Accessibility and how to get the most from your screenreader
1. Background

2. Developing a single page JavaScript thing on GOV.UK

3. General accessibility learnings
Up until a week ago I was a Senior Developer at the Government Digital Service
Building the Government’s award winning GOV.UK
However, let’s just clear something up quite quickly...
…just because I’m a former Government employee…
...and I know what you’re all thinking...
...it’s:
Edd Sowden
not
Ed Snowden
GOV.UK is the best place to find government information and services
Tax your vehicle

Tax your car, motorcycle or other vehicle using your reminder letter (V11).

If you don’t have a reminder letter, you can use:

- a V5C registration certificate (log book) that’s in your name - [get a replacement](#)
- your new keeper supplement (V5C/2) if you’ve just bought the vehicle
- your ‘last chance’ warning letter

Alternatively, [make a SORN](#) (Statutory Off Road Notification).

More options:
- [Start now](#)
- [Vehicle tax and SORN](#)
- [Vehicle tax rate tables](#)
- [Apply to tax a Heavy Goods Vehicle (HGV)](#)

Driving and transport:
- [Getting an MOT](#)
- [More](#)

Elsewhere on GOV.UK:
- [Vehicle tax changes](#)
The National Minimum Wage

1. **What is the minimum wage**

The National Minimum Wage is the minimum pay per hour almost all workers are entitled to by law.

It doesn’t matter how small an employer is, they still have to pay the minimum wage.

The [minimum wage rate](#) depends on a worker’s age and if they’re an apprentice.

Use the [National Minimum Wage calculator](#) to check if the minimum wage has been paid.

Workers can check if:
Foreign travel advice

Syria

Summary

Current travel advice

Safety and security

Terrorism

Local laws and customs

Entry requirements

Health

Money

Contact FCO Travel Advice Team

Get updates ⬀ email ⬀ feed

Summary

Still current at: 23 September 2015
Updated: 10 September 2015
Latest update: this advice has been reviewed and re-issued without amendment

Travel abroad

Hand luggage restrictions at UK airports

Driving abroad

More

Passports, travel and living abroad

Renew or replace your adult passport

More
Producing and distributing food – guidance

The Pig Carcase Grading Scheme: inspections

From: Rural Payments Agency
First published: 31 March 2014
Part of: The Pig Carcase Grading Scheme: guidance, Meat production and Producing and distributing food
Applies to: England and Wales (see detailed guidance for Scotland and Northern Ireland)

Information for abattoirs on what to expect during inspections for the Pig Carcase Grading Scheme.

Inspectors from the Livestock and Meat Inspectorate of the Rural Payments Agency (RPA) will visit abattoirs obliged to comply with the Pig Carcase Grading Scheme.

They’ll visit at least twice every 3 months and won’t give advance notice of their visits.
How many of you use Apple products regularly?
How many of you test your websites in a screenreader?
Voiceover comes with OS X and iOS, you already have it.
Developing a single page JavaScript thing on GOV.UK
Welcome to GOV.UK
The best place to find government services and information
Simpler, clearer, faster

Benefits
Includes tax credits, eligibility and appeals

Births, deaths, marriages and care
Parenting, civil partnerships, divorce and Lasting Power of Attorney

Business and self-employed
Tools and guidance for businesses

Childcare and parenting
Includes giving birth, fostering, adopting, benefits for children, childcare and schools

Citizenship and living in the UK
Voting, community participation, life in the UK, international projects

Crime, justice and the law
Legal processes, courts and the police

Disabled people
Includes carers, your rights, benefits and the Equality Act

Driving and transport
Includes vehicle tax, MOT and driving licences

Education and learning
Includes student loans, admissions and apprenticeships

Employing people
Includes pay, contracts and hiring

Environment and countryside
Includes flooding, recycling and wildlife

Housing and local services
Owning or renting and council services

Money and tax
Includes debt and Self Assessment

Passports, travel and living abroad
Includes renewing passports and travel advice by country

Visas and immigration
Visas, asylum and sponsorship

Working, jobs and pensions
Includes holidays and finding a job

The websites of all government departments and many other agencies and public bodies have been merged into GOV.UK.

Here you can see all policies, announcements, publications, statistics and consultations.

Find out how government services are performing and how satisfied users are.
Quick prototype
Benefits

A-Z

- Benefits entitlement
- Benefits for families
- Carers and disability benefits
- Child Benefit
- Death and benefits
- Heating and housing benefits
- Jobseeker's Allowance and low income benefits
- Tax credits
Let’s build it...
By starting with HTML you’re forced to think about what you want to say to your users
Benefits

A-Z

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- Heating and housing benefits
- Jobseeker’s Allowance and low income benefits
- Tax credits
<ul>
  <li>
    <h2>Benefits</h2>
    <ul>
      <li>Benefits entitlement</li>
      ... 
    </ul>
  </li>
  <li>Births, deaths, marriages and care</li>
  ... 
</ul>
Benefits

A-Z

- Benefits entitlement
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- Heating and housing benefits
- Jobseeker’s Allowance and low income benefits
- Tax credits
<div>
  <ul>
    <li class="active">Benefits</li>
    <li>Births, deaths, marriages and care</li>
    ...
  </ul>
</div>

<div>
  <div>
    <h1>Benefits</h1>
    <ul>
      <li>Certificates, register offices</li>
      ...
    </ul>
  </div>
</div>
Let’s open that markup in our screen reader
Listening to your website lets you find out if it’s saying what you intended it to say.
Voiceover Keyboard shortcuts:

Voiceover on/off:  

[⌘] + [F5]
By default VoiceOver will read the entire page when you navigate to it.
Let’s pretend we had just navigated to ‘Child benefits’
Benefits

Births, deaths, marriages and care
Business and self-employed
Citizenship and living in the UK
Crime, justice and the law
Disabled people

Benefits

Benefits entitlement
Benefits for families
Carers and disability benefits
Child Benefit

Child Benefit

Appeal a benefit decision
Child Benefit complaints
Child Benefit for children in hospital or care
Child Benefit if a child or parent dies
Child Benefit if you leave the UK
The first thing in your markup should be the main part of the page
<div>
  <h1>Benefits</h1>
  <ul>
    <li>Certificates, register offices</li>
    ...<li>Births, deaths, marriages and care</li>
    ...<li>Benefits</li>
  </ul>
</div>
Benefits

A to Z

Benefits entitlement
When and how benefit payments are made, benefits adviser and benefit fraud

Benefits for families
Includes Child Trust Funds, childcare and the Sure Start Maternity Grant

Carers and disability benefits
Includes Disability Living Allowance, Carer's Allowance and Employment and Support Allowance

Child Benefit
Information about eligibility, claiming and when Child Benefit stops

Death and benefits
Includes Widowed Parent's Allowance, Bereavement Payment, Funeral Payment
Benefits

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Child Benefit
Information about eligibility,
We are happy with the markup. Next let’s look at adding some JavaScript.
ARIA
Accessible Rich Internet Applications
“[ARIA] specifies how to increase the accessibility of web pages, in particular, dynamic content and user interface components developed with Ajax, HTML, JavaScript and related technologies”

aria-atomic
aria-busy (state)
aria-controls
aria-describedby
aria-disabled (state)
aria-dropeffect
aria-flowto
aria-grabbed (state)

aria-haspopup
aria-hidden (state)
aria-invalid (state)
aria-label
aria-labelledby
aria-live
aria-owns
aria-relevant
<div aria-live="off|polite|assertive">
<div aria-live="polite"
aria-busy="true|false">
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A to Z

Apply for free school meals
Benefits calculators
Care to Learn
Carer's Credit
Child Trust Fund
Childcare Grant
Childcare and tax credits
Contact Sure Start
Guardian's Allowance
Healthy Start
Maternity Allowance
Maternity pay and leave
Competition and Markets Authority cases

You can use the filters to show only cases that match your interests.

Search
eg case title

Case type
- CA98 and civil cartels
- Criminal cartels
- Markets

Immediate Media Company Bristol Limited / Future Publishing Limited
Mergers  Open  Communications  Opened: 21 July 2014

Key Publishing Limited / Kelsey Publishing’s Aviation and Military History Portfolio
Mergers  Open  Communications  Opened: 31 October 2014

Noble Egg Innovations Unlimited / Manton and Manton 2 Limited
Mergers  Closed  Food manufacturing  Mergers - phase 1 clearance  Opened: 9 May 2014
Closed: 31 October 2014
aria-live is best used for status messages or notifications not blocks of text
Benefits

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We removed aria-live and instead move focus to the newly added heading
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Child Trust Fund

Childcare Grant

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Contact Sure Start

Guardian's Allowance

Healthy Start

Maternity Allowance

Maternity pay and leave
```javascript
$('h1').focus();
```
<h1 tabindex=“0”>...</h1>
<h1 tabindex="-1">...</h1>
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A to Z

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Business and self-employed

Citizenship and living in the UK

Crime, justice and the law

Disabled people

Driving and transport

Education and learning

Benefits – GOV.UK HTML content

Child Benefit
Information about eligibility,
Voiceover Keyboard shortcuts:

Voiceover on/off:    
[⌘] + [F5]

Voiceover key (VO):  
[ctrl] + [\]

Continue reading:    
[VO] + [a]
Child Benefit

A to Z
- Appeal a benefit decision
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- Child Benefit if a child or parent dies
- Child Benefit if you leave the UK
- Child Benefit if you move to the UK
- Child Benefit if your child lives with someone else

Child Benefit number and proof you qualify
Voiceover Keyboard shortcuts:

Voiceover on/off: [⌘] + [F5]
Voiceover key (VO): [ctrl] + [\]
Continue reading: [VO] + [a]
Previous/next item: [VO] + [right] or [left]
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A to Z

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Child Benefit if your child lives with
By using focus rather than aria-live we also helped keyboard only users
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Child Benefit
Information about eligibility.
Ship it!
General accessibility learnings
1. HTML5 enables you group items using semantic tags, aria lets you name them
<section aria-describedby="section-title">
  <h2 id="section-title">...</h2>
  ...
</section>
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Includes renewing passports and travel advice by country

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Visas, asylum and sponsorship
Voiceover Keyboard shortcuts:

Voiceover on/off:          ![ VO ] + [ F5 ]
Voiceover key (VO):        [ ctrl ] + [ \ ]
Continue reading:          [ VO ] + [ a ]
Previous/next item:       [ VO ] + [ right ] or [ left ]
**Enter region:**          [ VO ] + [ ↑ ] + [ down ]
**Leave region:**          [ VO ] + [ ↑ ] + [ up ]
2.

Reading entire pages from start to finish often isn’t how people use screen readers.
Screen reader users can browse by headings and links to jump to content
Voiceover Keyboard shortcuts:

Voiceover on/off: [⌘] + [F5]
Voiceover key (VO): [ctrl] + [\]
Continue reading: [VO] + [a]
Previous/next item: [VO] + [right] or [left]
Enter region: [VO] + [⇧] + [down]
Leave region: [VO] + [⇧] + [up]

Rotor window: [VO] + [u]
Guidance

Pet cemeteries: where you can build them and how to register

From: Animal and Plant Health Agency and Department for Environment, Food & Rural Affairs
First published: 5 September 2014
Last updated: 13 October 2014, see all updates
Part of: Guidance for the animal by-product industry. Protecting animal health and preventing disease, including in trade. Food and farming and + others
Applies to: England, Scotland and Wales

Where you can build a pet cemetery, the animals you can bury there, how it must be built and how to register.

Contents

- Building your pet cemetery
- Where you can build a pet cemetery

The animal carcasses you bury at a pet cemetery are animal by-products (ABPs).

Find out about the different categories of ABP.
Pet cemeteries: where you can build them and how to register

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Where you can build a pet cemetery, the animals you can bury there, how it must be built and how to register.
Pet cemeteries: where you can build them and how to register

Guidance

Where you can build a pet cemetery, the animals they are for and how to register.

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Part of: Guidance for the animal by-product industry, Protecting human health and preventing disease, including in trade, Food and animal welfare
Applies to: England, Scotland and Wales

Where you can build a pet cemetery, the application process and how to register.

Headings
1: Pet cemeteries: where you can build them and how to register
1: Contents
2: Building your pet cemetery
2: Where you can build a pet cemetery
2: How your pet cemetery must be built
2: Registering your pet cemetery
3: APHA inspection
2: Getting a permit to bury or spread ash
2: How to dispose of liquids
1: More like this
2: This is part of a collection
2: Services and information
2: Departments and policy
2: Support links
Some ARIA properties need to exist at page load to be picked up by Accessibility APIs.
4.

Avoid recreating native elements
Start now
<a href="#" class="button">
    Start now
</a>
Dictation users say what they see, like “click button”
<a href="#" class="button" role="button">
    Start now
</a>
When attempting to recreate native elements it’s easy to forget to add accessibility hooks, like using space bar to click buttons.
5.

Don’t add too much extra “semantic” markup
<ul>
  <li>
    <label for="name">Your name</label>
    <input id="name" name="name">
  </li>
  <li>
    <label for="email">Your email</label>
    <input id="email" name="email">
  </li>
</ul>
<label for="name">Your name</label>
<input id="name" name="name">

<label for="email">Your email</label>
<input id="email" name="email"/>
In summary…
Start with HTML as it forces you to think about what you want to say to your users
Listen to your website to see if your message is communicated to your users
Thank you!

Edd Sowden
@edds