

[15:15:42] \*\*\* Weekend Testing Europe added Amy Phillips, Emma Keaveny, Halliki, Kim Knup, Laura Mocanita, Marine \*\*\*

[15:15:49] Weekend Testing Europe: Good afternoon all! I'm currently inviting attendees, we'll be starting in about 15 minutes.

[15:16:50] \*\*\* Weekend Testing Europe added Trisha agarwal, Claire Banks, Irina, Christian Legget, Sandeep Garg, skg kamar \*\*\*

[15:26:12] Weekend Testing Europe: (wave)

[15:26:15] Weekend Testing Europe: How is everybody?

[15:26:26] Amy Phillips: Hey Neil! I am good

[15:26:43] Amy Phillips: Lovely sunny weekend over in Chelmsford

[15:27:06] Weekend Testing Europe: It's OK here - a bit overcast, not raining but nowhere near as nice as last weekend

[15:27:17] Weekend Testing Europe: It's a good afternoon for sitting indoors :)

[15:27:52] Halliki: Hi everyone. :)

[15:28:04] Amy Phillips: Hi!

[15:28:46] Sandeep Garg: Hi everyone..its a sunny morning in Atlanta

[15:29:05] Amy Phillips: Hi Sandeep

[15:29:09] Halliki: Nice sunny evening in Estonia too. :)

[15:29:23] Amy Phillips: Very nice! I love this time of year

[15:29:58] Weekend Testing Europe: Yes, same here, I'll be going for a 5km run after this session and the weather's perfect for that.

[15:30:28] Sandeep Garg: I am going to cook meal for lunch after this class :)

[15:30:40] Amy Phillips: Nice one! I ran this morning. It was lovely.

**[15:30:54] \*\*\* Weekend Testing Europe has renamed this conversation to "WTEU-68: INTRODUCTIONS" \*\*\***

[15:30:57] Amy Phillips: Sandeep, I'll be cooking after this too. Nice to sit down for a bit first

[15:31:13] Weekend Testing Europe: Well, it's that time again! Welcome to the May 2016 WTEU session - I'm your facilitator, Neil Studd

[15:31:24] Weekend Testing Europe: It feels as if we're very early this month - it's not often that the 3rd Sunday of the month falls on the 15th!

[15:31:34] Sandeep Garg: Hi Neil..

[15:31:59] \*\*\* Weekend Testing Europe added Purendra Agrawal \*\*\*

[15:32:37] Weekend Testing Europe: This is a session which we originally planned to run last November, but I fell ill so it didn't happen. Hopefully you'll find it was worth the wait!

[15:32:40] Amy Phillips: Hi, I'm Amy Phillips, I currently work as Head of Delivery at Songkick, in London. I blog at <https://testingthemind.wordpress.com/> and can sometime be found on twitter as @itjustbroke

[15:32:54] Weekend Testing Europe: Let's hear some introductions from the rest of you :) Who are you, and what do you test?

[15:33:18] Weekend Testing Europe: I'm Neil Studd, I've been a tester in the UK since 2004, currently working as an SDET for the price comparison website Compare The Market. You can often find me rambling on Twitter: @neilstudd

[15:33:59] Purendra Agrawal: Hi, myself Purendra Agrawal from Chandigarh(India) and having experienced of 1.6 years in testing. Currently working with Morgan Stanley client.

[15:34:27] Weekend Testing Europe: Welcome Purendra, it's always great to meet a new face :)

[15:35:15] Purendra Agrawal: Thanks Neil

[15:35:42] Sandeep Garg: I am Sandeep Garg, Test Lead with Fidelity. In testing for last 8+ years. New to Web/Mobile world. Primarily worked on Enterprise financial solutions in contractual dev environments

[15:36:11] Sandeep Garg: Web's vastness and technology stack is very different from enterprise solutions and that excite me

[15:36:18] Halliki: Hi, I'm Halliki. Recently I've been a tester for 3 years now and love all the problems I get to solve and questions I get to ask. I started to work on a CRM like system recently.

[15:36:48] Amy Phillips: CRMs are fun systems to test

[15:36:53] Amy Phillips: Lots of bug potential :)

[15:37:24] \*\*\* Weekend Testing Europe added cfomob \*\*\*  
[15:37:56] Weekend Testing Europe: Any more for introductions? :)  
[15:38:02 | Edited 15:38:18] Halliki: Amy, if you have any pointers I'd be thankful. It's new to me. :)  
[15:38:34 | Edited 15:38:41] Amy Phillips: (y) will put some together for you  
[15:38:35] cfomob: Im Olwen , just interested in testing of all kinds / approaches  
[15:38:51] Amy Phillips: Hi Olwen  
[15:38:54] Halliki: Thanks a lot :)  
[15:38:58] Emma Keaveny: hey hey hey Emma here  
[15:39:04] Weekend Testing Europe: Hey Olwen - always nice to see another newcomer that I know in the 'real world' :)  
[15:39:06] Emma Keaveny: sorry I am wee bit late  
[15:39:10] Amy Phillips: Thought you were sleeping Emma  
[15:39:15] Emma Keaveny: lol  
[15:39:20] Weekend Testing Europe: We'd expect nothing less Emma! I'm sure you've got an amusing story to go with it  
[15:39:25] Emma Keaveny: never Amy...was watching BGT  
[15:39:25] cfomob: "Real" is debatable ;-):D  
[15:39:27] Emma Keaveny: lol  
[15:39:29] Sandeep Garg: and Amy, for me as well...especially for Web the way it is now and in time ahead  
[15:39:40] Emma Keaveny: Aww Neil its always an amazing story with me  
[15:39:41] Emma Keaveny: lmfao  
[15:39:50] Emma Keaveny: or wait an amusing story  
[15:39:50] Emma Keaveny: lol  
[15:40:00] Weekend Testing Europe: BGT, lol :D For all the non-UK people, it's a terrible reality TV show!  
[15:40:11] Emma Keaveny: NOOOOO1  
[15:40:16] Amy Phillips: Sandeep, you might find some web things on my blog. Will see if I can put together a more coherent "intro to web" guide  
[15:40:22] Emma Keaveny: could have been worse, could have been watching the Eurovision!  
[15:40:23] Emma Keaveny: lol  
[15:40:33] Sandeep Garg: you know Amy, that would be fantastic  
[15:40:38] Halliki: haha  
[15:40:40] Amy Phillips: What is BGT?  
[15:40:45] Weekend Testing Europe: Britain's Got Talent  
[15:40:49] Emma Keaveny: Britains Got Talen  
[15:40:50] Emma Keaveny: lol  
[15:40:50] cfomob: Why not EUROVISION Emma?  
[15:40:50] Amy Phillips: Oh...  
[15:40:53] Emma Keaveny: god Amy!  
[15:40:54] Emma Keaveny: lol  
[15:40:56] Amy Phillips: I'm out of touch  
[15:41:01] Weekend Testing Europe: Britain's Got Tryhards, more like  
[15:41:01] Emma Keaveny: Ireland wasn't in it! sigh  
[15:41:16] Sandeep Garg: On web there is so much info scattered, but a coherent as you said, for newcomers in Web, would be a graet idea  
[15:41:19] Halliki: Estonia did really "well" this year. :D  
[15:41:20] Weekend Testing Europe: OK - we have a session to do, let's crack on with it :)  
[15:41:28] Emma Keaveny: lol  
[15:41:29] Weekend Testing Europe: I'll reserve some time for Eurovision discussion at the end :D  
[15:41:32] Emma Keaveny: hehehehe  
  
**[15:41:37] \*\*\* Weekend Testing Europe has renamed this conversation to "WTEU-68: DISCUSSION" \*\*\***  
[15:41:38] Emma Keaveny: Right.....TESTING TIME!!!  
[15:41:39] Emma Keaveny: :D  
[15:41:40] Amy Phillips: haha sounds like we need a 'TV chat' session :D

[15:41:44] Emma Keaveny: hells yea

[15:41:52] Weekend Testing Europe: Today we're going to be talking about the size of our webpages, and what impact this can have on our users, particularly those with slow or mobile internet connections.

[15:42:09] Weekend Testing Europe: This is a topic which is very close to my heart, because I recently moved to a rural area with a terrible internet connection. This session might be quite stressful for it!

[15:42:30] Weekend Testing Europe: The technical term for the size of a webpage is "page weight" (because the 'heavier' a page is, the longer it will take to load).

[15:42:34] Amy Phillips: lol we'll type slowly

[15:42:42] Emma Keaveny: L

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[15:42:49] Weekend Testing Europe: We're going to talk a bit about this, examine some techniques for measuring page weight, and think a bit about how we can slim-down our pages

[15:42:50] Purendra Agrawal: My hometown also have the same problem for slow internet connection.

[15:43:09] Emma Keaveny: also I have Talk Talk...shite connection

[15:43:29] Weekend Testing Europe: This was a recent news article which shows exactly the scale of the problem: The average webpage is now >2MB in size, which is larger than the original Doom game!  
<https://mobiforge.com/research-analysis/the-web-is-doom>

[15:43:36] cfomob: Important too for inclusion as not everyone has good devices, lots of older people use tablets, which are slower than many smart phones

[15:44:33] Weekend Testing Europe: As Purendra said, there are many groups of users who have poor speeds, and with the increased use of mobile for web browsing, that group is getting even bigger. (Even in the UK, you're often lucky to even get a 3G connection)

[15:44:35] Emma Keaveny: and don't forget old systems

[15:44:59] Emma Keaveny: will this be mostly directed at mobiles, or desktops?

[15:45:28] Weekend Testing Europe: We'll do a bit of both, Emma. We'll begin on desktop, though I'll show you some ways of measuring for mobile too

[15:45:36] Emma Keaveny: ah nice

[15:45:45] Weekend Testing Europe: Things weren't always this way. Back when the internet was in its infancy, and the average user had a 56kb modem, web developers were very concerned with page size and load times. Every byte mattered!

[15:46:14] Weekend Testing Europe: But now, when we develop our applications, we're sitting in offices with lightning-quick internet connections, and it's easy to forget about webpage bloat until real users start reporting problems.

[15:46:47] Weekend Testing Europe: To understand how we might be able to recognise and reduce the problem, we first need to understand the cause. Let's brainstorm this: Why do you think that the size of webpages is growing?

[15:46:58] Weekend Testing Europe: What are the contributing factors, or the biggest culprits?

[15:47:07] Sandeep Garg: One question ---- Why it is easy to forget?

[15:47:10] cfomob: Content is poorly managed

[15:47:13] Emma Keaveny: videos...bigger pic sizes

[15:47:21] Emma Keaveny: automatic loading of vids

[15:47:26] Sandeep Garg: Isn't it a part of development strategy to take care of such things?

[15:47:33] Amy Phillips: Sandeep, I think a lot of tester's just don't think to consider it

[15:47:36] Weekend Testing Europe: Sandeep, if we are developing/testing our sites in an office with a fast internet connection, we might not notice when testing that a page is very large. Because it loads very quickly for us.

[15:47:50] cfomob: Marketing feeds etc.. often tech owners/ builders do not know size of items being added by 3rd parties

[15:47:59] Amy Phillips: Or the decision to keep adding things is made by someone who doesn't know or care about page weight

[15:48:09 | Edited 15:48:13] Weekend Testing Europe: Imagine you have a webpage which is 10MB - if you are on a 10MB/sec connection, it will load in 1 second. But for somebody on a <1MB connection, it will take 10 seconds which is a very frustrating experience

[15:48:17] Emma Keaveny: no real numbers of how many people will visit the site

[15:49:20] Weekend Testing Europe: Olwen - yes, third-party references can be a real killer. For example, advertising plugins, social media integrations, externally-hosted fonts/libraries. Worse, when you're relying on third-party components, you're potentially putting your uptime in the hands of somebody else. Remember when this happened? <http://www.techeye.net/security/facebook-breaks-the-internet>

[15:49:36] Weekend Testing Europe: There was a Facebook bug which meant every website with a facebook 'share' button was temporarily knocked offline

[15:49:44] Weekend Testing Europe: Their problem becomes your problem!

[15:49:44] Emma Keaveny: ouch

[15:49:54] Christian Legget: afternoon Neil / All. I think the causes are laziness, time pressures and a focus on functional delivery, and less focus on non functional testing

[15:50:05] cfomob: Also when people drop off sites, they are no longer showing in measurements / monitoring so this disguises the enormity of slow load problems

[15:50:24] Emma Keaveny: or maybe they wait for public feedback to make improvements?

[15:50:31] Weekend Testing Europe: Emma - great point about number of users/visitors. We won't be touching upon load/performance testing today (though we should do this in a future month), but it's quite possible for a site to be developed which performs admirably with low traffic, but terribly with 'real' traffic

[15:50:32] Sandeep Garg: hmm...

[15:50:45] Amy Phillips: Interestingly Google considers page weight when ranking search results

[15:50:45] Emma Keaveny: :D

[15:50:52] Amy Phillips: Large pages can become very damaging

[15:51:09] Purendra Agrawal: Increasing the size of data on server side

[15:51:27] Weekend Testing Europe: Yes Amy, Google are also currently A/B testing a feature where they may explicitly label sites as 'slow' in search results: <http://searchengineland.com/google-testing-red-slow-label-search-results-slower-sites-215483>

[15:51:34] Christian Legget: what is the definition of page weight Amy ? never heard the term before..? is it like submitting assignments at college ..the heavier the paper document, the higher the mark?!

[15:51:37] Emma Keaveny: that's cool

[15:51:45] Purendra Agrawal: size of ViewState of elements used on pages

[15:52:13] Weekend Testing Europe: Christian (hi it's Neil here!) - Here's a good intro to page weight. (It's basically a posh term for size!) <http://mobiforge.com/design-development/measuring-page-weight>

[15:52:16] Purendra Agrawal: many websites store data on client side...

[15:52:58] Christian Legget: thanks Neil.

[15:52:59] Weekend Testing Europe: Images/videos tend to be the biggest offenders in terms of resource size. That's been a problem since the birth of the web - trying to balance image quality versus the size of the image. Optimisation of images is a bit of a dark art

[15:53:00] Halliki: I recently tested a webpage that reloaded a lot of stuff on one page after every click

[15:53:26] Halliki: so it got really slow

[15:53:36] Emma Keaveny: I think the pressure is to have a fancy page to attract visits..otherwise people jus go somewhere else

[15:53:40] Weekend Testing Europe: But in the modern era, now that we have Apple's retina displays and large HD monitors, we're in an age where people want the best, shiniest images possible. You might have heard of the term 'hero image' to describe the large, high-quality, full-width image on a company's homepage.

[15:54:21] Weekend Testing Europe: Yes, the homepage hero image is supposed to be eye-catching, but more often than not it's bandwidth-destroying for a lot of users! If you're not familiar with the term "hero image", you've probably seen many of them before - here's a webpage which shows some examples of what they look like. <http://line25.com/articles/30-web-designs-that-fully-embrace-the-hero-image>

[15:54:50] Weekend Testing Europe: Sometimes the hero image is actually a video! Here's an example of a company which use a video as the backdrop to their homepage; this webpage is 5.6MB, which on my terrible home internet connection, takes over a minute to load!

<https://www.designhotels.com/original-experiences>

[15:55:36] Halliki: that is annoying

[15:55:58] Weekend Testing Europe: Often the way to balance this is by having a so-called "responsive" site design, where your site has a different look depending on whether users are accessing the site via desktop, tablet or mobile. So you can present your high-graphics version to desktop users, and a quicker-loading experience on mobile.

[15:56:20] Purendra Agrawal: If someone is trying to open the webpage with a poor connection then he get frustrated with 5.6 mb video

[15:56:42] Purendra Agrawal: i.e. Bootstrap ..

[15:56:50] Emma Keaveny: Christ that website is so slow and I am on wifi!

[15:56:51] cfomob: Presumably there are very few sites able to push different pages based on the connection speed of client?

[15:57:14] Weekend Testing Europe: A decent caching strategy can also help, so that you're only frustrating your users once. But it would be better if they weren't frustrated at all...

[15:58:00] Weekend Testing Europe: Olwen: That's an interesting suggestion. I'm not aware of any site that does that. There are sites like Gmail which will detect how long loading is taking, and (if it's taking too long) opens a dialog asking if you'd rather have the lightweight version instead

[15:58:28] Weekend Testing Europe: I'm not sure how you'd detect connection speed; maybe timing how long a particular resource takes to load? I'm going to look into that later as you've got me curious.

[15:58:34] cfomob: Yes "Inbox" I think does something clever with this

[15:59:34] Halliki: i guess selenium tests would be a bit more stable too, if the pages don't load for a long time

[15:59:35] Weekend Testing Europe: Thankfully, things like Flash and Silverlight seem to be on the way out. There's a bigger drive now to create 'native' web applications, where there's a smaller chance of framework bloat

[16:00:03] Emma Keaveny: we currently use flash in our software and god its a nightmare, hoping HTML 5 will eliminate the use of it

[16:00:11] Weekend Testing Europe: Halliki: Yes, when you're trying to code intelligent waits into your automation just to keep your tests working, it's important to remember that your real users might not be so patient when they experience those waits for real!

[16:00:28] Amy Phillips: Emma, wow, do they know the security risks of Flash?

[16:01:08] Emma Keaveny: yes they are...flash is used on certain aspects of the software...but still a fecking nightmare

[16:01:09] Halliki: this makes me wonder what would be a reasonable page size?

[16:01:24] Emma Keaveny: to be fair tho we have done some security test, but not as much as I would like

[16:01:42] Emma Keaveny: \*testing

[16:01:51] Amy Phillips: :(

[16:01:51] cfomob: Haliki: very good point as I have laboured with Dev over their term "Flaky tests" which fail when site takes longer - why should the site be taking longer, think about that rather than diss tests

[16:02:14 | Edited 16:02:20] Sandeep Garg: along with reasonability of web page, there will be other factors as well I believe

[16:02:21] Halliki: but it is still annoying when the tests fail for the wrong reason.

[16:02:31] Weekend Testing Europe: Halliki: There's no hard-and-fast rule for this, but the general golden rule for the web is that pages should load in under 4 seconds if you don't want your users to become impatient. So, however much content can reasonably be loaded in 4 seconds, I suppose :)

<http://www.hobo-web.co.uk/your-website-design-should-load-in-4-seconds/>

[16:03:01] Weekend Testing Europe: Of course, as the average internet speed increases, the amount of content which can be loaded in under 4 seconds is also increasing. So this is partially the reason for the increased size of webpages.

[16:03:15] Halliki: Probaby I'm always on a better connection than most people, when testing.

[16:03:19] Weekend Testing Europe: In general, we want to do whatever possible to ensure that we don't have "bloat" - i.e. loading resources that aren't needed or aren't optimised

[16:04:15] Weekend Testing Europe: Does anyone know of any good ways to simulate slower connection speeds when testing?

[16:05:07] Amy Phillips: For mobile, I go and test at a train station. The number of 3G connections pretty much guarantees a bad connection speed

[16:05:14] Halliki: that hobo article seems to have a lot of good information

[16:05:48] Weekend Testing Europe: Amy: Yes, when I was working in London, "testing on the train" used to be a real and valid strategy!

[16:05:54] Emma Keaveny: could try a café, ie Starbucks..I am sure the speeds aren't great there

[16:05:57] Purendra Agrawal: I have a funny answer.... Google chrome having a feature of decrease the size of webpage on slow connection

[16:06:04] \*\*\* Weekend Testing Europe removed Trisha agarwal from this conversation. \*\*\*

[16:06:10] \*\*\* Weekend Testing Europe added Trisha agarwal \*\*\*

[16:06:13] Emma Keaveny: are there apps that can simulate slow connections?

[16:06:15] Weekend Testing Europe: ping for trisha

[16:06:16] Amy Phillips: Chrome also has a speed limiter built in

[16:06:21] Trisha agarwal: yes

[16:06:28] Trisha agarwal: Thank you!

[16:06:28] Amy Phillips: Hi Trisha

[16:06:33] Trisha agarwal: Hi Ammy

[16:06:36] Purendra Agrawal: Hi Trisha

[16:06:36] Trisha agarwal: Thank you

[16:06:44] Trisha agarwal: Hi Purendra

[16:06:52] Weekend Testing Europe: Yes Amy, the throttling tool in Chrome is really useful, but surprisingly few people know about it

[16:06:55] Trisha agarwal: thank you

[16:07:08] cfomob: wireshark, fiddler? Can disrupt traffic with configurable rules

[16:07:09] Trisha agarwal: okay ,

[16:07:23] Weekend Testing Europe: Here's what it looks like. If you open Developer Tools in Chrome, and click the mobile/tablet icon, it switches to device emulation mode. You will see a "Throttling" dropdown which contains a list of typical internet speeds: <http://imgur.com/8vPTHEz>

[16:07:27] Halliki: I think it gives you better data, if you could set the speed yourself rather than just test on the bus.

[16:07:50] Amy Phillips: Halliki, you're right. I'm a lazy person :D

[16:07:54] Trisha agarwal: Data Server mode in chrome help fast to load the page

[16:08:05] Sandeep Garg: [16:07] Halliki:

<<< if you could set the speed yourself rather than just test on the bus.

[16:08:16] Sandeep Garg: what do you mean by bus?

[16:08:18] Weekend Testing Europe: Olwen: Yes, specialised tools such as those are also very useful, particularly if you want to throttle your entire machine's connection. The Chrome method is particularly useful for a quick emulation though

[16:09:07] Halliki: Sandeep, if you test on a bus or train or train station where it is guaranteed to have bad connection.

[16:09:17] Weekend Testing Europe: We're going to do some exploration in a few minutes, to find some large webpages. After you've found these large webpages, it might be interesting for you to try using Chrome's connection throttling tool, to see just how bad the experience is for slow users.

[16:09:22] cfomob: Yes ive only used wireshark with interested dedicated help as often teams deprioritise such testing

[16:09:38] Sandeep Garg: hmm....okay

[16:09:41] Weekend Testing Europe: Halliki/Sandeep: Yes, the throttling mode in Chrome is a good way to reliably simulate that connection in the bus station, without having to buy a bus ticket :)

[16:09:43] Trisha agarwal: +1

[16:10:24] Weekend Testing Europe: We've discussed a lot of different causes of page bloat in a short space of time. It's worth reading the linked webpages in your own time, but I want to move onto something more exciting and interactive for now!

[16:10:28] Sandeep Garg: But Bus/train provide you a real environment, based on your app's / mobile web's targeted users

[16:10:35] Sandeep Garg: in my opinion

[16:10:58] Sandeep Garg: also they may help you in testing app in network switching modes

[16:11:43] Weekend Testing Europe: Sandeep, I agree that there's no real substitute for actually experiencing in the wild, on a real device, and some degree of that is always necessary. But for those of us who are currently not doing any kind of page size analysis, what we're looking at today is a definite improvement.

**[16:11:57] \*\*\* Weekend Testing Europe has renamed this conversation to "WTEU-68: TODAY'S MISSION" \*\*\***

[16:12:26 | Edited 16:12:38] Trisha agarwal: even in shopping malls we get no network or network drop

[16:12:32] Sandeep Garg: agree

[16:12:54] Weekend Testing Europe: Here's today's exercise, which we'll start in a few minutes: I'd like you to go hunting around the homepages of your favourite sites, or popular/famous websites, and measure how big their homepages are. What are the biggest homepages you can find? Which resources on the page are the largest?

[16:12:55] Purendra Agrawal: Many of the developers who are freelancing, I think they never do page size analysis

[16:13:10] Halliki: Sandeep, true, but I think it also could be the case that the connection just goes really really bad, so that it might not be reasonable to go to the developer and say that the page was slow on the bus. It would be more informative to go to the developer saying that the page is really slow with some speed that you know what the speed was and say that this is the usual speed for example 3G connections.

[16:13:32] Weekend Testing Europe: Does anybody know a good/lightweight tool for measuring the size of a webpage, and the size of the resources on the webpage? (Clue: we have touched upon it already!)

[16:13:46] Amy Phillips: Chrome developer tools..?

[16:13:48] Trisha agarwal: chrome .

[16:13:52] Trisha agarwal: +1

[16:14:15] Weekend Testing Europe: Amy/Trisha: Yep, that's what we're going to use today :) But again, if you want to get really in-depth with this, a specialist tool such as Fiddler/Charles will give you much more detail.

[16:14:22] Amy Phillips: I could probably do my entire job just using those tools lol

[16:14:47] Weekend Testing Europe: Today, developer tools in all browsers (not just Chrome) are very advanced for this kind of activity. I remember not so many years ago, if you wanted this sort of information you had to use the likes of Fiddler.

[16:15:19] Weekend Testing Europe: If you're not familiar with where to find this information: open your favourite web browser, and press F12 (on PC) or Cmd-Shift-I (on Mac). This should open the Developer Tools for your browser

[16:15:34] Weekend Testing Europe: (unless your browser has specialised shortcuts - in which case, open your manual :) )

[16:15:52] Weekend Testing Europe: Once you're in the Developer Tools, you should see a tab called 'Net' or 'Network'

[16:16:15] Weekend Testing Europe: Any time you load a webpage, you'll see the list of every resource that's being loaded, how large it is, and how long it takes to load. At the bottom of the panel, you'll see a summary bar e.g. "3 requests, 1.5MB" which tells you how large the whole page was.

[16:17:15] Weekend Testing Europe: So, I'd like you to spend about 30-40 exploring the web, going around the homepages of sites that you know and love, and using the Developer Tools to measure the homepage size. Also, make a note of the largest resource(s) on the page - you should be able to sort by filesize in the Network tab.

[16:17:39] Weekend Testing Europe: We'll reconvene in 40 minutes and see who's found the most horrifically large webpage!

[16:17:44] Emma Keaveny: sweet

[16:17:51] Sandeep Garg: cool

[16:18:04] cfomob: Cheers

[16:18:13] Weekend Testing Europe: To reiterate, we'll just focus on homepages for now - I'm sure that almost every website has a really large webpage buried deep in their site (e.g. a gallery section) but to keep things equal we will judge homepages.

**[16:18:18] \*\*\* Weekend Testing Europe has renamed this conversation to "WTEU-68: TIME TO EXPLORE!" \*\*\***

[16:18:42] Weekend Testing Europe: If you have any questions (e.g. about usage of Developer Tools / Network panel), or if you want to show-off about your "high score", feel free to chat in here :)

[16:19:04] Trisha agarwal: okay

[16:19:24] Weekend Testing Europe: As a special treat: Whoever finds the largest page, I'll load this over my internet connection and see how long it takes :D

[16:20:15] Trisha agarwal: shopping sites ?

[16:20:19] Halliki: I'll start off with 5.9 MB for an Estonian newspaper webpage  
<http://www.postimees.ee/>

[16:20:55] Weekend Testing Europe: Trisha: I think that might be a very good place to look. Shopping sites tend to have a lot of different assets on the page (e.g. product thumbnails). And those thumbnails can often be uploaded by end-users, who may not have as much concern for image optimisation as you do...!

[16:21:40] Weekend Testing Europe: Halliki: 5.9MB is a very good start! Remember the first report I linked in this session - the current 'average' on the internet is about 2MB.

[16:23:32] Weekend Testing Europe: Halliki: A good thing about Postimees is they do have a responsive website. In Chrome's device emulation mode, if you switch to mobile/tablet and reload, the page size is reduced to 1MB. So it's good that they make some allowances for mobile traffic, even if 5.9MB is still very large for desktop.

[16:23:38] Weekend Testing Europe: <http://i.imgur.com/57E3HXP.png>

[16:23:59] Sandeep Garg: One question: If I loaded lests say amazon.com home page on a 54MBPS wifi speed and its loaded say in x seconds

[16:24:16] Sandeep Garg: now I want to use throttling say on 30 MBPS

[16:24:37] Sandeep Garg: if I turn on that and again hit F5 to reload the page, would it be a valid test?

[16:25:01] Trisha agarwal: <http://www.stanick.com/worldslargestwebpage.html>

[16:25:15] Trisha agarwal: we cant measure this pages

[16:25:32] Weekend Testing Europe: Sandeep: If you just hit F5, it probably wouldn't be a valid test, because it would have cached many of the resources. So it wouldn't need to download them again. It would be valid if you pressed Ctrl-F5, because this does a 'force refresh' (ignores the cache). Or, ensure you tick the 'Disable cache' option in your developer tools.

[16:25:37] Trisha agarwal: i found in Quora

[16:25:38] Weekend Testing Europe: (This catches me out a lot.)

[16:25:47] Trisha agarwal: <https://www.quora.com/What-is-the-longest-webpage-How-was-it-created>

[16:26:08] Sandeep Garg: okay Thanks for tthis information

[16:27:38] Amy Phillips: Those infinite scrolling websites are incredible. The requests just keep growing

[16:28:10] Trisha agarwal: yes

[16:28:31] Weekend Testing Europe: I don't dare open that page, it would probably send me offline :)

[16:28:33] Trisha agarwal: I was suprised you tube take 81.0 kb

[16:30:13] Weekend Testing Europe: It's a little bit more for me - about 300kb. But yes, its homepage is just small thumbnails of images, there's no actual video content. And YouTube is an example of a website which does do a lot of post-processing of user input - there's no way that a user could accidentally upload a 1MB thumbnail image, because they resize the thumbnails on their server.

[16:31:00] Weekend Testing Europe: It's a great example though. Would YouTube be so popular if their homepage was 3MB, and was very slow to load for many users? Their entire business operates around quick access to their content

[16:31:50] Trisha agarwal: Agree , Thank you for the insights

[16:31:54] Purendra Agrawal: We have to only tell the transferred data in chrome. am I right?

[16:32:37] Amy Phillips: 28.7 MB for Yahoo.com Took me 7.8 minutes to load

[16:32:53] Amy Phillips: might still be going. Sort of hard to tell

[16:32:55] Weekend Testing Europe: Purendra, yes that is what we will do for this exercise. However, that's a very good question to ask. There's no single definition of what constitutes "page weight"; for instance, an Ajax-y site will load very quickly, but then it will load more data in the background after it's "done"



[16:33:29] Weekend Testing Europe: One of the webpages I linked-to earlier has some good discussions over what the different metrics could be for page weight: <http://mobiforge.com/design-development/measuring-page-weight> -- but for this exercise, data transferred according to Chrome Dev Tools will suffice us.

[16:33:39] Purendra Agrawal: Amy, when I open yahoo.com , I found only 1.2 mb transferred.

[16:33:41] Emma Keaveny: I found the same thing with nfl.com, the page getting bigger and bigger

[16:33:53] Emma Keaveny: its at 23mb and still growing!

[16:34:04] Amy Phillips: Purendra, scroll down. It has an infinite scroll

[16:34:17] Amy Phillips: Mostly seems to be video

[16:34:45] Weekend Testing Europe: Wow Amy, I had no idea that Yahoo would be that bad! (Though it's been a number of years since I've visited the homepage of Yahoo...)

[16:35:00] Trisha agarwal: agree

[16:35:16] Weekend Testing Europe: Their homepage is pretty much the opposite of YouTube's - it aggregates content from everywhere, and has very little regard for the size of the images it's pulling in.

[16:35:41] Weekend Testing Europe: Don't forget that the usage of things like ad-blockers will dramatically affect the size/loading time of the pages you're visiting.

[16:35:44] Amy Phillips: Yahoo is a good example of the sort of company who ends up with problematic page weight. The company is made up of loads of separate teams so there is little cohesion.

[16:35:56] Amy Phillips: I turned my ad blocker off to see the full pain

[16:36:04] Amy Phillips: Now firmly re-instated :D

[16:36:24] Weekend Testing Europe: I had to close the page before it finished loading, as I couldn't maintain a connection to Skype at the same time! :D

[16:36:25] cfomob: I think my BT infinity is super fast..... struggling to find much to discuss, reluctant to remove all my adblocks etc

[16:36:41] cfomob: will try a different browser e.g. Edge

[16:36:53] cfomob: Firefox?

[16:37:11] Trisha agarwal: Facebook, twitter

[16:37:24] Weekend Testing Europe: Olwen, we're not so much concerned with the load times, it's the page size itself we're looking at. You're experiencing the problem we experience in our offices every day - it doesn't seem slow, because our own connection is adequate

[16:37:39] Trisha agarwal: would be a good example with infinte scrolling

[16:37:43] Sandeep Garg: Question: Home pages size may vary each time you load? because content is dynamic...no?

[16:38:03] Sandeep Garg: Unless we test a home page which is static (text, images, feeds etc)

[16:39:01] Amy Phillips: Sandeep, yes, I think the size will vary. However, in my experience images are always images and videos are always videos. So although the content will change the general size will remain stable.

[16:39:12] Weekend Testing Europe: Sandeep: That's true, and it's one of many reasons why it's very hard to automate this kind of test. Sizes will change as the content changes. But if you plot the size over a number of weeks/months, and it is increasing, that might indicate a problem.

[16:39:27 | Edited 16:39:33] Trisha agarwal: i crossed more than 30 MB and page still continues

[16:39:29] Weekend Testing Europe: (A slight fluctuation might be OK. A large fluctuation might not.)

[16:39:45] Amy Phillips: Don't forget that the end size isn't really the important thing. We're looking for exceptional page size. Anything over 2 MB is worth looking into

[16:40:02] Amy Phillips: Trisha, on which site?

[16:40:25 | Edited 16:40:51] Trisha agarwal: Facebook -on wall keep scrolling

[16:41:07] cfomob: <http://www.sportsmole.co.uk/> Chelsea vs Leicester live commentary has stopped completely frozen so i cannot get page weight, but probably another issue

[16:41:09] Halliki: Some web design web page that loaded 12MB the first time opening it <http://www.apdigitalbee.com/budgetwebdesign/>

[16:41:22] Trisha agarwal: as all the videos/images form other sites the page request keep increasing

[16:41:37] Sandeep Garg: As mentioned in the chat on how to look at page size, I found Amazzon and GFlipkart page sizes are more than 20 MB

[16:41:58] Trisha agarwal: i need to check same with twitter and linked-in too

[16:42:06] Purendra Agrawal: Trisha, we have to only test the homepage of the webpage.

[16:42:15] Trisha agarwal: yes

[16:42:16] Purendra Agrawal: No need to login and test

[16:42:39] Trisha agarwal: lol

[16:42:48] Purendra Agrawal: Because the concept of twitter and facebook of wall post is different.

[16:42:51] Weekend Testing Europe: Dynamically-loading websites are generally not too bad - because the user is only requesting the page in small chunks. This is often a much better loading experience than trying to load all of the chunks at once... (But it can still be a problem if each chunk is very large)

[16:43:05] Sandeep Garg: 1746 Requests - 32.1MB Transferred

[16:43:17] Sandeep Garg: for Flipkart..Am I looking at correct measurement?

[16:43:37] Trisha agarwal: I didnt know about that - specification

[16:43:39] Weekend Testing Europe: Also, a webpage which dynamically loads its content usually indicates that the company has given some thought to the loading experience for users.

Sandeep Garg

[16:45:17] Weekend Testing Europe: Sandeep, I tried Flipkart in a couple of browser (Chrome/Firefox) and they both said 50-60 requests, 1.4MB transferred. Which browser are you using? Are you logged-in to Flipkart?

[16:45:21] Weekend Testing Europe: Ah you posted an image :)

[16:45:33] Purendra Agrawal: Yeah Trisha. That's why I told. Thanks

[16:45:53] Weekend Testing Europe: Ah - you've got "Preserve log" ticked. This means it will continue increasing those counters on future page loads.

[16:46:00] Weekend Testing Europe: You should untick that if you want to measure a single page.

[16:46:16] Weekend Testing Europe: That tickbox is very useful if you want to measure the total size of a journey through several pages

[16:46:26] Sandeep Garg: oh..I thought it will just preserve the Log behind the scene

[16:46:37] Sandeep Garg: as we use in our application for testability perspective

[16:46:47] Sandeep Garg: hmm..Interesting to know this

[16:46:58] Sandeep Garg: let me retest

[16:47:30] Weekend Testing Europe: It differs from browser to browser. For instance, Firefox has a "Persist" button, which saves the log behind the scenes but it does not aggregate the resources/size

[16:47:44] Sandeep Garg: now better, 53 requests - 1.4MB

[16:47:48] Sandeep Garg: Thanks

[16:49:50] Purendra Agrawal: Wwww.scoopwhoop.com 4.4mb 113 requests

[16:51:58] Purendra Agrawal: <http://lunar.xprize.org/> 6.1 mb 85 requests

[16:52:29] Weekend Testing Europe: Purendra: ScoopWhoop is a very good example of a website which has some surprisingly large resources. If you sort the resources by size, of the 10 largest resources, 4 of them are fonts, 3 of them are Javascript, and 3 of them are images which appear a long way down the page (many users will get bored of waiting for the page to load before they ever get a chance to see them!)

[16:53:04] Purendra Agrawal: Thanks

[16:53:35] Emma Keaveny: I noticed with nfl.com the size kept increasing...then I moved to a different tab, and went back to it after a few mins...looked like it refreshed and started it all over again

[16:56:26] Purendra Agrawal: I think 40 minutes are complete.

[16:57:02] Weekend Testing Europe: Yes, we'll restart discussion in 5minutes

[16:57:26] Weekend Testing Europe: Purendra, you found another really good example there! With the Xprize site, they have designed a responsive mobile version, but the mobile version is also 6MB.

[16:58:02] Weekend Testing Europe: There's a reason the mobile site is so large - they've made a cardinal sin with their mobile assets.

[16:58:13] Sandeep Garg: Purendra: are your examples as we started session, are the ones your favorites ones?

[16:58:55] Sandeep Garg: like scoopwhoop and xprize?

[16:59:24] Purendra Agrawal: Scoopwhoop: my favorite one

[16:59:49] Weekend Testing Europe: I'll explain more about Xprize's mobile site in the writeup, as I'm short of time now. But basically, their mobile images are still very large (450kb each) and 2000 pixels wide; they're doing a client-side resize to reduce their size, but the user still has to download the large images first...

[http://lunar.xprize.org/profiles/xprize\\_profile/themes/custom/imagine/images/glxp/GLXP\\_SiteRefresh\\_mobile\\_11.jpg](http://lunar.xprize.org/profiles/xprize_profile/themes/custom/imagine/images/glxp/GLXP_SiteRefresh_mobile_11.jpg)

[16:59:52] Sandeep Garg: Reason I am asking is my favorites ones are usually Amazon, Flipkart, Blogs which usually take care of their UX

**[17:00:08] \*\*\* Weekend Testing Europe has renamed this conversation to "WTEU-68: REVIEWING OUR FINDINGS" \*\*\***

[17:00:13] Sandeep Garg: but yes, those are good examples Thanks

[17:00:23] Purendra Agrawal: Thanks Sandeep

[17:00:26] Weekend Testing Europe: OK - time's up! We have 30 minutes left, so let's compare notes on what we found, and then we'll wrap up.

[17:00:47] Weekend Testing Europe: Did anybody find any site which particularly surprised them? e.g. it was much bigger or much smaller than they expected?

[17:00:47] Trisha agarwal: Okay

[17:00:59] Weekend Testing Europe: Trisha mentioned YouTube earlier, that's a great example of a popular site with surprisingly small homepage

[17:01:17] Trisha agarwal: Thank you

[17:01:20] Purendra Agrawal: Dailymotion is also a good example

[17:01:34] cfomob: Have to leave now, but this has been great - thanks I will check back on findings later and join again

[17:01:48] Weekend Testing Europe: Thanks Olwen, we'll put a writeup on weekendtesting.com afterwards!

[17:02:15] cfomob: (\*)

[17:02:27] Amy Phillips: The Guardian newspaper was surprisingly small - 1.1 MB despite being full of images and videos

[17:02:48] Sandeep Garg: As I said I am new to web, so still need to do some more thinking and practice before making notes :)

[17:02:54] Trisha agarwal: <https://www.amazon.in/> Mobile Site is just 829 kb

[17:02:59] Trisha agarwal: which is suprising

[17:03:02] Amy Phillips: That's impressive

[17:03:19] Trisha agarwal: Thank you

[17:03:41] Weekend Testing Europe: Amy, how do you think The Guardian have managed to keep theirs so small? Do you think they're in full control of the thumbnail creation process, so they're not letting unoptimised images slip through?

[17:04:06] Trisha agarwal: <https://www.amazon.com/> is just 528 kb

[17:04:25] Purendra Agrawal: Flipkart in mobile view is also open in 368 kb

[17:04:35] Trisha agarwal: okay

[17:05:11] Sandeep Garg: did you see any variations in Loading time of same page in throttling mode?

[17:05:16] Amy Phillips: Neil, yeah I guess they do.

[17:05:17] Weekend Testing Europe: It sounds like you've seen one of the biggest trends, which again is referenced in the "The Web is Doom" article from the start of the session. The overall size of the average webpage is increasing, but among the biggest and most popular sites on the internet, they're significantly smaller than average.

[17:05:32] Weekend Testing Europe: The exception appears to be Yahoo - but then Yahoo is pretty much an outlier for EVERYTHING...

[17:06:08] Weekend Testing Europe: So, are these commerce sites popular because they're well-optimised, or are they well-optimised because they're popular...? It's probably a bit of both.

[17:06:25] Sandeep Garg: yeah, both

[17:06:27] Trisha agarwal: yes ,,

[17:07:01] Purendra Agrawal: satisfied

[17:07:34] Weekend Testing Europe: I didn't use any throttling during this session, because my home internet is slow enough :) But if you've not run your own websites in throttling mode before, it's definitely worth trying when you're next at work. We might think we understand how our site looks when it's loading over a slow connection, but reality can be very different. If the resources load in a strange order, a website can often look very peculiar over a slow connection.

[17:07:52] Weekend Testing Europe: (example coming in a sec!)

[17:09:15] Weekend Testing Europe: This is how my local newspaper's website looks when it's loading. It loads the social media icons first, and it makes them full-width while they're loading, so if you're going over a slow connection then it looks very odd while it's loading!

[17:09:27] Amy Phillips: :D

[17:09:34] Trisha agarwal: (cwl)

[17:09:56] Sandeep Garg: :)

[17:10:12 | Edited 17:10:24] Weekend Testing Europe: The important thing is, this is the sort of thing that you can't see until you test with a real-world internet connection. Either get out into the open with your devices, or use some sort of throttling tool, and you might catch a few surprises before they enter the wild.

[17:10:20] Purendra Agrawal: Yeah Neil you are right. We have to face sometime this type of things also.

[17:10:42] Amy Phillips: Any tips for getting non-tech people to care about things like this?

[17:11:05] Sandeep Garg: Are Throttling is based on some standard? or its Browser specific?

[17:11:23] Weekend Testing Europe: We're running out of time for today, but I wanted to mention one more tool that I found during research for this session. <http://ready.mobi> is a clever site which allows you to preview how your sites look/load on different devices, and it also offers you a report to tell you how you can reduce size and improve load times.

[17:11:48] Sandeep Garg: I mean though throttling options are almost same, may they vary in browser context in some way?

[17:12:28] Weekend Testing Europe: Amy: We've mentioned several different user groups who are explicitly affected by large page sizes. We mentioned rural locations and developing countries, but if we want to get our product teams interested, I think we should be talking-up the needs of our mobile users.

[17:12:29] Trisha agarwal: I got a chance to be in User feedback session about product a and was suprised to see they were actually saying this sort of issue.

[17:13:04] Weekend Testing Europe: Most execs have an appreciation for how large the mobile market is, and there's plenty of buzzwords around it. By most metrics, mobile use has actually overtaken desktop use now (although this obviously varies from application to application) <http://www.smartinsights.com/mobile-marketing/mobile-marketing-analytics/mobile-marketing-statistics/>

[17:15:08] Weekend Testing Europe: Sandeep: I think throttling through the browser is a reasonably realistic simulation of how a real user would experience a slow load. However, if you're trying to simulate the mobile/tablet experience, it's not really a substitute - because on a real device, you might get other annoyances for the user e.g. the screen shutting-off if the page is taking a long time to load, and then they have to unlock their phone again, increasing the frustration

[17:15:50] Weekend Testing Europe: I definitely think this is a valuable first step for people who are working on web applications, especially consumer applications where we aren't experiencing our content in the same way as our users.

**[17:16:07] \*\*\* Weekend Testing Europe has renamed this conversation to "WTEU-68: SUMMARY/CLOSING" \*\*\***

[17:16:39] Weekend Testing Europe: OK, we've got 15 minutes left. Let's have some more open discussion about this, as we did at the beginning.

[17:17:01] Trisha agarwal: ok

[17:17:14] Weekend Testing Europe: Do you think that your development teams would be interested if you raised this sort of issue as a bug/problem?

[17:17:27] Weekend Testing Europe: For instance, if you said "the homepage is 10MB, we need to make it smaller"

[17:17:32] Weekend Testing Europe: How might you convince them?

[17:18:05] Amy Phillips: I think my developers would be interested. Product Managers maybe not so much

[17:18:27] Trisha agarwal: it will lead of performance issue and web page will take more time to load

[17:18:37] Trisha agarwal: we can say to Pm same

[17:18:42] Purendra Agrawal: I can convince them with the problem of real world users, if they are travelling or in rural area and in shopping mall.

[17:19:11] Trisha agarwal: and even the number we can share with PM and say the page is 50 MB and to load complete page it take 10 min

[17:19:13] Halliki: I'd add some info about how long it would take at different speeds and why it s relevant

[17:19:42] Trisha agarwal: +1

[17:19:49] Trisha agarwal: we should that .

[17:20:03] Amy Phillips: The time to load definitely helps. I know of one place that worked out how much it was costing mobile users to download their pages. That was pretty convincing

[17:20:03] Weekend Testing Europe: Yes, these are all good points. It's just the same as any bug report really - you need to be able to explain the problem in terms of who is impacted, what is the impact.

[17:20:30] Weekend Testing Europe: It helps to know your users (e.g. site metrics: how many of your users are accessing via mobile? what is the typical internet speed in your target region?)

[17:20:33] Halliki: (y)

[17:21:07] Purendra Agrawal: :)

[17:21:10] Halliki: I guess you could acure the speeds by some googling

[17:21:35] Weekend Testing Europe: Amy, that's a great idea - measuring the impact to the user in terms of cost is very compelling. We didn't talk about mobile applications today, but this is a problem which often applies to apps as much as sites - they can be transferring huge volumes of data with very little regard for whether the user is on a mobile data plan

[17:21:47] Trisha agarwal: ??

[17:22:15] Trisha agarwal: Halliki : sorry acquire speed by some googling

[17:22:48] Halliki: Sorry. I meant finding different net speeds for some area

[17:22:56] Weekend Testing Europe: As a quick preview into mobile apps, here's an application for a car magazine which downloads 1.2 GIGABYTES when it's first launched....

<https://www.troyhunt.com/find-crazy-stuff-in-mobile-app/>

[17:23:17] Amy Phillips: Wow

[17:23:26] Trisha agarwal: For app the load time measure will be not as easy and accurate , not in app less data will be there as compare to desktop, which i came across accessing muntiple sites

[17:23:27] Halliki: Like find a connection provider in that area and look up speed and prices

[17:23:32] Weekend Testing Europe: I think it helps that most of the big websites are doing it right: they're successful through keeping their sites clean and lean.

[17:24:19] Weekend Testing Europe: Which means that, as our companies strive to imitate them (or match their successes) then they are a reasonable benchmark. If my company announced "we want our pages to load as fast as Google's", I would be happy we were going in the right direction.

[17:24:27] Trisha agarwal: yes

[17:24:44] Weekend Testing Europe: Of course I might also panic about the level of investment/change which we'd need in order to achieve that, but... :)

[17:24:48] Sandeep Garg: [17:22] Halliki:

<<< Sorry. I meant finding different net speeds for some area

[17:25:11] Sandeep Garg: I rem\ember iit was a test strategy

[17:25:23 | Removed 17:25:40] Trisha agarwal: This message has been removed.

[17:25:46] Sandeep Garg: by an organization as well

[17:25:54] Sandeep Garg: yeah..Thoughtworks

[17:26:19] Sandeep Garg: they did this analysis for their Middle-East customers for the mobile app

[17:26:35] Trisha agarwal: +[17:24] Weekend Testing Europe:

<<< Which means that, as our companies strive to imitate them (or match their successes) then they are a reasonable benchmark. If my company announced "we want our pages to load as fast as Google's", I would be happy we were going in the right direction.  
Of course I might also panic about the level of investment/change which we'd need in order to achieve that, but... :)

[17:26:43] Weekend Testing Europe: For a casual check, there are also sites such as [www.speedtest.net](http://www.speedtest.net) - these measure your home/office internet speeds, but it then also tells you e.g. "Faster than 85% of UK"

[17:26:55] Trisha agarwal: +1

**WTEU-68: Session Transcript (page 14 of 14)**

[17:27:42] Weekend Testing Europe: OK, we're about out of time for today. If you've enjoyed the session, I definitely recommend reading a few of the articles which I linked earlier. They're full of juicy information about how to measure/optimize pages, far more than we had time to discuss today.

[17:27:53] Emma Keaveny: thanks for the session Neil

[17:27:56] Emma Keaveny: will def read the links

[17:28:03] Purendra Agrawal: Thanks for the wonderful session Neil

[17:28:05] Amy Phillips: Thanks Neil! Very interesting

[17:28:06] Weekend Testing Europe: As usual, there'll be a write-up of today's session on the Weekend Testing website later. When? It depends how long it takes me to complete a 5km run first... :)

[17:28:07] Purendra Agrawal: I enjoyed

[17:28:07] Emma Keaveny: been very interesting :)

[17:28:21] Emma Keaveny: Thanks guys...its been a pleasure

[17:28:24] Emma Keaveny: will talk to you all soon :)

[17:28:26] Weekend Testing Europe: This is a topic which is very close to my heart because of how slow my internet connection is.

[17:28:34] Amy Phillips: Have a good run, Neil :)

[17:28:42] Weekend Testing Europe: And I hope it's given you something extra to consider when testing web applications in the future!

[17:28:45] Trisha agarwal: Thank you Neil , I have attended after a long time , lot of different insights and very exciting

[17:28:56] Trisha agarwal: Thank you everyone and Neil

[17:29:03] Weekend Testing Europe: No worries Trisha. Actually it is the first session I've presented this year, so I have been a bit rusty!

[17:29:06] Sandeep Garg: Thanks Neil/Amy/Trisha/Purendra/Emma/Halliki

[17:29:10] Weekend Testing Europe: We'll be back again next month, Sunday June 19th (TBC), as usual we'll publish details about a week in advance.

[17:29:22] Sandeep Garg: nice session for aa newcomer like me

[17:29:28] Trisha agarwal: This say weekend is over get back ready again :)

[17:29:32] Purendra Agrawal: Thanks Everyone

[17:29:33] Weekend Testing Europe: Thank you all for your efforts and discussion! I hope we can see you all again soon :)

**[17:29:42] \*\*\* Weekend Testing Europe has renamed this conversation to "WTEU-68: END" \*\*\***