



Behavioural Insights in Action

Reducing sludge in apps

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This guide was created by the NSW Behavioural Insights Unit, with assistance from the Behavioural Insights Team, the Reading Writing Hotline and NSW Government partners.

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Reducing sludge in apps

Apps are a unique channel for interaction with our customers. When we ask our customers to download and use an app, we are asking for more engagement and effort than reading an email or a web page. Apps raise expectations.

Customers use our apps to find information, access licenses, make queries, payments, and more. Our apps need to meet our customers' expectations and make their lives easier. Read this guide to get information on how to reduce sludge in your apps and make your customers' experience a smooth one.

This guide is mostly about written and visual content and is intended to be accessible and usable for public servants without technical training. Though you may have limited control over what you can directly change about the deeper architecture of your app, you can use the following strategies to guide conversations with app developers.

Do you really need an app?

Getting customers to download an app is very challenging. New apps need to compete in an already overcrowded market, with between 2 and 3 million apps currently available for download on popular app stores. This means that making customers aware that your app exists can be hard.

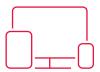
Once your customer has downloaded the app, keeping them engaged is equally, if not more, challenging. A recent study of app retention found that 49% of app users abandon an app after just one day.² In addition, apps can be relatively expensive to maintain and update.

Existing government websites which are optimised for use on handheld devices can support many of the same functionalities as apps and reach individuals who are resistant to downloading new apps. Mobile-optimised websites are also more agile. They can be easily adapted to emerging technologies and future needs, and can collect more detailed anonymous data about customer interaction.

So, consider: is an app is really the most suitable channel? Is an app the best use of resources? The Queensland Government has developed a Channel Management Strategy to help agencies consider the suitability of different channels for the delivery of customer services. Reviewing your website is often a good place to start!

Where to begin

There are four key elements to think about when identifying and reducing sludge in apps.



1. Onboarding and uptake

- Do customers know that the app exists and where to find it?
- · Can customers easily download the app?
- Is the onboarding process easy to understand and complete?
- Is it easy for customers to sign-in to the app and reset their password?
- Have you highlighted how many other customers are using the app?



2. User experience design and navigation

- Do customers have control of their navigation through the app?
- Can the customer easily find the information they need?
- Are visual elements used to simplify communications and signpost important actions?



3. Language and content

- Is terminology used consistently throughout the app?
- Is the language easy to understand and written with an active tone?
- · Are languages other than English offered?
- Is the text personalised to the customer?
- Is unfamiliar jargon removed or succinctly defined?



4. Digital systems

- · Is technical support provided?
- Can customers provide feedback to inform app improvements?
- Is customer engagement and drop-off monitored?

Reducing sludge in apps

Quick reference guide



Onboarding and uptake



Can customers easily locate, download and setup your app?

Ensure the app is easy to find and download, and make the setup process as simple as possible

- Think through the customer journey to download the app and make sure it is signposted when the customer needs it.
- Ensure the app appears at the top of searches by using common key words
- Make sign-up is as easy as possible (by telling the customer what information they need upfront, and chunking information requirements).
- Harness defaults by pre-populating fields from other associated apps/accounts
- Enable automatic sign-in
- Ensure it is easy for users to reset their password



Do customers know the benefits of the app?

Encourage customers to download the app by highlighting benefits and uptake

- Use salient descriptions on the App store and other material publicising the app to highlight purpose and benefits
- · Highlight positive social norms to drive uptake
- Use feedback mechanisms and testimonials to leverage social proof



2. User experience design and navigation



Can customers easily navigate their way through the app?

Guide your customer through the app in a logical way.

- Clearly indicate which elements are actionable and keep the cues consistent E.g. round buttons or underlined text
- · Back and forward buttons
- Keep in mind differences between operating systems and the effect they have on where users will expect to find particular information
- Place buttons where they are easy to access and in commonly used places. E.g. top left for 'back' buttons on iOS.



Do customers find it easy to read the app?

Simplify the presentation of information in your app to make it easy to comprehend.

- Use white space to increase comprehension and avoid visual clutter.
- Breaking up sections of text into shorter, digestible "chunks".
- Using headings that are short, descriptive, and relevant to the reader



Does the app use clear and consistent visual design?

Use consistent visual elements

- Placing the most important information at the top of a list
- Using symbolic icons to reinforce the meaning conveyed by the text
- Using colour to make the most important information stand out



Does the app meet accessibility standards?

Make the app accessible to the widest possible audience

- Follow the mobile content accessibility guidelines
- · Some examples from guidelines:
- Make interface elements (things people click on) big enough for people to tap accurately
- Enable zoom functionality



Can customers personalise the app to better suit their preferences?

Apply defaults to personalise the user experience and prompt follow-through

- Present recent searches and common actions as the default option, but allow these to be personalised by users
- Use push notifications as timely reminders to encourage followthrough at times when customers need it most
- · Where possible default push notifications 'on'



3. Language and content



Can customers easily understand the written content in the app?

Use plain English, first person subheadings and pop-up definitions to make it easier for customers.

- Replace jargon and legal terms with easy-to-understand alternatives
- Use pop-up definitions for complex terms and be consistent
- Use first-person questions to break up chunks of information



4. Digital systems



Does the app use dynamic homescreens and reminders to support customers?

Use dynamic homescreens to push information to customers which reflects where they are in their journey, use reminders to support follow through.

- Use dynamic homescreens aligned to the customers journey making different information prominent at different stages of the customer journey.
- Use simple, timely reminders to help customers take action.



Is the app widely available and usable on all major platforms?

Make the app available and accessible to the widest range of customers

- · Make the app free by default
- Make the app available and accessible for iOS and Android users
- Ensure updating and loading the app is as quick and easy as possible



Are customers able to provide feedback online?

Support customers and provide opportunities to report technical and user issues

- Provide technical support information within the app
- Make it easy for users to report issues/bugs within the app and fix them quickly
- Regularly review customer engagement and feedback

Key consideration

Have you identified the behaviours you are trying to encourage?

Consider how your customers need to interact with the app to complete important actions or tasks. Think about the kinds of behaviours the app deals with, and what your customer is trying to achieve by using the app.

For example, if your customer is going to be using the app to plan transport routes while on the move, think through how the features and design of the app make it easier for them to do this.

Starting with a customer-centred approach will make sure the completed app best meets their needs.





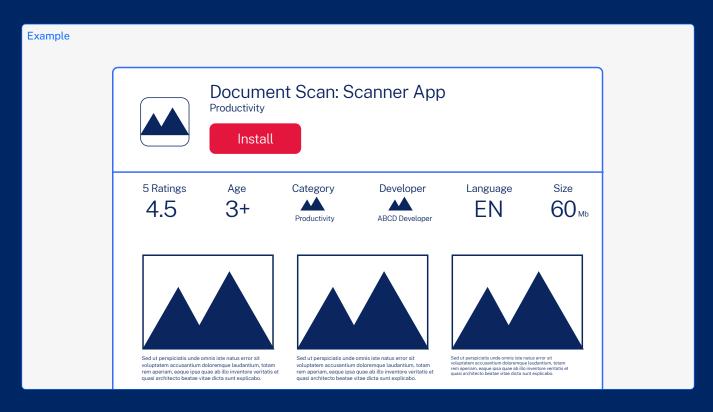
1. Onboarding and uptake

In this section

Ensure the app is very easy to find and download and make the setup process as simple as possible

Use 'social proof' to encourage uptake

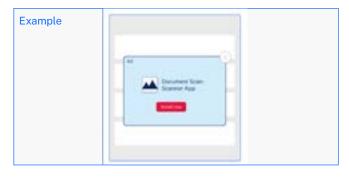
Ensure the app is very easy to find and download and make the setup process as simple as possible



Your customer won't invest a lot of time in finding, downloading and setting up a new app. This means the set-up process must be as simple as possible for them or they won't continue with the process.



Signpost the app when your customer needs it most.



Think about why your customer needs the app and advertise it them at the moment they need it. For example, if you are developing a wayfinding app advertise it in public transport hubs.

Tell customers what information they need upfront and how long it will take to get started.



The onboarding process for a government app is likely to require the input of personal information. To reduce drop-off rates, clearly communicate at the beginning: 1) what information the customer needs to get started and 2) an estimate of how long it is likely to take to complete.

Optimise the visibility and prominence of your app to make it appear at the top of search results.

In 2020, there were approximately 218 billion app downloads globally, up from 140 billion in 2016. For your app to cut through, your customer must be able to find your app easily and quickly.

You can do this by improving your App Store Optimisation (ASO) through techniques such as choosing accurate keywords, writing detailed descriptions, using recognisable logos in your advertising and optimising URLs and titles. These techniques increase the salience of your app in app store search engine results which increases the likelihood that your customers will engage with your app.

You can also reduce customer need to browse app stores by providing direct links for customers to the relevant app store page on relevant sites. For example, if you have a page on your website which asks customers to download your app, or references your app, include a link to the app download page.

__ 1. Onboarding and uptake

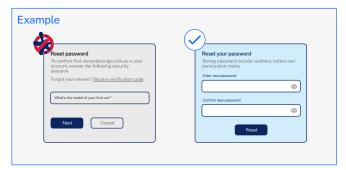


Harness defaults by pre-populating fields from other associated apps/ accounts.



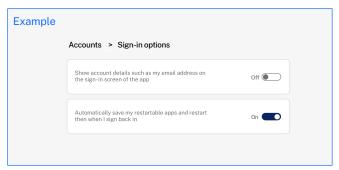
Each additional piece of information that a customer has to enter in a process adds a friction point in their user journey. We can reduce frictions in the process for customers by automatically filling information fields using information we already have about our customers. Filling this information in by default reduces the hassle for your customers.

Ensure it is easy for users to reset their password.



Forgotten passwords is a very common customer issue. If there's no easy way to reset a forgotten password, an app will often become obsolete to the user. This can be mitigated by ensuring a hassle-free 'forgot password' system (such as sending a direct link via email) is enabled and easy to find on the sign-in page.

Enable automatic sign-in.



Once a user has entered the required information once, provide the option to enable automatic (or single-step) sign-in when returning to the app. This reduces cognitive load as the user does not have to remember their login details and increases the likelihood that they will return to use the app again because the process is easier for them.

Use 'social proof' to encourage uptake

Example





"Great App, Love it, Easy to use"

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi

-Lucy





"So convenient to use"

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi

-Bob

Social proof is the psychological phenomenon describing how people often copy the actions of others when they're uncertain of which behaviour to perform. For apps, customers are often drawn to those with the highest number of downloads and ratings.



Leverage positive social norms to drive uptake.



Consider communicating descriptive social norms (true statements that show a large proportion of a target group are doing a desired behaviour) in communications about the app.

For example, this technique was applied in a press release about the Service NSW app by highlighting that "approximately 75% of the NSW adult population" have downloaded the Service NSW app.6 This 'social norms statement' makes the private act of using the Service NSW app more public: encouraging non-users to try the app that so many others are. You can also encourage customers to leave ratings on the most common app platforms (e.g. Apple's App store and Google Play).



2. User experience design and navigation

In this section

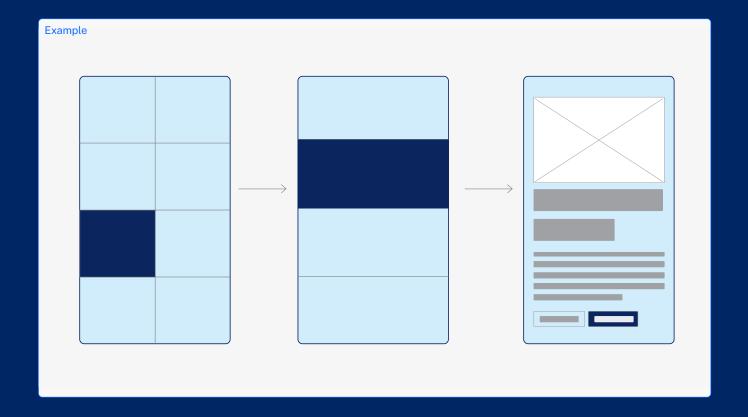
Guide your customer through the app

Organise your app to make it easy to comprehend key information

Use visual elements consistently

Apply defaults to personalise the user experience and promt follow through

Guide your customer through the app



If a customer can't easily find the specific information they need, then they will likely exit the app. It's important to make your app easy to navigate.

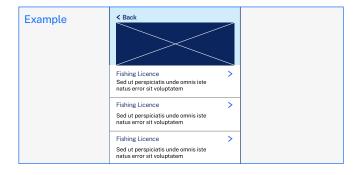


Group relevant content into relatable sections or segments that your customers will identify with.



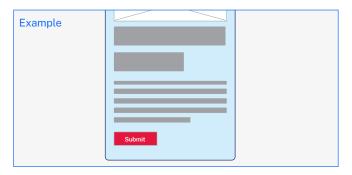
For example, the Service NSW app places popular services at the top of their landing page. You can also answer a call-to-action such as 'Find the information most relevant to you' with sub-options that map onto potential customer identities and segments, such as 'I am an employee' or 'I am an employer'.

Use forward and backward buttons and place them where they are easy to access.



Give customers navigation control by allowing them to progress forwards and backwards easily through the app. Place functional forwards, backwards and menu buttons in easily accessible regions or allow customers to progress by swiping right or left on their touchscreen.

Clearly indicate which elements are actionable and keep the cues consistent.



Make it easy for customers to understand exactly which elements signal actions that are required. This can be done by using consistent visual signposting. For example, "make a booking" could be placed inside a red button box (which links to the booking page) to differentiate it from other descriptive text on the page.

Organise your app to make it easy to comprehend key information



Consumers reading on a screen perform more poorly in comprehension tasks. ⁷ This means it is critical to design your app to make comprehension and use as simple as possible.



Use white space to increase comprehension and avoid visual clutter.



Too much content will overwhelm the reader and make it difficult for them to identify the most important information amongst the noise. 8 Consider how you can use white space to declutter your app (remember: white space doesn't necessarily need to be white, for example if the background of the app is a colour!). A few rules-of-thumb to keep in mind: 9

- The more white space around an element the more the eye is drawn to it
- The amount of white space on a page should be balanced across the page
- Things that are related should be visually grouped together, and things that are unrelated should be far apart from each other (proximity design principle) 10
- Text should be aligned to the left so readers can more easily keep track of where they are up to
- Consistent measurements should be used for margins

Break up sections of text into shorter, digestible "chunks".



Research on how people learn new information finds that chunking information can make perception, learning, and cognition easier. This is particularly important for apps, as customers are often searching for specific information within a relatively small visual field. Paragraphs on apps should be shorter than on websites and paper.

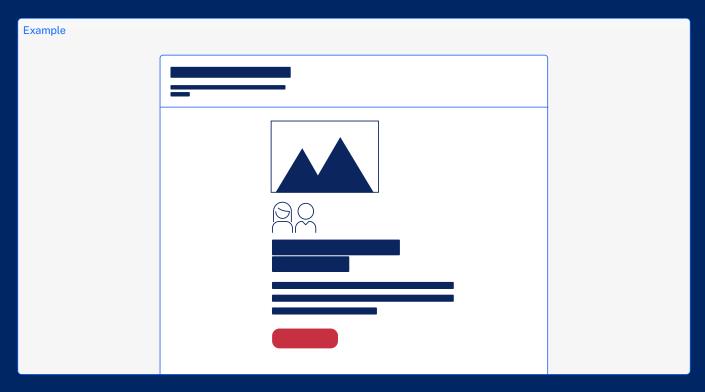
Chunking text in this manner also makes it easier for customers to zoom in on a phone and comprehend the message if they are having trouble reading the text. Larger blocks of text can be more challenging to zoom in on and keep your place.

Use headings that are short, descriptive, and relevant to the reader.



This makes it easy for customers to understand where they are and to find exactly where they want to go next. A good app heading will describe who the information is for and what can be found on that page or in that paragraph. For example, 'required documents' can be more descriptive if changed to 'documents you need to renew your license'.

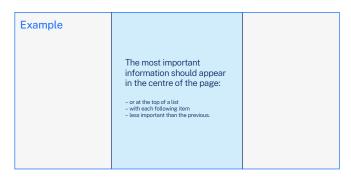
Use visual elements consistently



Visually appealing apps make use of accent colours and other visual elements. Digital stimuli designed in this way are perceived by users as more usable and trustworthy and also increase user retention.

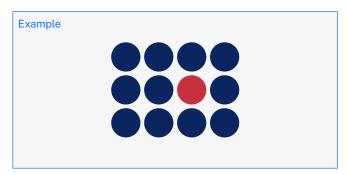


Place the most important information at the top of a list, and in the middle of the screen. 12



Our attention naturally gravitates toward the top of a page or lists, and to the middle of screens. Draw on this tendency by placing the most critical information at the top and in the middle of each page. Lists of information should start at the top left of the screen. On a home screen, where there are buttons, you should put the largest, prominent button in the middle.

Use colour to make the most important information more salient. 15



Using colour will make the page more visually appealing and attract readers to specific content. 16 A recent study found that using a colour which stands out helped to attract users' attention to important links and increased users' sense of control when using a mobile search directory. 17

However, make sure you use colour sparingly, as any more than 3 or 4 colour tones will overwhelm readers with visual stimuli.18 In addition, use contrasting colours for text (e.g. light letters on a dark background) to improve accessibility for people with visual impairments.¹⁹ For guidance on which colours to choose, consult the NSW Government colour palette guide.

Use symbolic icons to reinforce the meaning conveyed by the text.



Icons are a great way to quickly convey meaning and help users find the information they're looking for with a quick scan of the page. You should use icons consistently and sparingly, so customers don't need to keep track of and remember too many symbols. For instance, the NSW Government Tripview app uses consistent symbolic icons to signal different information relevant to different transport types such as bus, ferry, light rail and train. 13

Choose icons that are well recognised and commonly used to represent the term you are conveying, and pair them with short written explanations. In one UK study, pairing icons with short explanations of key terms increased customer understanding of contractual terms and privacy policies by 34% relative to text-only definitions.14

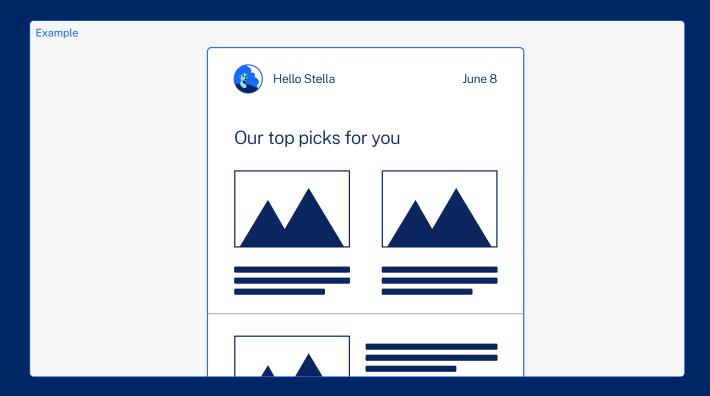
Make your app accessible to the widest possible audience.

Follow mobile-specific accessibility guidelines, for example see: https://www. w3.org/TR/mobile-accessibility-mapping/

Two of the most important guidelines to follow are:

- 1. Make interface elements (things people click on) big enough for people to easily tap accurately
- 2. Enable zoom functionality

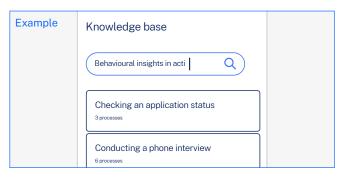
Apply defaults to personalise the user experience and prompt follow-through



Given customers' limited time and attention when using apps, you should design your app to save them time and personalise their experience.



Present recent searches and common actions as default options, but allow these to be personalised by users.



Showing customers recent searches and common actions first structures the choices users see so they're not overwhelmed. These defaults also save your customers time by having their most likely options readily available to them. For example, the NextThere transport app presents recent and common searches to save customers' time.20

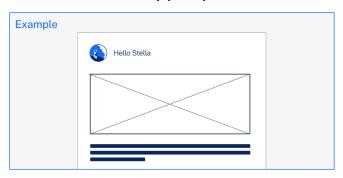
Use push notifications as timely reminders to encourage followthrough.

Push notifications can be used to encourage customers to re-engage with apps, particularly at key moments-such as appointment reminders for deadlines for submitting applications or payments.

You should also consider the best timing for these notifications. For example, avoid times that may trigger negative responses (such as early morning or weekends). For some apps, you may need to consider customers' routines and when they would most likely complete the action in the message prompts (for example, parenting apps may provide push notifications at key milestones in the child's life).

You can also allow customers to customise their notification preferences. They should be able to select preferences around the number of notifications they receive, the frequency they receive them, and what content they are notified about. This customisation can help customers receive the information they need when they need it.

Personalise the app experience.



Use customers' key information, such as their name, to attract attention and encourage engagement, and their location to structure key searches and filter information (for example, identifying childcare centres nearest to where they live).

Need inspiration? Look at examples of successful Government apps

The NSW government has developed a number of successful mobile phone apps. For instance, the NSW TripView and NSW Fuel Check apps are regularly used by a large number of customers, and receive high app store approval ratings. Consider whether relevant components, designs or features from other successful government apps could be applied to the app you are designing.



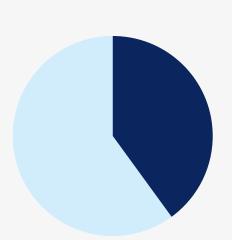


3. Language and content

In this section

Simplify language and sentence structures to make your app content easy to understand

Simplify language and sentence structures to make your app content easy to understand



40% of Australian's have low literacy skills.

Writing content for this group improves comprehension for all other groups too. There's no downside.

Why is writing in plain language so important?

Plain language is important because we want to communicate to all our customers, including those with lower literacy skills.

Evidence from the Australian Bureau of Statistics and the Programme for the International Assessment of Adult Competencies (PIAAC) shows that over 40% of Australians, more than 7 million people, have literacy skills below Level 3. ²¹

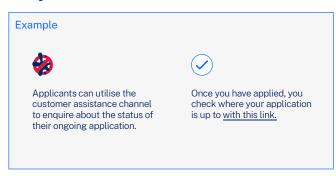
Level 3 is needed to read everyday texts. This means that many of your customers will find it difficult to read and comprehend text on your website.

By simplifying your language choices, you are making your website more accessible for more of your customers.

We should not think of these things as deficits but as factors to plan for. Ask yourself: given our audience, what do we need to do for them?

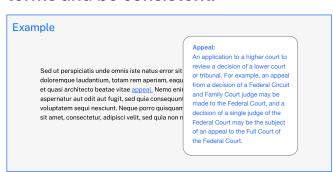
Remember – there's no downside to making your websites as easy to use, as readable, and as simple as possible.

Replace jargon and legal terms with easy-to-understand alternatives.



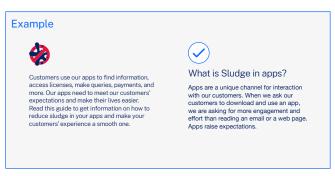
Make your language as simple as possible. Users will rarely read through all the text on a screen, instead, they quickly scan to search for information which seems personally relevant. Using jargon and legal terms make it difficult to scan and digest app content.

Use pop-up definitions for complex terms and be consistent.



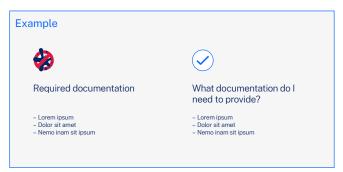
When a technical or legal term must be used, consider adding definitions that appear when the user presses the touchscreen over the word. It also helps to use terms consistently throughout your app to avoid any confusion for your customer.

Aim to use the simplest terms possible to help users quickly and easily comprehend the app with a quick skim.



For example, the NSW Behavioural Insights Unit and the NSW Department of Communities and Justice developed the Avow app²² for people who have an Apprehended Domestic Violence Order (ADVO). The app helps users find their ADVO and court information directly from their mobile phone and uses plain English to make it easier to understand and comply with ADVO conditions and prepare for court.

Use first-person questions to break up chunks of information.



Most people open a Government app with a particular service in mind. Make their experience easier by pre-empting frequently asked questions and organising your content to answer them. For example, "Am I eligible?" and "What documentation do I need to provide?" This technique has been found to increase comprehension of contractual terms and privacy policies relative to the use of headings that are topics (e.g. "Required documentation").²³

Digital literacy

Navigating digital content and using apps can be very challenging for some customers.

Approximately 34% of Australians aged 50 years and over (about 2.7 million people) had either low digital literacy levels or did not use digital devices or the internet 24 .

We shouldn't assume that all our customers will be comfortable with accessing web content. When working on your app, bear in mind that some of your customers will need help (from Service NSW centres, libraries, or other programs) to access digital content.









The Avow app, developed by the Department of Communities and Justice and the NSW Behavioural Insights Unit, uses personalisation, plain English, and a simple design to create an easily navigable and usable experience for customers. The app's dynamic homescreen pushes key content to the customer as they proceed on their journey, ensuring they always see the most important information first.





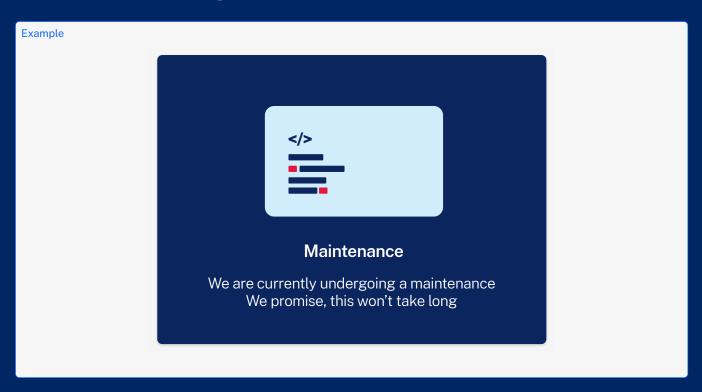
4. Digital systems

In this section

Apps rely on good digital design to function smoothly

Support customers and provide opportunities to report technical and user issues

Apps rely on good digital design to function smoothly



Some key features of a good app are: quick loading speeds, accessibility on all platforms, and the absence of bugs and glitches.

However, addressing the technical elements of digital systems design is likely to be out of scope for many users of this guide. Improving and maintaining digital systems in the app is likely to be an ongoing joint responsibility with the app developer and support team. At the outset, make sure that you sufficiently resource app maintenance.

The purpose of this section is to recommend some high-level considerations related to the behind-the-scenes elements of the app's design.

We recommend taking these ideas forward in discussion with your app developer, with the aim to improve:

- 1. the app's digital systems functionality
- 2. user experience within the app
- 3. the longevity of the service provided.



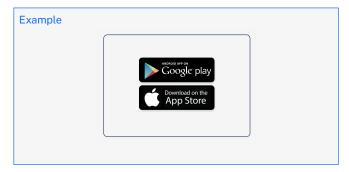
Use dynamic homescreens to help customers achieve their goals

One of the advantages of an app over a website is that it can be move personalised, responsive, and adaptive to customer needs and a customer's journey.

App homescreens do not have to statically display the same information every time. By dynamically updating the information on the homescreen to reflect a customer's journey, you can more effectively help them achieve their goals.²⁶

For example, the Avow app is designed to take customers from first being issued an ADVO through to finalising it in court. When customers first download the app, the homescreen shows info on "what is an ADVO", as their court date approaches the homescreen prompts users to explore "How do I prepare for court".

Make the app available and accesible to the widest range of people

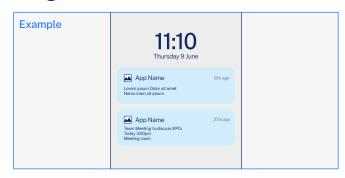


The core purpose of many government apps is to improve citizens' lives and make service delivery easier.

This is best achieved when the app is available to the widest range of people. In addition to the accessibility considerations mentioned in the User Experience section of this guide, three key recommendations to increase access and reach include:

- 1. Making the app free by default
- 2. Making the app available and accessible for iOS and Android users
- 3. Loading the app is as quick and easy as possible helps to use terms consistently throughout your app to avoid any confusion for your customer.

Use reminders and notifications to nudge customers



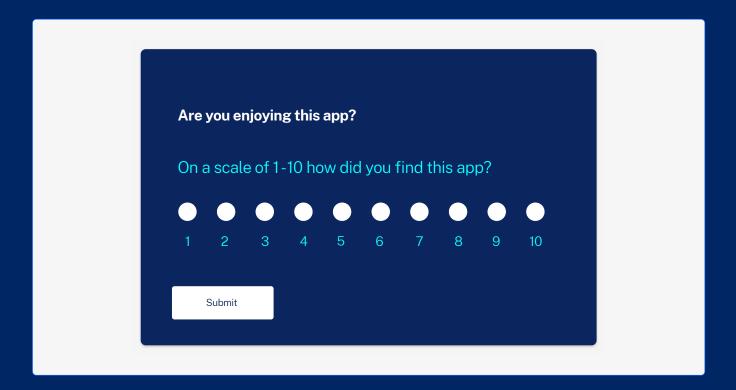
Apps can feed reminders and notifications to customers in a very directed way.

Reminders can be very effective at helping customers follow through on commitments and take action on their goals.

In NSW text message reminders have been effective at promoting attendance at hospital appointments and encouraging social housing tenants to pay their rent arrears on time²⁵.

An app reminder has the benefits of an SMS (being immediate and accessible—right there on your phone) with the added benefit of being able to link directly to app content. Use this functionality to the full by providing your customers with timely, actionable reminders which link directly to the app content you want them to engage with (e.g., a booking link, a submission form and so on).

Support customers and provide opportunities to report technical and user issues



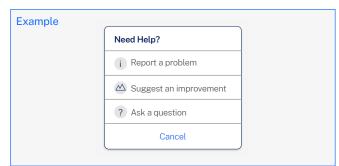
Providing practical technical support demonstrates empathy towards your customer. Collecting feedback about common problems and acting to rectify them quickly ensures the user experience can be improved.

Provide tailored technical support information.



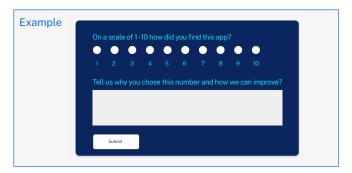
When customers run into challenges using the app, they should be able to access answers to FAQs. If their problem cannot be solved independently, customers should be directed to further support within the relevant Department.

Make it easy for users to report issues and provide feedback.



Make sure there is a way for users to provide their feedback and report any errors, glitches or friction points experienced that could contribute to sludge in your app. Consider creating an online form within the app itself. An online form with step-by-step directions will structure feedback received, ensuring all the details required to fix the problem are captured.

Regularly review customer engagement and feedback to fix issues quickly.



Successful apps are continuously updated and improved based on customer feedback and user testing. The customers using your app are best-placed to know how well the app is serving its intended purpose. All feedback captured should be regularly reviewed in a systematic way so that the development team can be responsive to this feedback and rectify issues quickly for users.

How to test whether changes to your app work

What works is not always consistent or certain. Even when we use evidence-based behavioural insights, we cannot always be sure what will work and what will not in a particular context. Testing proposed changes to your apps is a critical step because it:

- Enables you to be confident that your changes yield the desired benefits
- Helps you minimise unintended consequences
- Helps you maximise cost-benefit because you will only implement and scale the changes that are proven to work

One of the most useful testing methods you can use for web content, including apps, is A/B testing, this involves showing half of your users one version of a page and the other half a different version.

The allocation of which page ('A' or 'B') is displayed to each user is done randomly, so you can get a good idea of which version performs better.

To learn more about A/B testing and find out how to do it, read our guide to testing here.

Endnotes

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We want to hear from you!

If you have comments, questions, or feedback on the guides get in touch with us at sludge@customerservice.nsw.gov.au



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