INTRODUCTION

INT. – COMMON AREA OF EXHIBIT HALL

Outside the main hall. In the background are the doors to the hall. Attendees are streaming in as attendants check their badges. HARPER looks at camera.

HARPER:

Welcome to Mobile World Congress 2014 in Barcelona. My name is Todd Harper, and I work for Magisto, a mobile app developer based in Israel.

BOTTOM OF SCREEN – 5 SECONDS

Todd Harper, Product Marketing Manager, Magisto

I’m the product marketing manager for the Magisto mobile app.

(beat)
This is our second time presenting the Magisto app at Mobile World Congress. Both years, we’ve appeared on the booth of our friends at Qualcomm, showcasing the work we’ve done with their Snapdragon SDK for Android. The Snapdragon SDK is a package of software libraries, sample code and documentation that can help enhance your app when running on Snapdragon-powered mobile devices. In a moment, we’ll go inside the exhibit hall

(points toward the doors)
to the Qualcomm booth for a demonstration of Magisto, our mobile video editing app for Android devices, with the new CamCrew technology we’ve implemented using the Snapdragon SDK. But first, a little background.

We launched Magisto at the International Consumer Electronics Show – CES – in 2012. One year later, we were at three million downloads. One year after that, we were up to more

than 19 million downloads. We're currently up to 21 million and growing.

BOTTOM OF SCREEN – 5 SECONDS

21+ Million Downloads of Magisto Video Editing App (Android, iOS)

How has a little video editing app caught on like that? What problem does it solve? Of course, I know the answers, but it's our CEO's favorite story, so I'll introduce Oren Boiman, CEO of Magisto, and let him tell it. Oren?

Camera moves to include both HARPER and BOIMAN in frame.

BOIMAN:

Thanks, Todd. I'll give you the short version.

BOTTOM OF SCREEN – 5 SECONDS

Oren Boiman, CEO, Magisto

Camera moves to exclude HARPER and include only BOIMAN in frame.

When my baby was born, my wife and I shot gigabytes of raw video and photos. It took us about two weeks to get a decent, three-minute movie from it, which I thought was ridiculous. It was the first time I had ever seen how difficult video editing is for the average user.

I was a Ph.D. student researching computer vision at the time and I realized I could apply my work in artificial intelligence to make mobile video editing easier for millions of people. That's when we formed Magisto.

HARPER:

And how does the Magisto app work?

BOIMAN:

The app uses artificial intelligence to solve the problem of editing video.

Here’s how it works: You shoot mobile video and still photos with your phone or tablet. You launch the Magisto app, select the bits you want to include in the movie, then add audio and a visual theme. Magisto pushes all of that to the server, where our artificial intelligence selects the best parts, splices them into an interesting movie and pushes it back to you in a couple of minutes.

HARPER:

So the app is wildly popular now, with millions of users. Why do you think that is?

BOIMAN:

It’s because Magisto makes it extremely easy for users to create an entertaining, well-produced movie from lots of raw, mobile video footage and photos. The app takes out all the work and replaces it with fun and creativity.

HARPER:

OK. Now explain how the app has evolved. Tie it into what we’re going to see in the demonstration.

BOIMAN:

Right. After we’d seen some of the movies our users posted, we realized that their results were only as good as the original material they used. So we made improvements to lighting and camera stability to help users capture better video and images in the first place.

But then we started thinking about smarter video capture. “What would it

take to shift user expectations?” we asked. We wanted Magisto users to expect an entertaining video that they could share right away, instead of expecting heaps of raw media they would have to edit first.

BOTTOM OF SCREEN – 5 SECONDS

“We want users to expect that the output will tell their story and be ready to share.”

That means: 1) letting users specify the heroes or stars of their video, and 2) making sure that they capture as much good footage as possible with those heroes. We figured that those two things would greatly improve quality and start shifting people’s expectations of mobile video.

HARPER:

But we had to go much deeper than the application level for that, right?

BOIMAN:

Yes. We needed low-level access to the hardware on mobile devices, and that’s what led us to Qualcomm’s Snapdragon™ processor. Snapdragon powers so many of the smartphones and tablets in our target market, and Qualcomm has strong relationships with so many device manufacturers that collaboration with them was a natural choice.

We met with them, found ways to work together and linked up our engineering teams to develop a new technology called CamCrew. CamCrew adds on-device processing to the analysis Magisto is already performing in the cloud.

HARPER:

Which tasks does CamCrew run on the device?

BOIMAN:

CamCrew takes advantage of two technologies in the Snapdragon processor and Snapdragon SDK.

BOTTOM OF SCREEN – 5 SECONDS

Facial Recognition for remembering specific people

The first is facial recognition, which allows the user to store the faces of specific people, or “heroes,” and scenes during the shoot for use later. Selecting them tells Magisto’s analysis engine that they are important and ensures that they will appear prominently in the edited movie. This feature uses the Snapdragon SDK’s Facial Recognition API.

BOTTOM OF SCREEN – 5 SECONDS

Facial Processing for automatically capturing photos

Second, we apply facial processing to identify when a person is smiling and looking at the camera. Once CamCrew knows that you want somebody to be a hero, it can automatically capture still shots of that person and include them in the movie. It uses the Facial Processing API in the Snapdragon SDK to wait until the hero is inside the frame and smiling, then takes the best possible photo automatically. When heroes are poorly framed – say, their head is cut off – then CamCrew technology tells the app to prompt you to move the camera and better frame them.

HARPER:

Of course, not all mobile devices can take advantage of CamCrew, right?

BOIMAN:

That’s correct. On Android and iOS devices, Magisto will run normally. CamCrew technology is enabled only on Snapdragon-powered devices.

Camera moves to include both HARPER and BOIMAN in frame.

HARPER:

OK. One last thing: Don’t forget to explain why we called it “CamCrew.”

BOIMAN:

Right. We named the new technology “CamCrew” because, when combined with the Magisto app, it puts an entire camera crew – director, photographer, editor, production team – at the user’s disposal.

HARPER:

Thanks, Oren.

BOIMAN:

Sure. Now go in and give a good demo.

(Boiman exits)

Camera moves to exclude BOIMAN and include only HARPER in frame.

HARPER:

Thanks, Oren.

So now that you have an idea of the technology behind Magisto and CamCrew, let’s go inside the exhibit hall and see a demonstration of the app.

HARPER turns from camera, begins walking toward doors to exhibit hall as camera follows. Fade out. Transition slide.

INT. – SNAPDRAGON SDK POD AT QUALCOMM BOOTH

Fade in. HARPER is standing next to a demo station at the Snapdragon pod, facing the camera. He has a smartphone in his hand.

HARPER:

So, as Oren explained, the CamCrew technology in Magisto uses facial processing and facial recognition from the Snapdragon SDK to do three things:

(extends index finger)
• let me select “heroes” while I’m shooting video, so that their footage appears in the final movie

(extends index and middle fingers)
• automatically shoot stills of my heroes to include in the movie

(extends index, middle and ring fingers)
• track my heroes’ faces and help me keep them in the video frame

Of course, CamCrew requires a Snapdragon-powered device, so I’ll demonstrate it on this LG G2, which has a Snapdragon 800-series processor.

HARPER turns and holds the device so that our camera points at the display. Standing in the background are three BOOTH WORKERS. HARPER points the device camera toward them.

Our camera remains focused on the G2’s display.

HARPER:

First, I’ll start Magisto,

(starts app in Launcher)
I’ll explore as guest,

(touches Explore as Guest)
and I’ll create a movie.

(touches Create)
If I want, I can have Magisto create a movie from the existing video and photos in my Android Gallery, but to demonstrate CamCrew, I’ll shoot footage

of three of my coworkers here at the booth at Mobile World Congress.

(touches camera icon, then touches red record icon)

BOTTOM OF SCREEN – 5 SECONDS

Facial Processing for automatically capturing photos

Notice how, as I record the video, CamCrew processes my coworkers' faces then puts each one in a circle with a heart. When I touch the circle, it tells Magisto that I want the person to be a hero and figure prominently in the final video.

(touches the circles of two co-workers)

That's facial processing at work in CamCrew.

Now I continue to shoot video and two of the subjects leave.

(gestures to two BOOTH WORKERS to move away)

BOTTOM OF SCREEN – 5 SECONDS

Facial Recognition for remembering specific people

One of my heroes is still in the frame. CamCrew uses facial recognition to remember that she is one of my heroes, and as I'm shooting, the app automatically snaps occasional stills of her and shows that it's storing them in my Gallery.

To ensure that it's a good photo, CamCrew also uses facial processing to scan for eyes and lips. It takes the picture only when the hero is looking at me and smiling.

(gestures to BOOTH WORKERS to come back together)

Now, my co-worker on the left, Marie, is a hero, and Magisto shows that it remembers this by displaying the heart-circle in the upper left.

Since she’s a hero, I don’t want to accidentally cut off part of her face in the frame. But if I do,

(swings device slowly toward the right until BOOTH WORKER’s face is partially out of frame)

CamCrew sees that a hero’s face is cut off. The app prompts me to turn the camera back and frame the shot better.

(continues shooting for about 60 seconds)

Once I have the raw footage I want, I can stop and make a movie.

(stops recording, touches Next, selects video and photos to include in movie, touches Next, selects Editing Theme, touches Next, selects Music, touches Make My Movie)

Our camera moves to include HARPER, who is facing camera.

HARPER:

When I touch Make My Movie, the app sends my raw footage, photos, theme and music over the network to Magisto’s server, where artificial intelligence splices together an entertaining, well-produced movie. Magisto then notifies me that my movie is ready to watch.

Fade out. Transition slide.

INT. – SNAPDRAGON SDK POD AT QUALCOMM BOOTH

Fade in. Our camera is focused on the display of HARPER’s device.

HARPER:

After just a moment, I can watch the movie.

(touches Play)
You can see that the final movie includes the heroes and shows them well framed and prominently. This is how CamCrew technology, based on the Snapdragon SDK, helps users improve the quality of the raw footage that goes into their personal movies.

Our camera moves to include HARPER in frame, with Snapdragon SDK pod in background.

That’s our demonstration of Magisto with CamCrew technology.

You can find out more about facial recognition, facial processing, touch-free gestures and other Snapdragon SDK functionality in the Qualcomm Developer Network. That’s developer.qualcomm.com, where we post video, documentation and the SDK itself for developers like you.

This is Todd Harper at the Qualcomm booth at Mobile World Congress. Thanks for watching.

Fade out. Ending slide.