What we learnt
open sourcing
the UK government
Credit where credit is due...
Thanks Anna Shipman!

@annashipman
GOV.UK Story
Disability Living Allowance (DLA) is a tax-free benefit for disabled children and adults to help with extra costs you may have because you're disabled. Find out more about Disability Living Allowance, including how much you can get.

Who can get Disability Living Allowance?

You may get Disability Living Allowance if:

- you have a physical or mental disability, or both
- your disability is severe enough for you to need help caring for yourself or you have walking difficulties, or both
- you are under 65 when you claim

You can get Disability Living Allowance whether or not you work.

It isn't usually affected by any savings or income you may have.

If you're aged 65 or over, you may be able to get Attendance Allowance.
Investigating a bug costed additional money
Fixing the bug costed even more money (and releases were done every 6 months)
Only a small bug? Not worth being fixed!
Welcome to GOV.UK
The best place to find government services and information
Simpler, clearer, faster

Benefits
Includes eligibility, appeals, tax credits and Universal Credit

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

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

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
How did we get to this point?
Martha Lane Fox
Dear Francis Maude,

DIRECTGOV 2010 AND BEYOND: REVOLUTION NOT EVOLUTION

You asked me to oversee a strategic review of Directgov and to report to you by the end of September. I have undertaken this review in the context of my wider remit as UK Digital Champion which includes offering advice on “how efficiencies can best be realised through the online delivery of public services.” This means that I have not reviewed Directgov in isolation but as part of how the government can use the Internet both to communicate and interact better with citizens and to deliver significant efficiency savings from channel shift. This letter sets out my findings and key recommendations.

In 2011 Government Digital Service was created
Change the way UK government works
Help delivering a digital transformation in other departments
Child benefit tax calculator
Child Benefit tax calculator

Use this tool to work out:

- how much Child Benefit you receive in a tax year
- the High Income Child Benefit tax charge you or your partner may have to pay

Start now

Before you start

You may be affected by the tax charge if your income is over £50,000.

Your partner is responsible for paying the tax charge if their income is more than £50,000 and higher than yours.

You’ll need the dates Child Benefit started and, if applicable, Child Benefit stopped.
Someone found a bug
https://github.com/alphagov/calculators
The Child Benefit tax calculator input field states "Pension contributions deducted from your pay (don't include contributions deducted before tax)".

This is asking for any "relief at source" contributions as explained at https://www.gov.uk/tax-on-your-private-pension/pension-tax-relief and asking you to ignore pre-tax deductions.

But as stated in https://www.gov.uk/guidance/adjusted-net-income about relief at source contributions:

Step 3 - take off pension contributions
If you made a contribution to a pension scheme where your pension provider has already given you tax relief at basic rate, take off the 'grossed-up' amount - what you paid plus the basic rate of tax.

So, for every £1 of pension contribution you made, take £1.25 from your net income.

The calculator is not grossing up the pension contribution and therefore can give incorrect information if you have a relief at source pension.

The online self-assessment calculator (ie. when it calculates what you owe for you) appears to be performing the correct calculation (its figures do not agree with this calculator).
Custom license plate
Old paper form
(£105 cost)
The new service costs £80
Web application for the personalised registration service

<table>
<thead>
<tr>
<th>Branch: master</th>
<th>New pull request</th>
</tr>
</thead>
</table>

- commit: 5,799
- branch: 1
- releases: 23
- contributors: 18
- license: MIT

<table>
<thead>
<tr>
<th>Directory</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>acceptance-tests</td>
<td>VMPRCI-4531 the versionString in the version AT is now Option[String]...</td>
<td>2 years ago</td>
</tr>
<tr>
<td>app</td>
<td>VMPRCI-4557 Controllers should use date service</td>
<td>2 years ago</td>
</tr>
<tr>
<td>conf</td>
<td>VMPRCI-4588 Further revisions to welsh translation, minor update</td>
<td>2 years ago</td>
</tr>
<tr>
<td>gatling-tests</td>
<td>VMPRCI-3071 Upgrade to Scala 2.11</td>
<td>2 years ago</td>
</tr>
<tr>
<td>project</td>
<td>Merge branch 'master' of github.com/dvla/vrm-retention-online</td>
<td>2 years ago</td>
</tr>
<tr>
<td>rpm-build</td>
<td>VMPRCI-3071 Upgrade to Scala 2.11</td>
<td>2 years ago</td>
</tr>
<tr>
<td>test</td>
<td>VMPRCI-4543 Test helpers clean up</td>
<td>2 years ago</td>
</tr>
<tr>
<td>worksheets</td>
<td>Added IV to cookie values plus refactoring of crypto helper</td>
<td>4 years ago</td>
</tr>
<tr>
<td>.gitignore</td>
<td>US3792 Fix the error handling in some microservices</td>
<td>3 years ago</td>
</tr>
</tbody>
</table>

https://github.com/dvla/vrm-retention-online
Need to visit someone in prison?
39% More likely to reoffend if not visited
# Convicted Visiting Order

**Prisoner Name**

**Prisoner Number**

**Prisoner Location**

### Visitors: Adult (Maximum 3)

<table>
<thead>
<tr>
<th>Mr/Mrs/Miss</th>
<th>DoB</th>
<th>Relationship</th>
<th>Address</th>
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</table>

### Visitors: Children (Under 18 Years)

<table>
<thead>
<tr>
<th>Name</th>
<th>DoB</th>
<th>Relationship</th>
<th>Age</th>
<th>Address</th>
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<tbody>
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Upon receipt of the attached, please book a visit (Maximum 3 seats per visit).

The Booking Office is open on 01603 438563 (see reverse for booking times)

Bookings will not be accepted more than 7 days in advance or within 24 hours prior to the visit.

No entry without a booking or correct identification. The booking clerk will require the above reference number.

This Visiting Order is valid for 28 days only.
Visit someone in prison

Use this service to book a social visit to a prisoner in England or Wales.

You need the:

- prisoner number
- prisoner’s date of birth
- dates of birth for all visitors coming with you

The prisoner must add you to their visitor list before you can book a visit.

You’ll get an email confirming your visit. It takes 1 to 3 days.

Start now

https://www.gov.uk/prison-visits
Prison Visits booking service [https://www.prisonvisits.service.gov.uk](https://www.prisonvisits.service.gov.uk)

- **1,576 commits**
- **62 branches**
- **0 releases**
- **19 contributors**
- **MIT license**

### Repository Overview

<table>
<thead>
<tr>
<th>Branch</th>
<th>Description</th>
<th>Last Commit</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>master</td>
<td>Merge pull request #566 from ministryofjustice/dependabot/bundler/cap...</td>
<td>27/06/22</td>
<td>5 months ago</td>
</tr>
<tr>
<td>.circleci</td>
<td>upgrade to ruby 2.5.1</td>
<td>21/02/22</td>
<td>7 months ago</td>
</tr>
<tr>
<td>.tx</td>
<td>Update Transifex config</td>
<td>10/05/22</td>
<td>7 months ago</td>
</tr>
<tr>
<td>app</td>
<td>Add SlotPicker JS README</td>
<td>10/05/22</td>
<td>10 days ago</td>
</tr>
<tr>
<td>bin</td>
<td>Use puma binstubs</td>
<td>07/05/22</td>
<td>10 days ago</td>
</tr>
<tr>
<td>config</td>
<td>Public visit pages formatting and content (#554)</td>
<td>12/05/22</td>
<td>4 months ago</td>
</tr>
<tr>
<td>docs</td>
<td>Add readme for frontend</td>
<td>08/05/22</td>
<td>4 months ago</td>
</tr>
<tr>
<td>lib</td>
<td>Fix rubocop errors</td>
<td>10/05/22</td>
<td>4 months ago</td>
</tr>
<tr>
<td>log</td>
<td>Start basic Rails app</td>
<td>08/05/22</td>
<td>4 months ago</td>
</tr>
<tr>
<td>public</td>
<td>Fix first available date in next year</td>
<td>09/05/22</td>
<td>3 years ago</td>
</tr>
<tr>
<td>spec</td>
<td>Fix rubocop errors</td>
<td>10/05/22</td>
<td>9 months ago</td>
</tr>
<tr>
<td>vendor/assets</td>
<td>upgrade sentry to raven-3.24.2.min.js (#485)</td>
<td>15/05/22</td>
<td>19 days ago</td>
</tr>
<tr>
<td>.env.example</td>
<td>Add new var to examples</td>
<td>12/05/22</td>
<td>19 days ago</td>
</tr>
<tr>
<td>.envrc</td>
<td>Add Security Headers (#139)</td>
<td>15/05/22</td>
<td>19 days ago</td>
</tr>
</tbody>
</table>

Latest commit 27/06/22 at a day ago
Our process
Digital Service Standard

The Digital Service Standard is a set of 18 criteria to help government create and run good digital services.

All public facing transactional services must meet the standard. It’s used by departments and the Government Digital Service to check whether a service is good enough for public use.

1. Understand user needs

Understand user needs. Research to develop a deep knowledge of who the service users are and what that means for the design of the service.

Read more about point 1

Our service assessment
8. Make all new source code open

Make all new source code open and reusable, and publish it under appropriate licences (or provide a convincing explanation as to why this can't be done for specific subsets of the source code).

Last updated: over 2 years ago

Code needs to be open to pass the assessment
Why we code in the open?
Code can be reused
Transparency
Giving back to the open source community
Show everyone what you are working on
Downsides when coding in the open
People can be nervous showing their code to the public
Sometimes external people have questioned choices without having the full context
To make this easier we do a lot of pairing and we have guidelines to make a pull request
Pull requests

This is a pull requests style guide for working on GOV.UK.

Why we do pull requests on GOV.UK

- It’s good practice to have a second opinion
- It’s part of our accreditation - the extra pair of (unconnected - even if you pair you need a third person to merge) eyes provides a lightweight change management process, and shares responsibility for the code going live
- It’s good to spread knowledge and socialise changes amongst others
- It’s good to notify people (via email, GitHub notifications etc.) who might otherwise not be involved (we can even ‘mention’ specific people with @name syntax)

https://gds-way.cloudapps.digital
Coding in the open without revealing your secrets
12 factors app: don’t store your secrets in the source code
What if I leak them accidentally?
It’s important to recover quickly (rotate passwords, deploy quickly, use a CI/CD)
You can store the configuration in GitHub
You can even store credentials, tokens in GitHub: as long as you encrypt them!
Security tools can be coded in the open.
leak-detection

Service used to find leaks in other git repositories, using regular expressions.

Rescanning all branches in all repositories can be done using the following script

License

This code is open source software licensed under the Apache 2.0 License

https://github.com/hmrc/leak-detection
A CLI tool that finds secrets accidentally committed to a git repo, e.g., passwords, private keys.

- **Language**: go
- **License**: MIT
- **Contributors**: 4
- **Commits**: 51
- **Branches**: 2
- **Releases**: 6

Recent commits include:
- **cmd/scanrepo**: Adds commit hash to violation output logs (a year ago)
- **elastalert**: Elasticsearch github integration index mappings are created at runtime (a year ago)
- **kube**: 197-restrict-access: Adds auth middleware (2 years ago)
- **rules**: Adds filename checker that logs results to stdout (2 years ago)
- **test/fixtures**: feature/210-notifications-app: Adds elasticsearch logger (2 years ago)
- **.dockerignore**: drone+docker (2 years ago)
- **.drone.yml**: 236-new-namespace: Updates kube namespace (a year ago)
- **.drone.yml.sig**: 236-new-namespace: Updates kube namespace (a year ago)

[GitHub Repository](https://github.com/UKHomeOffice/repo-security-scanner)
Our work is too sensitive, we can’t do any open source!
Pinned repositories

**Gaffer**
A large-scale entity and relation database supporting aggregation of properties
- Java
- 1.4k
- 304

**stroom**
Stroom is a highly scalable data storage, processing and analysis platform.
- JavaScript
- 87
- 17

**CyberChef**
The Cyber Swiss Army Knife - a web app for encryption, encoding, compression and data analysis
- JavaScript
- 3.8k
- 543

Search repositories...  Type: All  Language: All
remedi-infrastructure
Setup and deployment code for setting up a REMEDI machine translation cluster

remedi4j
Remedi4J provides a Java library for interacting with the REMEDI machine translation platform
Are you sure it’s not an excuse?
We still can’t code in the open (unannounced policy, product...
Code like you were coding in the open
Keep following the same best practices
Your repository will be ready to be opened once the product or policy is announced.
Who is using our code?
Coding in the open vs open source
We can’t commit to support all the code we release as open source
We try to give back as much as we can (fixing bugs, contributing upstream)
It’s less “expensive” to contribute upstream than forking and working on your own version
Our code is released under MIT License
Community
You can’t just push your code to GitHub and hope people will find it.
Don’t solve the same problem twice
Collaborate, split the effort (and save money!)
We promote and organise cross government meetups
What can we do next?
Improve documentation and reusability of our code
Engage more with existing open source communities
Support the open source projects we use most
How can you get involved?
You can use our code
Give us feedback
You can work for Government Digital Service: we are hiring!
Questions?
If I can’t answer right now, please send an email to media@digital.cabinet-office.gov.uk
Thanks!

Andrea Grandi
@andreagrandi