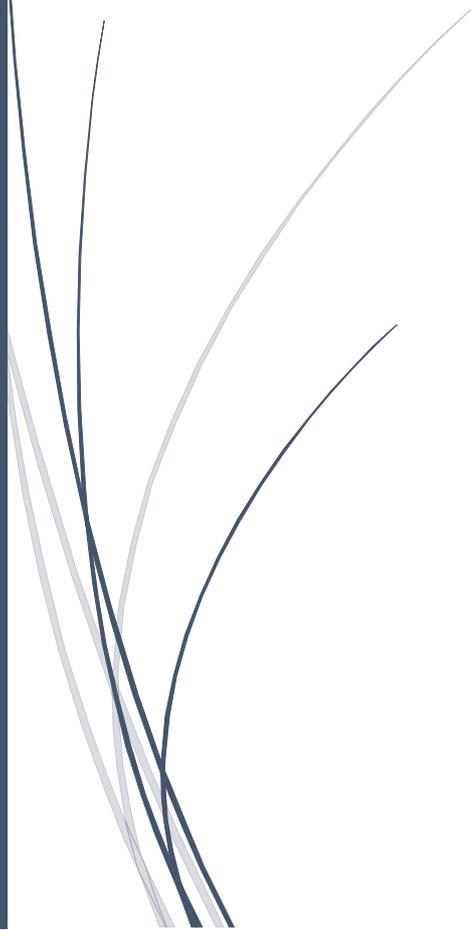


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Experimental digital legislative processes

Reimagined lawmaking (Version 1.3)



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BIUS WORKING PAPER NO 7

(THIS DOCUMENT DOES NOT REFLECT THE VIEWS OF SCOTTISH GOVERNMENT)

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1 Introduction

1.1 Why experimental digital legislative processes?

We think of the making of laws as a point-in-time event.

The king calls his bishops, barons and burgesses to assemble as a general council, parliament of convention of estates in Kirkliston, Holyrood, Perth, Stirling or Linlithgow. They sit for a day, or a week and vote an Act or set of Acts *en bloc*.

Fast forward 6 centuries and the processes seems similar – the ‘point-in-time’ is a bit thicker than a day or two. Consider the timetable of Housing (Cladding Remediation) (Scotland) Bill¹ which is in the Scottish Parliament the now:

- Introduced 1st November 2023
- Stage 1 ended 12th March 2024
- Stage 2 ended 23rd April 2024
- Stage 3 planned for Tuesday 7th May 2024

The law-making part of this is about 7 weeks – bigger bills might have a longer duration, emergency bills a much shorter one.

But looking at the Scottish Social Security legislation since 2018, the 3 primary bills and 76 pieces of secondary legislation, we see a very different picture. Social Security has not been a point-in-time process – 79 different pieces of legislation over just under 6 years – 1 a month.

And we take it as read that the bill will go through 3 stages – the 3 normal stages – as defined in the Standing Orders of the Scottish Parliament² - these stages were inherited from custom and practice at Westminster.

In his book *How Westminster Works... And Why It Doesn't*³, Ian Dunt quotes Paul Evans, who worked as a clerk in the House of Commons from 1981 to 2019:

“This is one of the things about the British system. The fact that we have 3 readings is purely invented. It’s not written down anywhere.”

We also know that the procedures of the Scottish Parliament were not designed to take into account of major digital deliveries⁴.

In Holyrood it is at least written down – but parliamentary process is a man-made thing, and can be un- and re-made.

¹ <https://www.parliament.scot/bills-and-laws/bills/housing-cladding-remediation-scotland-bill>

² Standing Order 9.5 <https://www.parliament.scot/about/how-parliament-works/parliament-rules-and-guidance/standing-orders/chapter-9-public-bill-procedures#topOfNav>

³ <https://www.weidenfeldandnicolson.co.uk/titles/ian-dunt/how-westminster-works-and-why-it-doesnt/9781399602747/>

⁴ pals of mine shaped and wrote the first version of the procedures of the Scottish Parliament in the 1990s and I asked ‘em

This working paper starts from these two premises:

- that laws are not point-in-time events with regard to iterative development of major digital systems
- the process of writing the law is mutable and can be adapted to lead to better and more effective design and oversight of digital systems

The troubled but finally successful delivery of Universal Credit at Westminster has proven very influential in the organisation of major digital programmes worldwide. The delivery of Scottish Social Security was informed by the lessons learned as was the structure of Ontario Digital Service.

This working paper looks at those two major programmes and other lessons learned and suggested a range of possible alternative ways of taking major digital infrastructure legislation through a parliament.

It is important to understand that these proposals for new legislative processes mostly apply to a minority of Bills – ones with substantial long-term digital foundations – finger in the air 1 to 2 bills per session (5% to 10%). One of the options in Section 5.3.3 Pre-legislative design might also apply to smaller bills.

But there are also major digital deliveries that are non-functional in nature and not specified in legislation which need similar oversight.

1.2 Who are you?

You are a Minister or opposition MSP, a SPAD or policy person, someone with a deep interest in the future delivery of a major digital programme over an extended timespan

1.3 Why should you read this?

Principally, because a botched major IT delivery could cost Scotland £2bn, £3b or £7bn.

You should read this to understand what the lessons of UC were and the different ways in which they have been learned within the confines of a traditional legislative process – and how they might be used to create better parliamentary processes that would catch and kill broken or runaway digital programmes earlier.

2 The Blues Project

This is Working Paper No 7 of *Blus - Basic Law-Making For Legislative Computer Systems* which is a research project looking systemically at how the state creates the digital systems underpinning its services.

Working papers are being released gradually for comment:

Working Paper 0.2	<i>The locus of change</i>
Working Paper 1.2	<i>Data and the rule of law</i>
Working Paper 2	<i>Rules as code</i>
Working Paper 3	<i>The Lego state</i>
Working Paper 4	<i>The remixable state</i>
Working Paper 5.1	<i>Law reform for data</i>
Working Paper 6	<i>A solera for data cleansing</i>
Working Paper 7.2	<i>Experimental digital legislative processes</i>
Working Paper 8	<i>An Enabling Act</i>
Working Paper 9.1	<i>Reading legislation with a non-functional eye</i>
Working Paper 10.2	<i>Immediate hygienic measures</i>
Working Paper 11.1	<i>Jeff Bezos' API Mandate, but for government</i>
Working Paper 12	<i>A theory of state</i>
Working Paper 13	<i>The weak centre</i>

Blus working papers are designed to stimulate discussion about key elements of the relationship of the state to digital systems and their delivery. Your feedback, input, and particularly criticisms of this paper are most welcome. Feel free to distribute it however you wish.

Working papers are published via the *Digital Policy* SubStack.

Author/contact: gordon.guthrie@foundationsofthedigitalstate.com or subscribe to [Digital Policy | Gordon Guthrie | Substack](#)⁵

The author is an independent Research Fellow at Scottish Government under the First Minister's Digital Fellowship programme. The views of this paper do not represent the views of Scottish Government.

⁵ <https://digitalpolicy.substack.com/>

3 Revision notes

- Version 1.1** Diagrams of bill processes included Westminster descriptions not Holyrood ones.
- Version 1.2** Additional discussion of limitations in secondary legislation
- Version 1.3** Ottawa Digital Services corrected to Ontario Digital Service

4 Background

4.1 Why process matters?

One of the insights to emerge from this research is that there is no effective oversight of non-functional aspects of the digital state – see Working Paper 9 – *Reading legislation with a non-functional eye*. This is a bit more complex because some of the key infrastructural elements of the digital state (common payment rails, common identity systems) aren't formally statutory systems at all. Despite being 100-year infrastructure functions with enduring effect they are not subject to any specific parliamentary oversight. This needs to be rectified.

There is no amount of money that you can't burn in a failed IT delivery. The reality of this was seared into my consciousness in the early 2000s watching the NHS Spine programme play out.

Contracts were signed in 2002-2003 with BT, Fujitsu and Accenture amongst others. I worked for BT a bit later – in the division that had the contract – and colleagues went off to work on NHS Spine and report back informally that it was dead in the water in 2005.

My matrix manager from the Technical Architect team went down from Liverpool and was told something along the lines of “we didn't have time to specify the system, to hit the deadlines we had to just start building it”. He fled back home.

By the time the contract was finally killed in 2011 the UK Government was over £10bn in the hole, with the suppliers taking another £5bn hit.

The problem with tyre-fire major IT programmes is not in detecting they have gone rogue, it is in killing them. They are sufficiently complex and large that every actor has both an interest in someone else killing them and taking the blame and a naïve belief that someone else has the full picture. If it hasn't killed it then it is still salvageable and can be got back on track.

The major problem that besets them is lying – not people lying to each other, but people lying to themselves. And the best way to catch and kill a runaway programme is transparency and accountability about progress.

25 years of experience of the tech industry has shown again and again that iterative development processes, with a focus on building up velocity and learning through iteration is not the best, but the only way to achieve high quality transformational systems design.

But an unexpected side-effect of iteration was that teams ended up in a different place than they aimed to be at the start.

In the case of government – where the citizen is not a customer – where the relationship is not a voluntary one – things are different. The private sector must woo with honeyed words, but the state can compel with bayonets. Techniques like co-designing bring citizen interest to the heart of the systems design in a way that simple user testing and iteration don't.

Unlike the private sector, the state often commissions multiple services to provide the same service – the services being created are to be partitioned. This can be in existing bodies like local authorities or health boards, or in new bodies such as care boards.

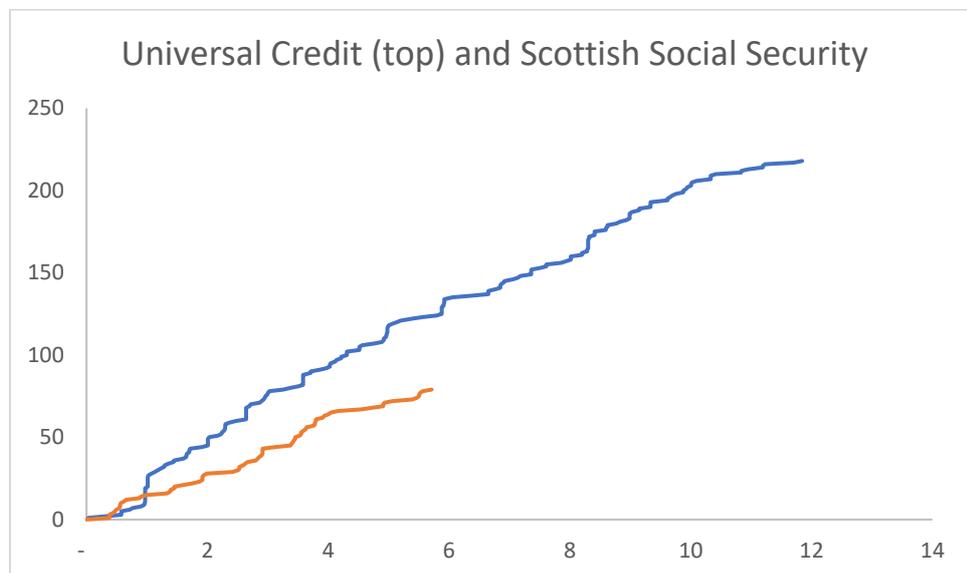
This paper seeks to combine these six things to make better government:

- oversight of non-functionals
- early catch and kill
- iterative development
- learning through building
- co-design
- partition-friendly

And it seeks to do that within the constitutional framework of a separation of powers and parliamentary oversight – it proposes not a technocratic evasion of democracy but a technical empowerment of it.

4.2 Continuous legislating

The notion that legislation is a point-in-time thing for major digital systems can be disabused by simply plotting the cumulative amount of secondary legislation since the laying of the primary overarching Act. This graph shows it for both Universal Credit and the Scottish Social Security system:



Y Axis is pieces of secondary legislation (ministerial orders) and the X axis is years since first bill laid.

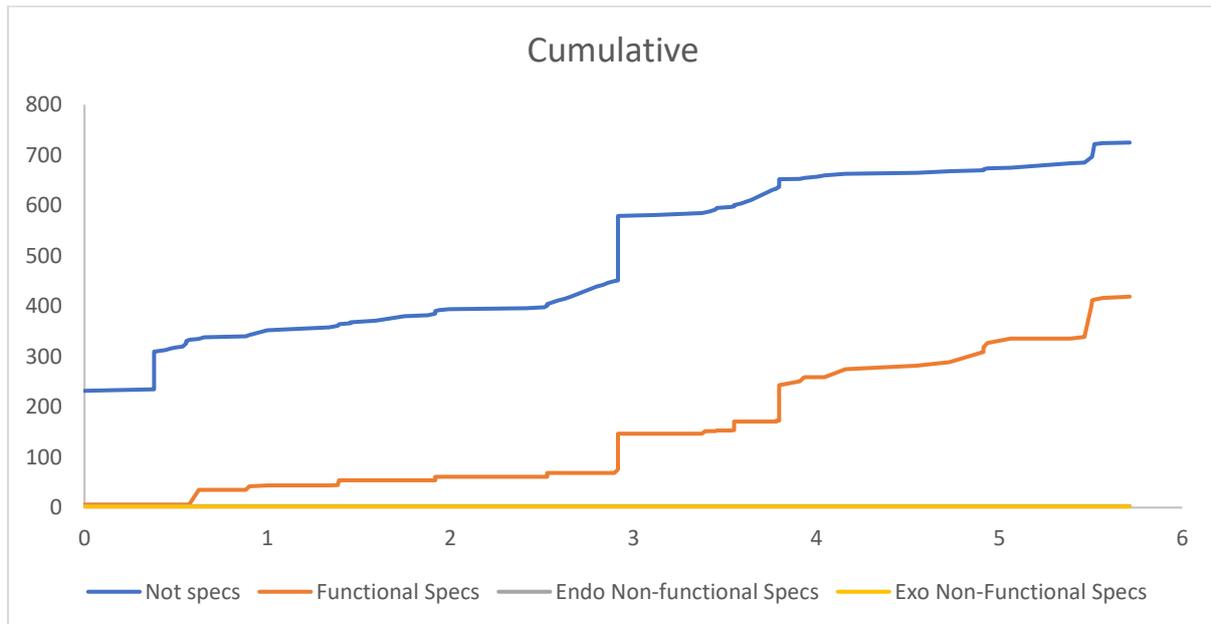
The legislative processes of both social security systems are formally continuous – and each has an independent statutory body⁶ to which a sub-set of secondary legislation has first to be considered by before it goes up to Westminster or Holyrood.

⁶ <https://www.gov.uk/government/organisations/social-security-advisory-committee> and <https://socialsecuritycommission.scot/>

Working Paper 9 – *Reading legislation with a non-functional eye* examines the Scottish social security legislation section by section and categorises each as:

- not a specification
- a functional specification
- an endo non-functional specification (restricted to Social Security)
- an exo non-functional specification (relates to external technologies)

Plotting these in a cumulative fashion paints a clear picture:



The Y axis is cumulative numbers of sections, the X axis is years since the first framework bill was laid before parliament.

The key point to notice is that the specification sections are overwhelmingly functional – 98.8% versus 1.2%. The oversight that the social services commission provides is only to the functionality of the system.

Nobody with any reasonable experience of the legislative process will be in anyway surprised by this graph – but it is important that continuous legislation goes from something that is merely accidentally known to an anchoring fact about which we can revisit long-made decisions from a critical perspective.

In this respect the two big social security programmes are abnormal. Dedicated scrutiny of secondary legislation is almost unknown – and the social security programmes both have an independent commission to scrutinise some of the secondary legislation that goes with them.

4.3 Limitations of secondary legislation

As the Hansard Society report *Delegated legislation: the problems with the process*⁷ noted the entire oversight of Statutory Instruments is problematic – less so at Holyrood than at Westminster.

Whilst focussing on Westminster Statutory Instruments, it makes a number of relevant points about secondary legislation and its discontents.

The section of Introduction which outlines the problem is fairly savage on Skeleton Bills (references from original):

*The line between what should be a matter for primary legislation and what for delegated legislation is now often perceived to be arbitrary, defined largely by what Ministers and officials consider politically and practically expedient and what they think Parliament will stomach, rather than any constitutional or legislative principle*⁸.

‘Skeleton Bills’, or ‘skeleton clauses’ within Bills, are now a common feature of the legislative landscape: these are Bills that contain broad powers in lieu of policy detail, leaving the actual operation of the Act and the implementation of its policy objectives to ministerial discretion, legislated for via SIs. As the House of Lords Delegated Powers and Regulatory Reform Committee (DPRRC) memorably described them, they are Bills which are “little more than a licence to legislate⁹ and so give flesh to the ‘skeleton’ embodied in the Bill”.

Such Bills inhibit effective scrutiny because Parliament is being asked to make laws “without knowing how the powers conferred may be exercised by Ministers and so without knowing what impact the legislation¹⁰ may have on members of the public affected by it”. The SIs that Ministers lay before Parliament under these powers are then subject to limited or no parliamentary scrutiny.

Note: *clauses* here would be *sections* in Scottish Bills at Holyrood.

It discusses the inadequacy of the scrutiny procedures:

Delegated legislation is not solely the preserve of the uncontroversial administrative and technical detail for which it was historically intended, and for which the

7

https://assets.ctfassets.net/n4ncz0i02v4l/2e2hncTHupRnvN4trkguJ6/34ab2e41faa8254985034fab5c466a5c/Charge_Sheet_FINAL_2_Nov21.pdf?utm_source=HansardSociety

⁸ The Delegated Powers and Regulatory Reform Committee (DPRRC) concluded after listening to evidence from the Lord President of the Council and Leader of the House of Commons that “the Government consider the inclusion of delegated powers as a political and practical decision, rather than a matter of principle.” See DPRRC (2021-22), *Democracy Denied? The urgent need to rebalance power between Parliament and the Executive*, HL Paper 106, para. 125

⁹ DPRRC (1998-99), 29th Report, para. 23.

¹⁰ Joint letter from the Chairs of the House of Lords Constitution Committee, the DPRRC and the SLSC to the Lord

parliamentary scrutiny procedures for SIs – particularly in the House of Commons – were designed nearly 80 years ago.

Principal matters of policy – including some of the most politically salient issues of the day – are now found in delegated legislation. However, the parliamentary scrutiny system is inflexible, so it rarely provides a satisfactory forum for Members to express their concerns about these laws that directly affect citizens.

There is a distinct disconnect between the Hansard Society and this report. Their presumption in all the discussion about delegated legislation is that it is, or ought to be, sufficiently ‘known’ to be appropriately hedged in and delimited by *vires* in the primary legislation.

This appears in a section of the Cabinet Office *Guide To Making Legislation*¹¹ which they quote (this is the Westminster equivalent of the Scottish Government’s Parliament and Legislation Unit’s *Bill Handbook*¹²):

Conversely, however, it also notes that the fact that a matter is technical, or that there has been a lack of time to develop the policy detail, is not likely on its own to be “sufficient justification for the inclusion of a delegated power in a bill”.

One of the core propositions of this report is that with modern iterative exploratory system, service and software development the necessary knowledge of is not, and cannot be available at the time of writing the initial primary bill - the *vires* are unknowable.

Their proposed solution to some of the problems of delegated legislation does prefigure the institutional suggestions in this report - the creation of a Parliamentary Office for Statutory Instruments, which is prefigured in its own right by the NI Assembly Examiner of Statutory Rules¹³.

4.4 Sketches of a future state

4.4.1 Introduction

The legislative and supervisory structure should be designed backwards from the needs of a major software delivery programme if we want the best results and the lowest costs.

The core considerations are the aforementioned:

- oversight of non-functionals
- early catch and kill
- iterative development

¹¹ Cabinet Office (August 2022), *Guide to Making Legislation*, para. 15.2

¹² <https://www.gov.scot/binaries/content/documents/govscot/publications/foi-eir-release/2022/07/foi-202200306018/documents/foi-202200306018---information-released/foi-202200306018---information-released/govscot:document/FOI%2B202200306018%2B-%2BInformation%2Breleased.pdf>

¹³ <https://www.niassembly.gov.uk/assembly-business/legislation/2017-2022-mandate/examiner-of-statutory-rules-reports/>

- learning through building
- co-design
- partition-friendly

4.4.2 Oversight of non-functionals

The case for oversight of non-functionals is made in Working Paper 9 – *Reading legislation with a non-functional eye* and the proposed institutional solution is discussed in Working Paper 0 – *The locus of change*. I won't elaborate on that here.

4.4.3 Early catch and kill

Early catch and kill should be a belt and braces solution – as many opportunities to kill a runaway programme as there are ways in which a programme can go rogue. The principle dynamic of runaway programmes is a self-incentivising spiral of group think. The core mechanism for breaking out of the spiral is having the insiders justify themselves to outsiders.

Early in this context starts firmly in the pre-legislative stage: appropriate consideration of programme and team construction.

Once a major programme gets into a good place it pretty much continues to work well. The challenge lies heavily on the programme stand-up and the building out the programme, procedure and software platform scaffolding. So any new proposed legislative process should have external justification points built-in – with a focus on the early stages.

4.4.4 Iterative development

Iteration (sometimes called 'agile'¹⁴) is a core mechanism for developing large software systems at scale. A small working prototype is built and gradually expanded acquiring both functionality and classes of users. Proposals to spend 3, 4 or 5 years developing and then dropping a new system 'big-bang' – what you might call the bridge or major infrastructure model is often associated with runaway programmes 'we are only a bit late, we will soon be there'. Its not that major software programmes doesn't ever follow a big-drop-in-the-future pattern – software for space exploration is a counter example. But that approach is traditionally much more expensive than simple iteration, with a much higher failure rate.

Iteration is not some magic bullet though, and a clear vision of the destination of the journey in *la longue durée* is necessary upfront. Teams can iterate themselves into an architectural dead-end and have to reverse out to the beginning.

4.4.5 Learning through building

¹⁴ Agile is formally a particular methodology, but 'agile' is often used as generic adjective for a range of development methodologies – but what they all share is a commitment to building a small working system and growing it towards a larger working system. The term is often used in counterpoint to 'waterfall'. It is substantially the difference between drawing out a vase from a lump of clay on a potter's wheel (agile), versus building it from slabs of clay joined together (waterfall).

Both early catch-and-kill and iteration are fairly commonplace in modern state digital delivery. Enough people have been burned often enough with runaways and big bang disasters.

Learning through building is a more fraught proposition. As tech firms gradually addressed all the issues that the state is grappling with and moved toward iterative development they discovered an unexpected side effect. The process of building iteratively brought with it an increase of understanding of the problem and what an optimal solution would look like. The programme team would realise iteratively that there were better ways of achieving their goals than they had planned, and also better goals than they had set out with. The destination changed with the journey.

But the mental model of optimal software development then flipped back to front. From we-didn't-understand-it-properly to it-can-only-be-understood-through-doing. Not having a perfectly worked out picture of the future is the natural state and not an exception or failure case.

The constitutional challenge that learning through building brings is that the government can only act within the approval of parliament. The government consults and then proposes law to the parliament. The parliament disposes. If the destination changes along the delivery journey then to parliament we must return.

The mechanism by which we currently enable iteration is use of framework bills and secondary legislation. The model is: parliament debates the primary legislation in detail and within it embeds the ability of the government to flesh out details by secondary legislation. The secondary powers are supposed to be as narrow and as constrained as they possibly can be.

The reason for this is that secondary legislation is unamendable and subject to a lot less scrutiny than primary legislation.

Given that iteration involves learning and change, granting useful iterative powers involves busting out of constraints, making the secondary powers more general, more powerful – moving against the spirit of the constitution.

If our expectation is that the government will learn from experimentation then the secondary legislation should run back to front. At the debate in primary bill, the government should request the powers to iterate widely with very broad powers. And then having learnt from that what they wish to do, the government should return to parliament with a clear programme and request permission to do what they have now learned they should do. The returned proposals should be debatable and amendable.

4.4.6 Co-design

Co-design as a principle shares fundamentally violates the constitutional principle that the legislature has the last word. And co-design is not neutral – the outcomes of a co-design process can be altered by the selection of whom to do the co-design with. This suggests a

two-pronged approach – the requirement of the government to get parliamentary approval for the selection criteria for the co-designers in advance, and the requirement to bring the learnings of the co-design process back to the legislature for approval.

4.4.7 Partition-friendly

The strategic goal of partitioning state function is to allow for local autonomy, custom ways of working and adaptation to particular local conditions. Many state services have profoundly different characteristics in large rural areas versus major cities, or small towns in a rural hinterland.

The challenge of being partition-friendly is that it requires delegating the ability to develop policy and functionality. Legislation must switch to a more formal objectives-and-powers semi-constitutional mode – pushing the detailed powers to the local bodies. The EU has a good legislative model for this.

Oftentimes in the digital age we have seen centralised specification, either directly, or by reports, or nominally partitioned functions. This approach has all the disadvantages of a centralism and few of the advantages of decentralisation.

For partitioned systems it is appropriate to have a centrally defined set of interface processes – what happens when you move from one health board to another.

4.4.8 Summary

The experimental processes outlined later in this paper should be assessed against these criteria to see which best enables high quality digital systems whilst preserving the constitutional framework which is so essential to the health of a democratic society.

5 Universal Credit

5.1 What happened with UC?

It is not this Working Paper's place to recapitulate the entire history of the Welfare Reform Act 2012 and the development of Universal Credit. People unfamiliar with the story should probably start with the Institute for Government's report *Universal Credit – From disaster to recovery?*¹⁵ which this account draws upon.

In Appendix 1 I have attached a copy of the short timeline for the IfG report which is a useful summary.

To summarise briefly – there was an overriding political imperative that drove the process. The first finger-in-the-air estimates about how long UC would take was 9 years. The 5 year electoral term made getting something live by the time of the next election politically important. The legislative process ate up the first 2 years and lo! an impossible to meet Go Live! date was announced.

There were numerous recognitions that all was not well with the first iterations of Universal Credit. There was a Major Projects Authority review of the project in March 2011 (a full year before the primary legislation was passed) and at the time there was a strong feeling about suppliers and contractors that a train crash was coming. Around the time of the 2nd MPA review in November suppliers were writing formal letters saying that things weren't working (they didn't stop taking money, they were upfront about that). Those formal letters would later stymie attempts to claw back expenditure, but didn't percolate to the decision making level.

There was a gruelling cycle of reviews and resets – the big bang deployment was replaced with rolling pilots, expensively developed software was scrapped, a new team brought in, twin track development commenced. Eventually after a range of false starts the programme moves into a continuous development mode. New features were added, new classes of claimants were included, manual processes were automated and the programme was rescued.

¹⁵ <https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery>

5.2 Lessons learned (1) Westminster

Welfare Reform arrived at a transitional time – Francis Maude the Westminster enforcer had put a stop to ‘mega IT contracts’ and ‘big bang’ IT solutions – and an absolute prohibition of multi-billion IT solutions with four- or five-year lead times¹⁶. This approach built on earlier management approaches – major project gateway reviews dating back to the previous Labour government.

There are a number of lessons learned at Westminster – the National Audit Office report *Welfare Reform: lessons learned*¹⁷ documents them in detail. The obvious big lesson was the switch from a waterfall to a proper agile approach – with a focus on building small working systems and scaling them.

But the Audit Office recommendations prefigure some of the arguments in this paper. They make the argument that failure is something to be planned for and not avoided¹⁸ - it will happen, plan to catch and rectify.

The initial delivery was restricted in multiple dimensions¹⁹. Firstly a small number of pathfinder sites, and then to a pre-selected ‘easy’ set of citizens - new claims from single, childless, out-of-work claimants who would otherwise be eligible for Jobseeker’s Allowance.

Howard Shiplee, the Senior Responsible Owner, appointed an independent external chair of the Programme Board²⁰ to break the ‘good news only’ cycle.

One of the besetting political problems of Universal Credit was the milestone of the Go Live! date of October 2013. Neither the DWP, the Audit Office nor Lord Freud the Minister himself was able to work out where that date came from and how it became established as gospel. Francis Maude transferred responsibility for setting dates onto the Senior Responsible Officer²¹ with an accountability line to Parliament in addition to their minister.

The Audit Office report also established a clear set of guidelines for iterative delivery of new products, pathfinders during the design and policy development phase, followed by phasing-in along different axes: regionally, by claim/application type, by new claimants versus reassessed claims and by functional and policy change²².

The Audit Office also identified a structural barrier to using iteration – when the legislation requires a big bang²³.

¹⁶ Section 7 - <https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery-10724-001Welfare-reform-Book.pdf> (nao.org.uk)

¹⁸ Section 2.7 [10724-001Welfare-reform-Book.pdf](https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery-10724-001Welfare-reform-Book.pdf) (nao.org.uk)

¹⁹ Section 2.8 National Audit Office, Universal Credit: early progress [10132-001-Universal-credit.pdf](https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery-10132-001-Universal-credit.pdf) (nao.org.uk)

²⁰ Section 9 - <https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery-10724-001Welfare-reform-Book.pdf> (nao.org.uk)

²¹ Section 5.6 <https://www.gov.uk/government/publications/ministerial-code/ministerial-code#ministers-and-their-departments>

²² Figure 10 [10724-001Welfare-reform-Book.pdf](https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery-10724-001Welfare-reform-Book.pdf) (nao.org.uk)

²³ Section 3.15 [10724-001Welfare-reform-Book.pdf](https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery-10724-001Welfare-reform-Book.pdf) (nao.org.uk)

5.3 Lessons learned (2) Scotland

The Social Security Scotland programme was specifically designed around smooth delivery. The main legislation was a framework act with a secondary powers granted to implement each of the transferred benefits²⁴:

- Carer's assistance
- Cold-spell heating assistance
- Winter heating assistance
- Disability assistance
- Early years assistance
- Employment-injury assistance
- Funeral expense assistance
- Housing assistance
- Short-term assistance

The various benefits were transferred piecemeal with timescales depending on both the ability of the Scottish Social Security Agency to stand up the software, and the DWP to enable the data transfers.

In addition to this first level of phasing, individual benefits had phased deliveries inside them, specified in the secondary legislation²⁵.

Whilst appreciating the care put into the legislative design and architecture of the Scottish Social Security programme it is worth considering some limitations on it as a general model.

I have shown in Working Paper No 9 - *Reading legislation with a non-functional eye* that legislation is closely related to the functional specifications of software systems (and largely lacks any non-functional specifications).

It is in this context that we should consider the Scottish Social Security programme. A number of social security benefits that had been administered by the DWP on a GB or UK basis were novated to the Scottish Government. The political aim was that Scotland should have the ability to diverge from rUK social security. The political imperative was to deliver new Social Security systems on a like-for-like basis on day 1 so that citizens would see no change to their money.

In Section 3.3.4 the future state requirement of 'learning through building' was outlined. Whilst the Scottish Security Programme did involve a learning process, it was substantially constrained by the fact that the functional specification (pay this amount of money to this class of people under these circumstances) was already known at the start of the programme (to be identical to the corresponding DWP benefit on day 1).

²⁴ Part 2, Chapter 2 <https://www.legislation.gov.uk/asp/2018/9/part/2/chapter/2/enacted>

²⁵ See for example The Disability Assistance for Children and Young People (Scotland) Regulations 2021 <https://www.legislation.gov.uk/ssi/2021/174/schedule/part/2>

So reading directly across from the Social Security programme to something like the National Care Service is problematic. The best-achievable functional spec of the National Care Service is something to be yet learned.

The digital systems in the National Care Service will mostly not be specified in any detailed way in secondary legislation as functional requirements. The digital systems will support staff who will be the main citizen touch point. They are not specified in the bill which is a framework for a huge range of delegated powers²⁶.

The National Care Service will be a partitioned service and there is no specification of any interfaces (or bodies responsible for delivering interface definitions and policing them) in the current bill.

It is the intention of the government that the National Care Service will be co-designed. If the goal is a partitioned service then that implies co-design on a Care Board area basis, to ensure the adaption of the care service to the local conditions.

The Scottish Social Security system also adopted the Westminster model of a having a custom oversight mechanism for some of its secondary legislation – the Scottish Commission on Social Security²⁷. Like its UK counterpart though, the Commission focusses on the functional aspects of the social security system, seeking to understand the impact of policy changes on citizens and society as opposed to providing oversight about software and systems delivery. My thoughts on an adapted model of oversight can be found in Working Paper 0 – *The locus of change*.

5.4 Lessons learned (3) Ontario

Ontario Digital Services were set up with a lot of input from people who played a key role in delivering Universal Credit.

Ontario put in a pre-delivery assessment process – for both legislative and non-legislative systems – that looked at how the team was structured, how the policy had been developed, what engagement and design techniques had been used to assess citizen need and possible outcomes.

The mandatory assessment process was constructed as an engagement process to guide teams to best practice and not punish them if they failed to meet a grade.

It can be seen as (in part) a pre-legislative catch and kill.

²⁶ <https://www.parliament.scot/-/media/files/legislation/bills/s6-bills/national-care-service-scotland-bill/introduced/bill-as-introduced.pdf>

²⁷ <https://socialsecuritycommission.scot/>

In addition, the GDS Digital Standards were put on a statutory basis with the Simpler, Faster Better Services Act²⁸. Or more correctly the Deputy Digital Minister (a civil servant) got the statutory powers to publish mandatory standards that people in service delivery in Ontario were obliged to follow. (My thinking on this is contained in Working Paper 0 – *The locus of change.*)

²⁸ <https://canlii.ca/t/563xj>

6 Possible alternative legislative paths

6.1 Overview

In this section I will propose a range of legislative path changes to address the 6 final state requirements. As far as possible they will be composable – the idea being that an actual legislative path could include one or more elements.

But before getting into them there is a choice between 3 top level options to be made:

- do nothing
- fix up current framework
- implement some of the 6 specialist legislative models

The 6 models match the defined final state requirements:

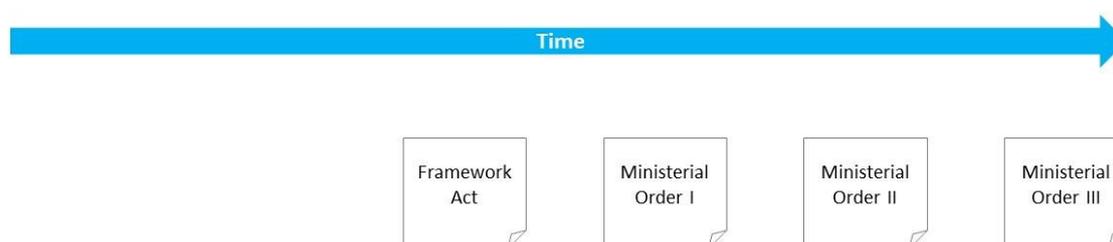
- oversight of non-functionals
- early catch and kill
- iterative development
- learning through building
- co-design
- partition-friendly

I am being very generous in my definition of ‘legislative path’ and including pre-legislative work as well.

These legislative paths are proposed mostly only for bills that deliver major digital programmes over many years which are currently handled with framework bills like the Social Security (Scotland) Act 2018²⁹.

The exception is pre-legislative design in Section 5.3.3 which would be suitable for smaller systems.

The reality of a big programme is that Social Security had 3 full Acts and 76 pieces of secondary legislation, but I will use a much small explanatory schematic:



²⁹ <https://www.legislation.gov.uk/asp/2018/9/contents/enacted>

A framework act is passed giving the minister powers to make regulations which are then used over an extended period. (A simple bill with a few pieces of secondary legislation would not really be considered suitable, it's the big programmes that we care about).

6.2 3 choices

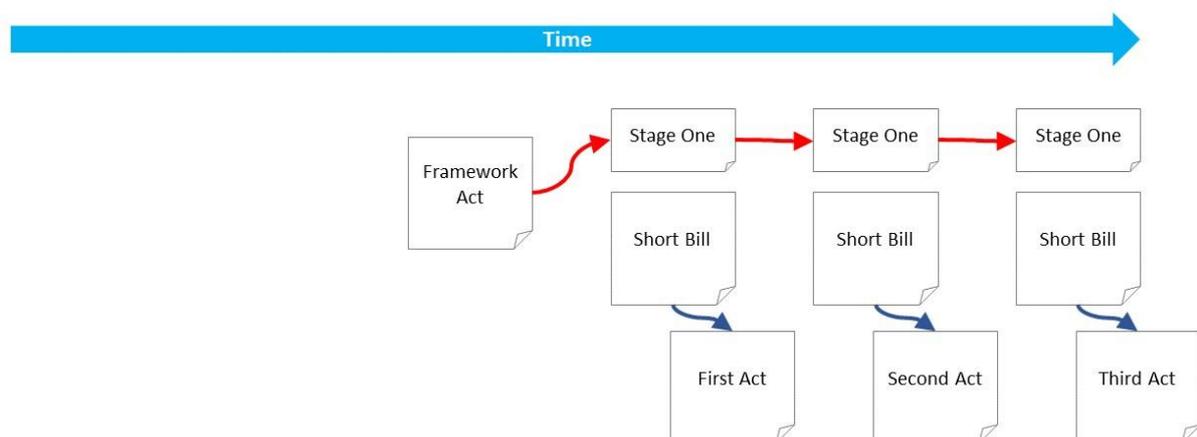
6.2.1 Do nothing

Doing things just for the point of doing things is daft. There needs to be a considered case for changes such as this document explores.

Although the parliament was designed to create major digital programmes, nevertheless it does. Professionals and experts have shaped the process – both within and without parliament. It might be perfectly possible to do major software programmes in the current fashion – perhaps adding only the oversight of the non-functionals of section 5.3.1.

6.2.2 'Fix' Framework Acts

One of the criticisms of the current framework approach is that it grants the government too much power. One mechanism to address that would be to design a bill process that is extended in time. The initial framework act contains both a State 1 vote for the whole programme and specific sections required to establish the long running programme (establishment of corporate bodies, pay and rations, etc, etc). Instead of taking the iterative work in ministerial orders they are taken as 'short' bills – for some definition of short – coming straight into committee – or even have the committee be proactive in the learning process before going to a 3rd reading. The aim is not to increase the quantum of parliamentary work here but to spread it over 3, 5, 7 years:



The bill process for the short bills is exactly as for current bills – except the Stage One has already been accepted and voted on by the parliament and the wrecking amendment restrictions pertain³⁰.

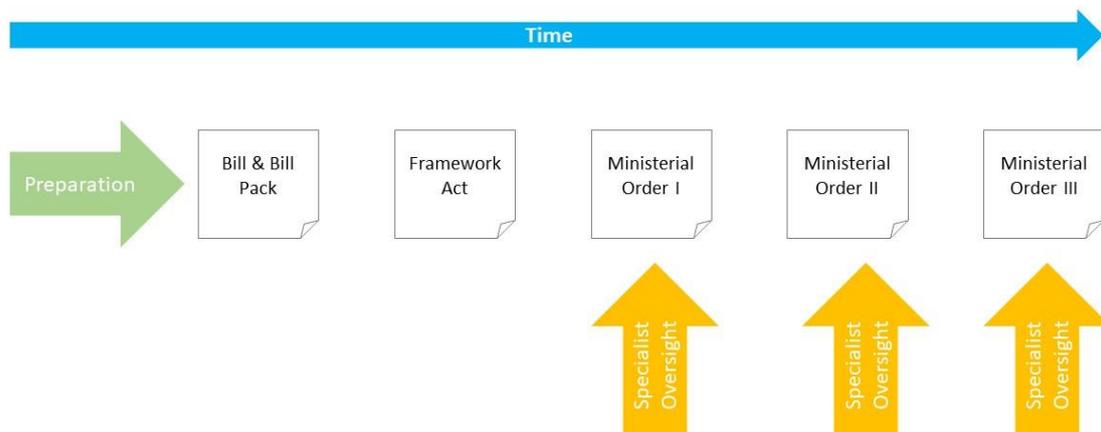
6.2.3 Do one or more of the 6 options

Only if a careful consideration of the current processes indicates that there is still benefit to proceed (and my recommendation is that there is for option 5.3.1 at a minimum) should Scotland proceed to implement some combination of the 6 options for adjusting the legislative process.

6.3 6 options

6.3.1 Oversight of non-functionals

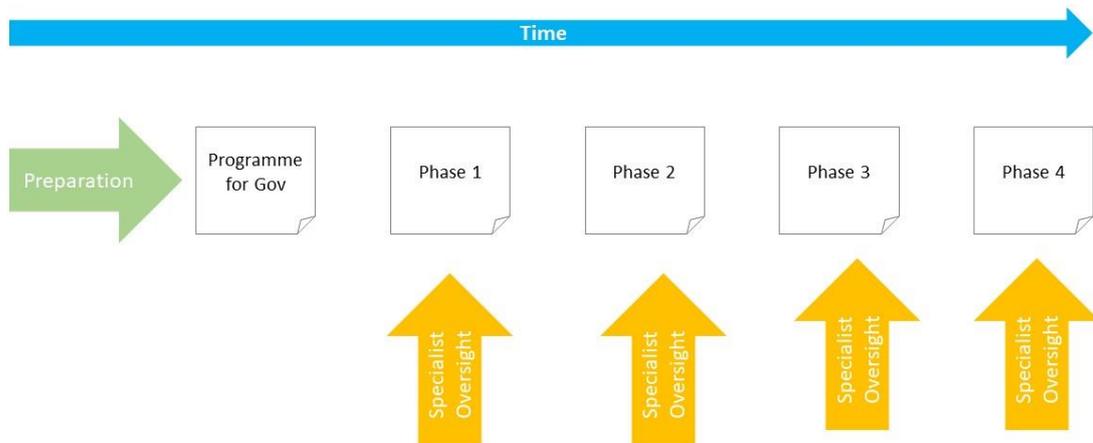
The oversight model of functionality for the social security systems is via a parliamentary body – a social security commission (there is one for rUK and one for Scotland).



The model proposed in Working Paper 0 – *The locus of change* is structurally identical – except that the supervisory brief of the Social Security system which has a functional focus is flipped to a non-functional one. The specialist oversight here would be the proposed Digital Audit & Scrutiny Commission.

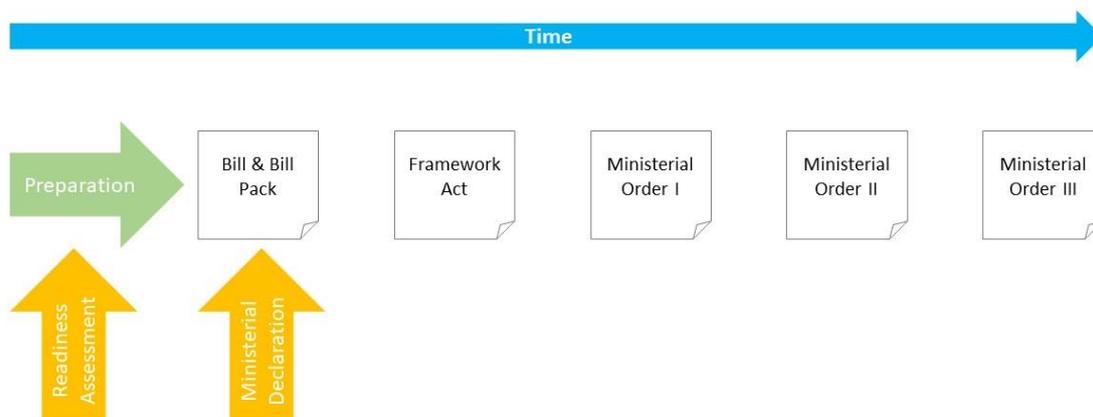
³⁰ Standing Orders of the Scottish Parliament Rule 9.10 Section 5.c <https://www.parliament.scot/about/how-parliament-works/parliament-rules-and-guidance/standing-orders/chapter-9-public-bill-procedures#topOfNav>

This model can be trivially extended to a non-legislative major programme like payment rails of digital identity:

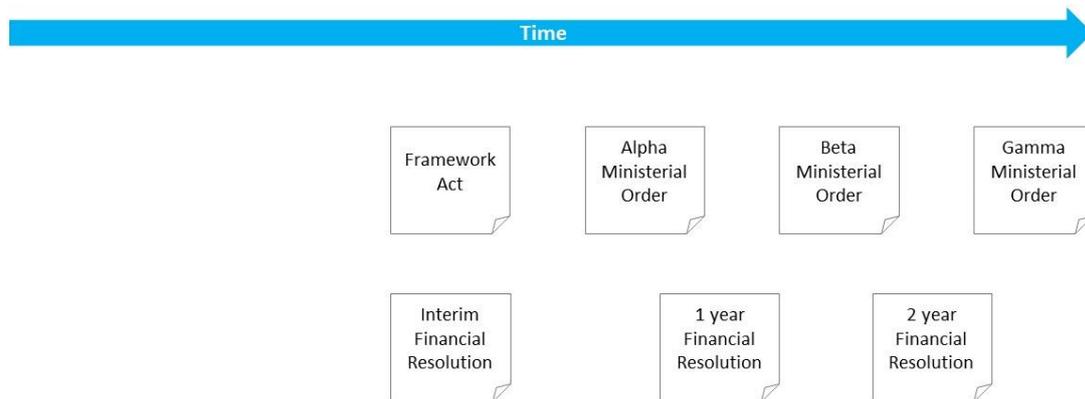


6.3.2 Early catch and kill

This can be considered a version of the Ontario model – a pre-Bill evaluation process is followed to ensure that the policy team is aligned with the in-service and delivery teams and the programme has been fully considered and appropriately staffed up. In this model as well as assessment, the Minister also gives a declaration to that end in the bill pack – part of the ‘charismatic’ function of the bill pack.



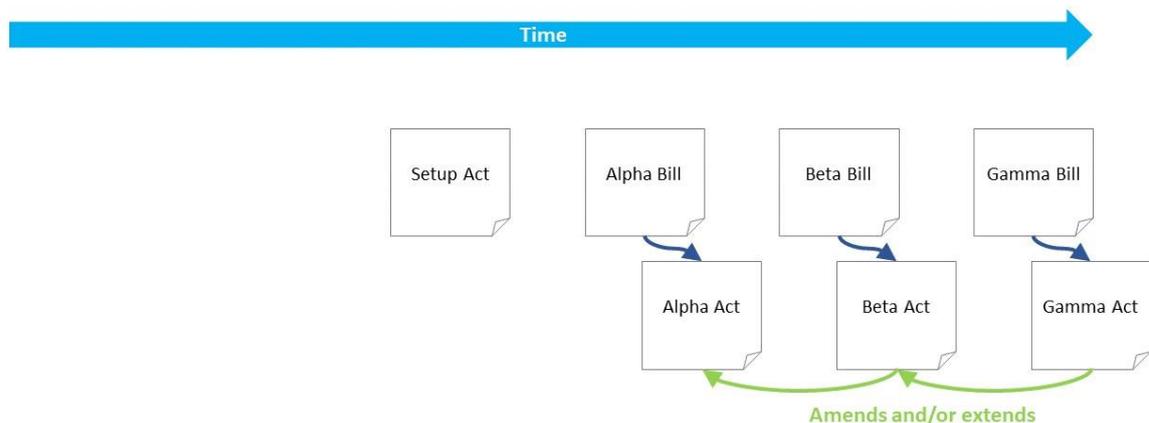
Another variant would be a money catch and kill with the framework bill proceeding as normal but the financial memorandum being spread in time:



In this model parliamentary oversight is built into the time frame and rogue programmes are subject to external independent review as a matter of course and can be caught and killed if they are off track. Note that the financial resolution track is disassociated from the legislative track – the programme is reviewed at fixed pre-defined times.

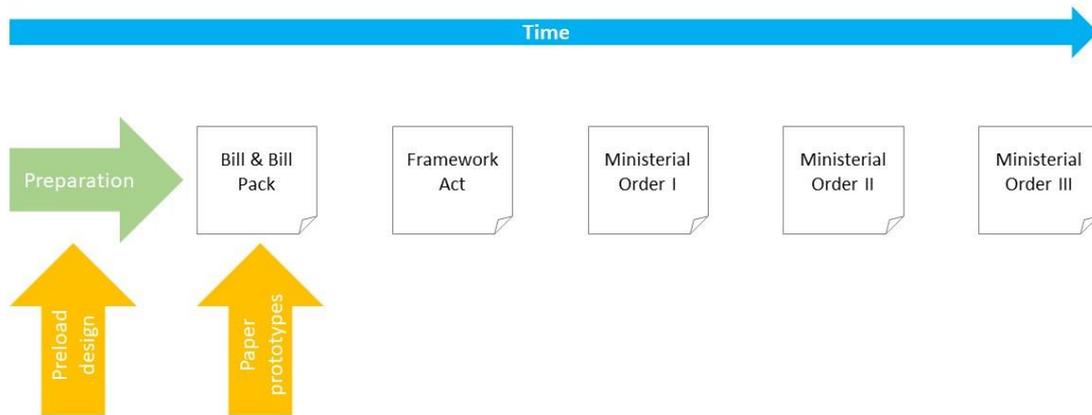
6.3.3 Iterative development

There are a number of iterative options:



In this model the Setup Act just sets the scene, creating the necessary bodies but with the system being substantially undefined. There are then a series of bills (with restricted money in their financial resolutions) develop out the system. This model implicitly implements catch and kill. Each new Act amends and/or extends its predecessors. Having a possible follow-on act was an assumption the design of the Scottish Social Security legislative architecture.

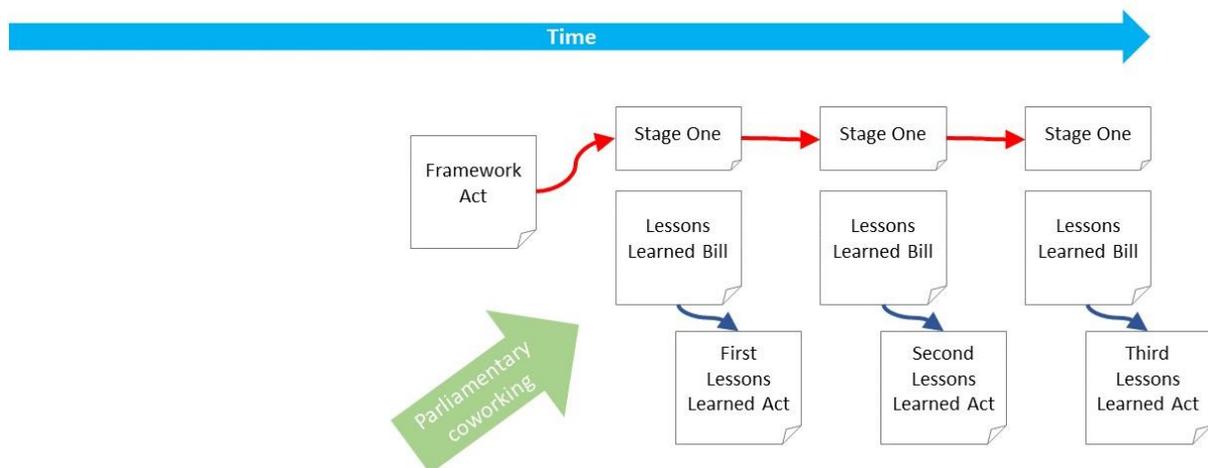
Another more generic approach is to shift the go-to-legislation point as late in the development cycle as possible by insisting up upfront systems design as part of the policy development and delivering a paper prototype of the initial system as part of the bill pack:



There is a lot of anecdotal evidence that exposing senior decision makers to paper prototypes and videos of user testing of live systems is transformative to their understanding of the importance of iteration. Coming to parliament with a paper prototype that reifies the otherwise rather abstract legal text into a comprehensible system must be expected to have a similar impact.

6.3.4 Learning through building

Learning through building is intestinally connected to iteration. The model here looks a lot like both the fixed framework legislation and the iterative model:



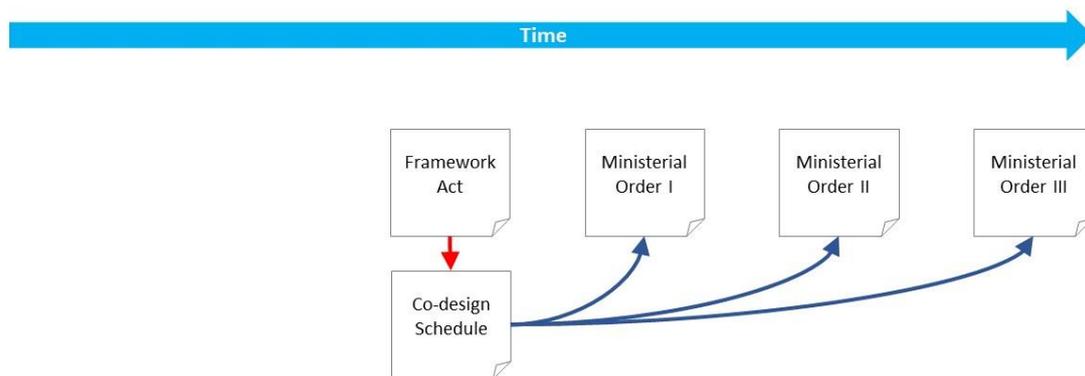
In the Scottish Parliament committees function as both legislative scrutiny, delegated powers scrutiny and post-implementation oversight roles (in Westminster these functions are split across Bill Committees, the House of Lords and the Select Committees).

In a learn-to-build world the boundary between these 3 functions becomes blurred. There are in service systems that are both pre-legislative and in-service. Is there a committee role

that combines these three? Is there something between a full amendable act (as shown in the diagram) and an unamendable yes/no up/down delegated power, some sort of super-super-affirmative process with a more dynamic relationship between the committee and the legislative process?

6.3.5 Co-design

The constitutional problems with co-design, that the government has the last word and not the parliament can be partially ameliorated by giving explicit control of the co-designers to the parliament.



It might be better to combine this approach with one of the options that grants stronger oversight powers to the parliament, where ministerial orders are replaced by either full bills or short bills. But perhaps it on itself is enough.

6.3.6 Partition-friendly

The rational for being partition-friendly is to allow agreement on shared objectives but variation on the mechanisms to attempt to achieve that objective.

The vast majority³¹ of European Union legislation that specifies or implies digital systems assumes partition as a natural state. Our legislation for partitioned bodies (local authorities, health boards) should assume the same.

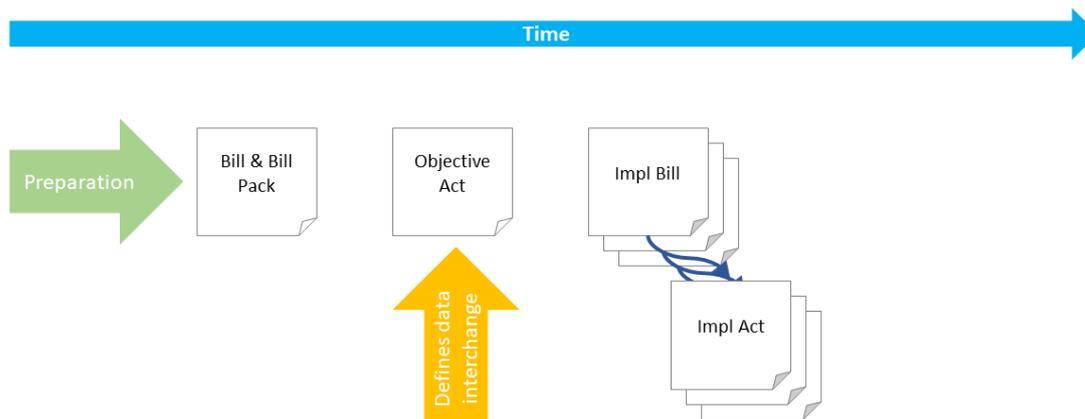
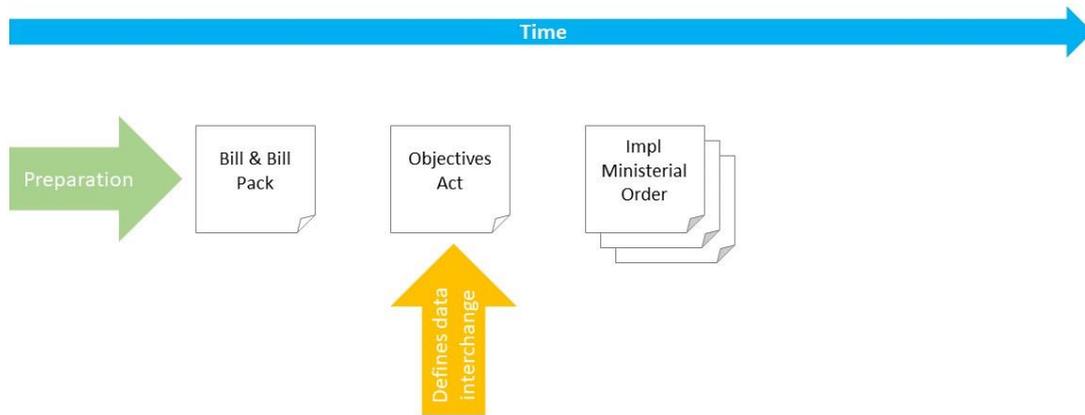
The basic structure of European directives is two part:

- an objectives directive
- implementation directives

If we are serious about organisational autonomy (and we should be) then there need to be mechanisms for co-designing solutions with subordinate state bodies with the parliament giving the lead, the objectives, the implementors having sufficient powers to shape the mechanisms to their local conditions.

³¹ There is an emerging class of European directives that define standard interfaces between national systems – for instance those dealing with exchange of tax records.

There are a couple of variants on this, for shaping orders and shaping acts. The parliament needs to control the over-arching non-functional requirements though – data interchange and how people transition from one partitioned body to another.



7 Discovery Process

7.1 Context

Of all the working papers, this is perhaps the most complex inter-party constitutional one. Exploring these options will need to be a joint project between the government and the parliamentary corporate body.

The proposals involve changes to:

- the format of legislation
- parliamentary process
- the relative role of parliament and government
- parliamentary and non-governmental institutions
- the machinery of government

It is also a proposal that involves several widely separated disciplines, and as described here potentially could go in a range of different directions.

While it is constitutional it is very low-constitutional and a long way from the seismic faults that structure Scottish party politics. It is also a general problem and not a Scottish one. It is amenable to the input of experts furth of Scotland without a dog in our fights. This should help to take the sting out of it.

Luckily there isn't a major digital project on the scale of Scottish Social Security on the horizon at the moment and this lul makes it an ideal time to consider these issues.

The main Blus project will be recommending a lot of different actions and recommending an incremental approach to implementing them, starting with putting in place small prototype institutions and getting a working cycle in place.

Implementing the proposals in this paper will be one of them, and will be recommended to be done later in the process when the basics are all in place.

This approach should ensure that some of the more tricky political aspects have been dealt with up front – general agreement that the programme of work is something that Scotland should be doing, a recognition that people who previously thought they had no role in shaping the digital state do actually have critical roles to play, and the bones of inter-government/parliament working put in place.

As this paper makes clear there are a range of approaches that may be more or less suitable for different projects – I would recommend that the results of this work be an interim report making recommendations as what approaches would work, and that the final reification, the final decision-making about a new process be taken in the context of the introduction of an actual bill intended to achieve a particular major purpose.

I would propose the following approach to tackling it:

- co-design between parliament and government
- small team
- time-bound, short paper-based war-game with balanced participants selected on the basis of experience

This is the process I envisage:



Lets step through each stage.

7.2 Decision makers

Small team drawn from both institutions, odd number of participants, but with a brief to try and work by consensus if at all possible.

I would recommend that the parliamentary side include at least one person comfortable with wrestling with Standing Orders.

The decision makers should also be taken through a short 1 day induction into user experience testing, co-design and paper prototyping techniques. There is considerable evidence that simple exposure to some of the user-centred disciplines can be transformative for senior decision makers who have no experience of them.

7.3 Staffing

Small staff, drawn from existing Scottish civil servants:

- an organisational designer with experience of running design workshops. Their job is to design and run the wargame to ensure that maximum learnings can be extracted and also arranging the decision maker inductions
- a parliamentary counsel to ensure that the processes under discussion can be appropriately grounded in law
- a wordsmith/organiser/factotum

The final report should take the form of a legislative architecture document – able to be reconciled to business, organisational and delivery programme architectures.

7.4 Wargame Participants

The wargame should have between 12 and 20 participants (including the governing board), so quite small. The criteria should be:

Participants	Rationale
People who designed the Scottish Social Security programme/bill	The biggest source of thinking about long-term legislative architecture in Scotland
Current in-service/delivery for Scottish Social Security	Best placed to understand flaws and lacunae in the actual delivery of Scottish Social Security.
Universal Credit old hands	External perspective/anti-group think – in addition the Scottish team were building a like-for-like but UC was a ground-up so they have a different perspective (see Section 4.3)
Participants in major non-functional software programme (payments, messaging, identity)	Social Security is a law-specified system. The War Game needs experience of a general administrative powers major programme. To keep numbers down it is recommended that these participants be double-dunted – having the additional role of coming from outside of Scotland
Local government	Experience of partitioned systems

7.5 Wargame

The wargame should take the Social Security (Scotland) Act 2018 and 2 of the benefits, cut'n'paste them into new formats and then rerun the parliamentary process – 4 years in a day.

The 12 different recommendations here were deliberately broken out to explore particular aspects of the problem space.

In the war game they should be merged down to 3 or 4 (one of them should assume that Social Security is devolved to local councils to explore the partition-friendly space).

The options should be specifically assessed against doing nothing/minor tweaks.

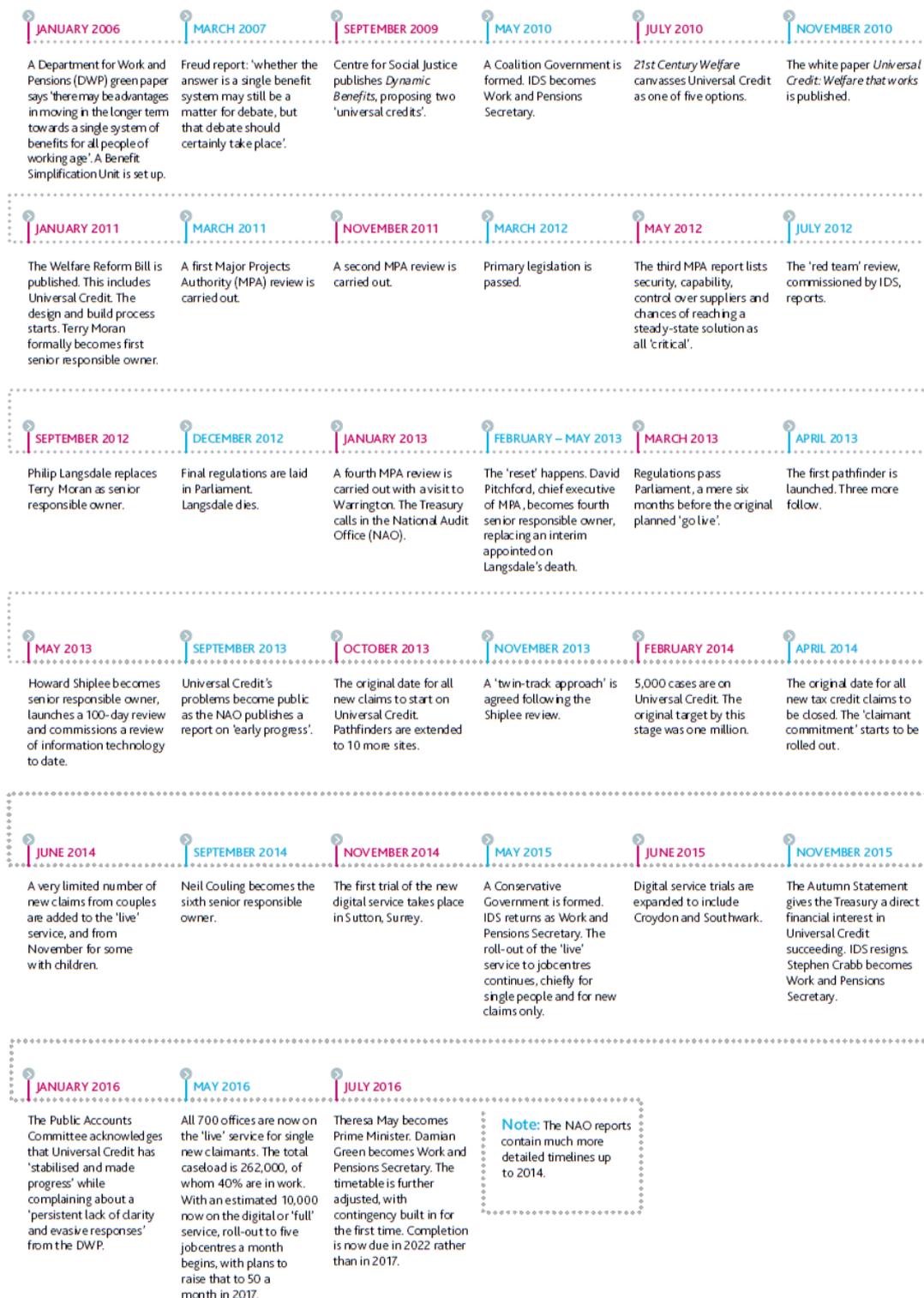
7.6 Write up

The secretariat should prepare a draft for the decision makers to finalise, agree, endorse and publish.

It should be structured as much as possible as a legislative architecture – capable of being reconciled with business, organisational and delivery programme architectures.

8 Appendix 1 – a simplified timeline of Universal Credit

A brief and useful summary of the UC delivery process is given by the simplified timeline in Appendix 1 of *Universal Credit – From disaster to recovery?*³² which I reproduce here:



³² <https://www.instituteforgovernment.org.uk/publication/report/universal-credit-disaster-recovery>