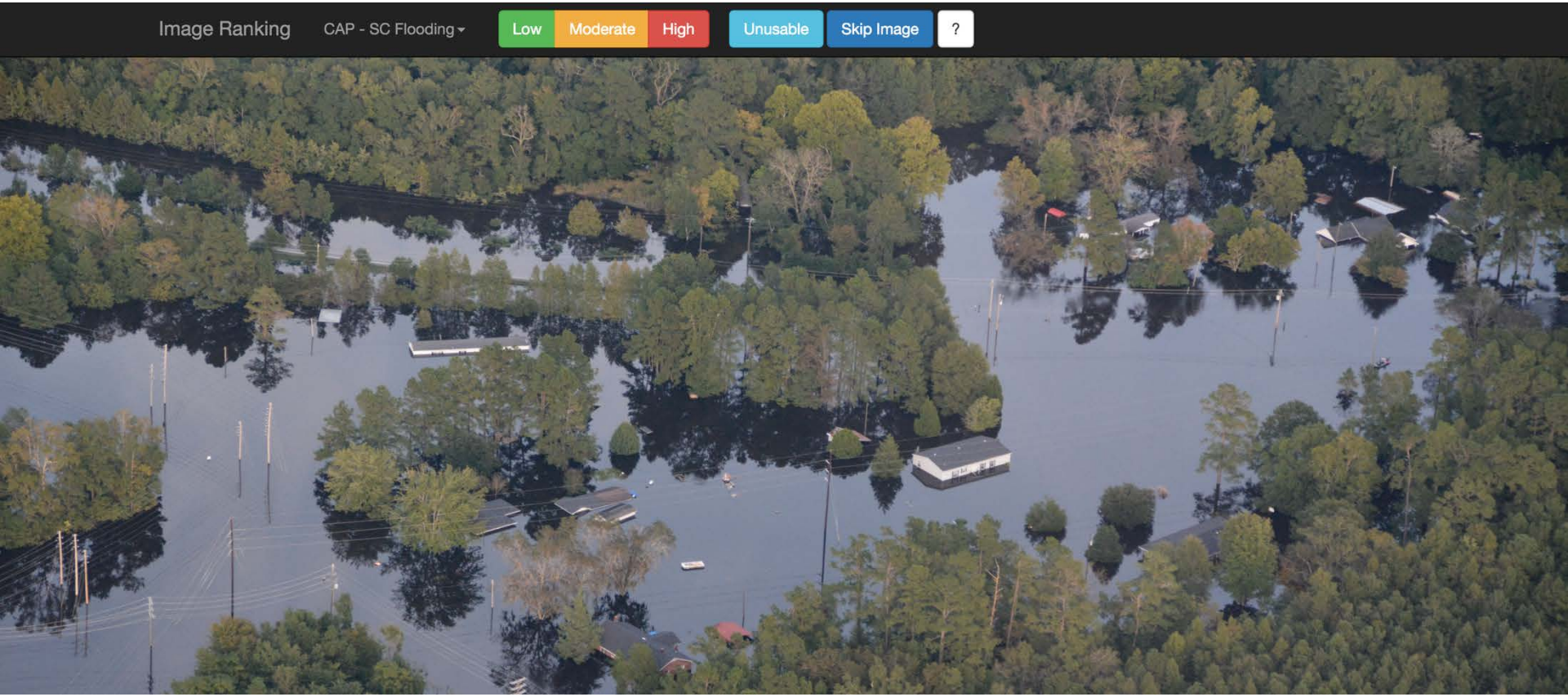


Disaster Photography

- Project Definition
- Project Goals
- Customer Use of Imagery
- Equipment Testing
- Website
- Application
- **State of Testing / Next Steps**

Thank You!

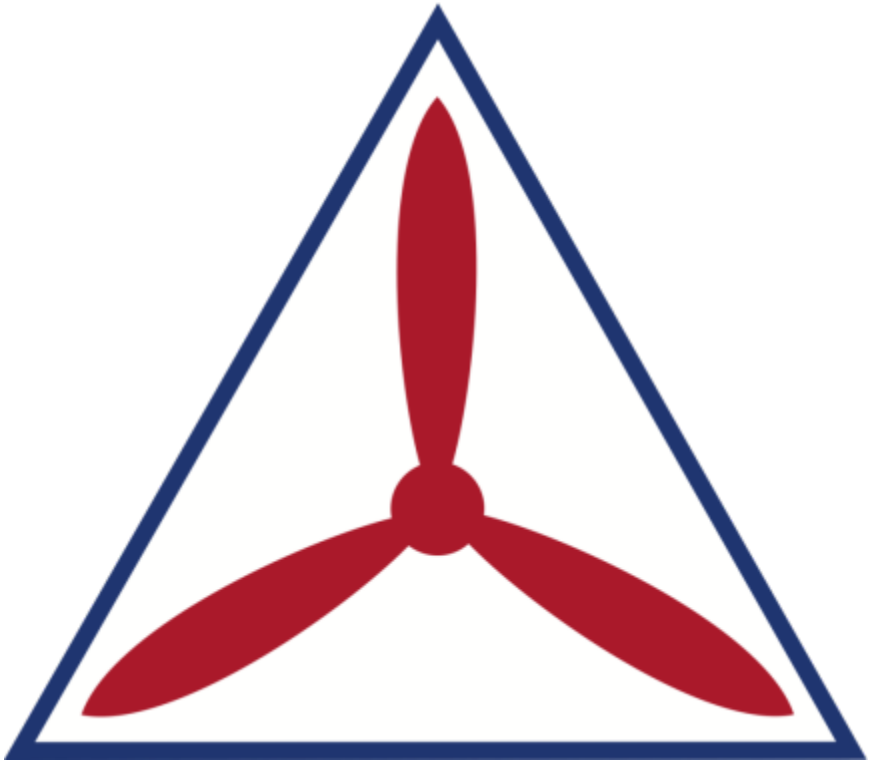
- CAWG Team Testing
- GLR (IN / OH / IL) Team Testing
- NESA Team Testing

- Coordinated with FEMA / NWS / NOAA / NGA Team members
- Ongoing testing with expanded teams and technical support specialists.

Questions? Feedback?

- Project Officer
  - Lt Col Eric Templeton
  - 630-261-5873 (mobile)
  - etempleton@nesa.cap.gov

Civil Air Patrol



…Citizens Serving Communities!