About This Document

A PR/FAQ is a vision document that describes what a product or solution could be, also referred to as a "Press Release" and "Frequently Asked Questions" document leveraged through Amazon's innovation process to drive clarity of ideas. As the Swinburne Data for Social Good Cloud Innovation Centre works through challenges with public sector organizations, PR/FAQ's are created to share some of the innovation and ideas people worked on to share what could be a future solution to a complex challenge. Please recognize this information is a vision statement published to encourage people consider new and creative ways to solve problems and is not to be viewed as a formal press release announcing an active product or service.

Press Release

All-in-one virtual coach assists patients to navigate Type 2 diabetes

Individuals with Type 2 diabetes can access personalised lifestyle decision support

Melbourne, VIC - January 15, 2021. Individuals with Type 2 diabetes can be overwhelmed by the complexities of diabetes management following their initial consultation with their general practitioner or other health professional. They may struggle to understand the lifestyle changes they need to make, and to maintain the motivation to cultivate healthy lifelong habits. Now they can turn to Chews; a virtual coach that accompanies them throughout their diabetes journey. Chews provides specific lifestyle recommendations with complementary educational content; supporting individuals with Type 2 diabetes to embrace better diets, increase physical activity, improve medication adherence and blood glucose monitoring and encourage positive lifestyle change.

Led by the Iverson Health Innovation Research Institute at Swinburne University of Technology, Chews was co-designed with Northern Health, independent digital health consultants and iNet International Inc., a Canadian market research company. Professor of Digital Health, Nilmini Wickramasinghe lauds the collaborative efforts of all the key health stakeholders. She says, "By engaging patients, clinicians and the Northern Hospital, not only do we engage all key healthcare stakeholders, we are able to develop an effective digital health solution that works for everyone involved".

The team behind Chews set out to create the most usable life coaching application that helps people to build healthier habits. With contextual awareness, Chews is able to alert the individual with diabetes to the most beneficial course of action for their dietary needs. For example, Chews will keep a record of images taken of food and can keep track of meals that the individual uploads. Trends are identified and dynamically provide recommendations based on past behaviour, feeding back continuous information to the individual with diabetes. Similar to a diabetes educator, Chews educates individuals and encourages the maintenance of a good diet and lifestyle choices by keeping them motivated.

"When I got diagnosed [with Type 2 diabetes], I knew I needed to change my life but I didn't really know how. I was constantly

worried that I wasn't eating right or had the right combinations of foods" says Graham from Broadmeadows, Victoria, "Now with Chews, I feel more assured that I am eating well and taking my medication at the right time. I am more motivated than ever to stay on track."

Chews's set-up process begins during the individual's initial consultation with their health practitioner. By undergoing the set-up process jointly, the individual with Type 2 diabetes benefits by having up-to-date, personalised information inputted into Chews about them, such as their baseline blood sugar levels and weight. As the individual uses Chews more, a richer profile of their lifestyle is built, giving them a tool to work better with their health professional to fine-tune further lifestyle modifications.

Northern Health CEO, Siva Sivarajah praises the educational aspects of Chews, saying, "Individuals prepare meal plans and learn how to work healthy meals into their lives while becoming more educated about the negative consequences of poorly managed diabetes." Mr Sivarajah is pleased about the impact that Chews has made, saying "Chews is unique because on-going decision support that our patients can easily access. They have found that they are much more informed and feel comfortable knowing how to manage their day-to-day diet."

Contact your health professional for more information on how to set-up Chews or visit chews.com.au for more information.

FAQ

Individuals with Type 2 diabetes FAQ's

Q: Why would I want to use this application if I have Type 2 Diabetes?
A: Chews takes your data and returns forecasts and tips to support your decisions.

Q: After setting up my account, how will this application motivate me to use it each day?
A: Continuous feedback within the application and some engaging and interesting presentation.

Q: Do I have to manually enter in all my food?
A: No, we have several ways to assist you in adding in food. The minimum required is a photo to show you what you ate that affected your blood sugar.

Q: Can Chews integrate with the data from my wearables or blood glucose monitor?
A: Currently we have manual entries for those who do not have apps for their blood glucose monitor.

Q: Is there a way to share my data with my family/friends?
A: You are in control of your data, though in-depth sharing controls are only for your healthcare professional.

Q: Who will have access to my data?
A: You have full control over who is able to access your data, and which data is able to be accessed. Your healthcare professional will have access if you grant it, and you can revoke access at any time. When errors happen and things go wrong

we are sometimes notified and can use reports from your device to help us fix the problem, but don't worry - the creators of Chews will never see your meal or exercise data.

Q: Can I manage who will have access to my data?
A: Control of your data is in your hands. Using simple sharing controls you can give and remove access to your meal, exercise, blood glucose and medication data.

Q: Can my health professional access my data without my permission?
A: No, you must grant permission for your health professional to be able to review your electronic record.

Q: Is my data secure? What are you doing to ensure that my data is stored and used in a secure manner?
A: Yes, your data will be stored securely in the cloud with only authorised individuals having access to the data. You are in full control at all times, just like a normal cloud-based application you can grant and revoke access at any time. You are in control.

Q: How will I be able to track my progress against my heath practitioner's advice/plan?
A: Chews has callouts, tips and projections to help you have conversations with your general practitioner or healthcare professional, if you deviate from the plan.

Swinburne Executive FAQ's

Q: What compelling emotional purpose will hook an individual with diabetes and get them using the application?
A: People with diabetes often don't take the condition seriously, which is why Chews has a focus on showing the effects of a decision to eat a certain meal. This provides constant feedback and monitoring alongside their blood sugar readings to keep them feeling in control.

Q: What do we bring that gives an unfair advantage?
A: The design was formed through a global panel of healthcare specialists with backgrounds across research, digital health solutions and patient management services.

Q: Who owns the intellectual property from the Chews prototype?
A: The prototype is completely open source. Check out the prototype code on GitLab and our resources are also available on the website.

Q: Can Swinburne collect patient data for research purposes?
A: After going through an ethics review, it's possible that research outcomes could be generated by this project, while the current scope of the challenge is to focus on giving the person with diabetes the support they need to manage Type 2 diabetes.

Q: How is this different from other options individuals with diabetes have?
A: Unlike other apps available, Chews offers individuals with T2D an integration of proactive and reactive decision support in their daily lives.

Northern Health Executive FAQ's

Q: Will the individuals with diabetes be motivated to continually enter their meals and keep their information up to date?

A: To address motivation issues the minimum entry into the app per meal is a photo of the food they ate. This action builds a habit of entering information to a system in a familiar way, by just taking a photo. Note that taking just a photo per meal, can't be used to provide detailed insights.

Q: Can Chews be used by our healthcare professionals in the hospitals, or general practitioners in their clinic?
A: General practitioners are able to sign up new users and get them using Chews as a part of their management plan and can supplement the existing support and paper-based material given to a patient upon diagnosis.

Q: What are you doing to ensure that the individual with diabetes is able to manage their diabetes if they are linguistically and culturally diverse, and come from a low-socioeconomic background?
A: We require further testing with users from these backgrounds as Chews develops.

Q: Will healthcare professionals have administrative access to the application?
A: Healthcare professionals will have access to patients if they are granted access, which is a part of the guided on boarding process.

Q: How will Chews enable me to monitor patient adherence with healthcare professional's advice/plan?
A: Chews will log the blood sugar and meals of the patient which will help both the patient and healthcare professional when the diet of the patient is reviewed.

Q: Does this product require a privacy review?
A: This product will need to comply with the Privacy Act 1988 and meet Web Content Accessibility Guidelines (WCAG 2.1).

Q: How does the product address users entering bulk incorrect values, or changing their prior readings in the app?
A: Chews encourages building habits and makes entering new data easy and doesn't use negative feedback as a motivating method, and instead focuses on positive reinforcement of desirable behaviours.

Q: What features are you building into this product to alleviate the privacy concerns of individuals with diabetes?
A: We are incorporating fine grained sharing controls and permissions to put the control of the data in the customer's hands.

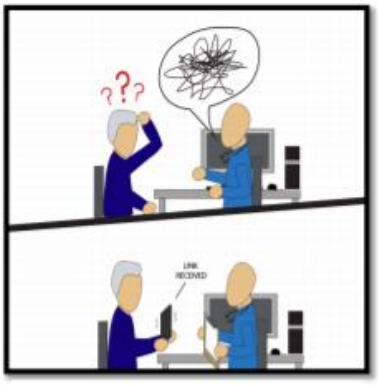
Q: Will individuals with diabetes clearly understand what personal data is being collected and how it is used?
A: When sharing data, we indicate clearly which categories of data are being collected and who it is shared with.

Q: Will individuals with diabetes clearly understand how to opt out of having personal data collected and used?
A: Via the sharing interface, users will be able to modify and change permissions to access certain kinds of data, in a similar way to existing app permissions on other cloud-based offerings.

Q: Will individuals with diabetes understand how I'm using their personal data to make their experience better?
A: During the on boarding process, we will provide information as to the analytics and usability data we collect outside of their personal medical data to transparently improve the customer experience.

Visuals

CHEWS Application Storyboard



Initial Diagnosis and Consultation

Graham is a 55-year-old male who has been diagnosed with diabetes. At his first consultation, he is given a large amount of information for him to absorb. However, his dietitian introduces him to *Chews* – an application that will help him manage his diabetes.
During the consult, the dietitian assists Graham through set-up by entering health information and sending the link to him.

Checking Understanding

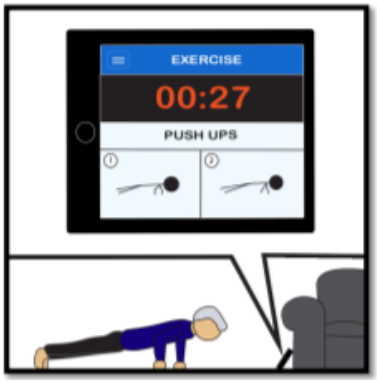
After his first consultation, Graham opens the app for the first time at home.
To check Graham's understanding of the consultation, he is presented with a set of multiple-choice questions to answer.

Education and Learning

Based on his multiple-choice answers, Graham is given a small learning module to complete. The module is picked from a library of content that is accessible at any time. The aim of the module is information to help fill the gaps in his knowledge. All content is presented in a variety of ways suits Graham's preferred learning style.

Weekly Meal Planning

Ever since he was diagnosed with diabetes, Graham has struggled with the food he makes. He is unsure of what food/ingredients are allowed in his recommended diet.
With the help of *Chews,* he is able to plan his weekly meals by selected from a list of approved recipes.



Exercise

During the week, Graham can play a variety of workout sets at any time and place. This can help Graham maintain his glucose levels more effectively.

Logging

Logging information is a major aspect of diabetes management which Graham also struggles with as he needs to log information (food, blood glucose, insulin) that can be hard to track.
Chews gives him the ability to track all the information in one place.

CHEWS Application Storyboard continued

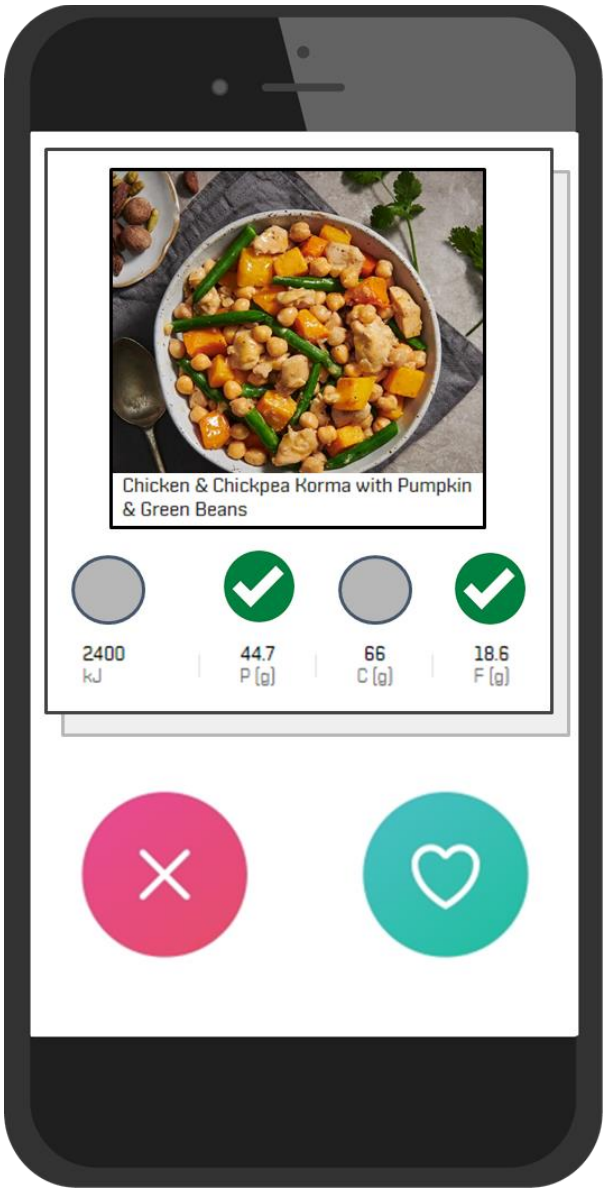
Blood Glucose Forecasting

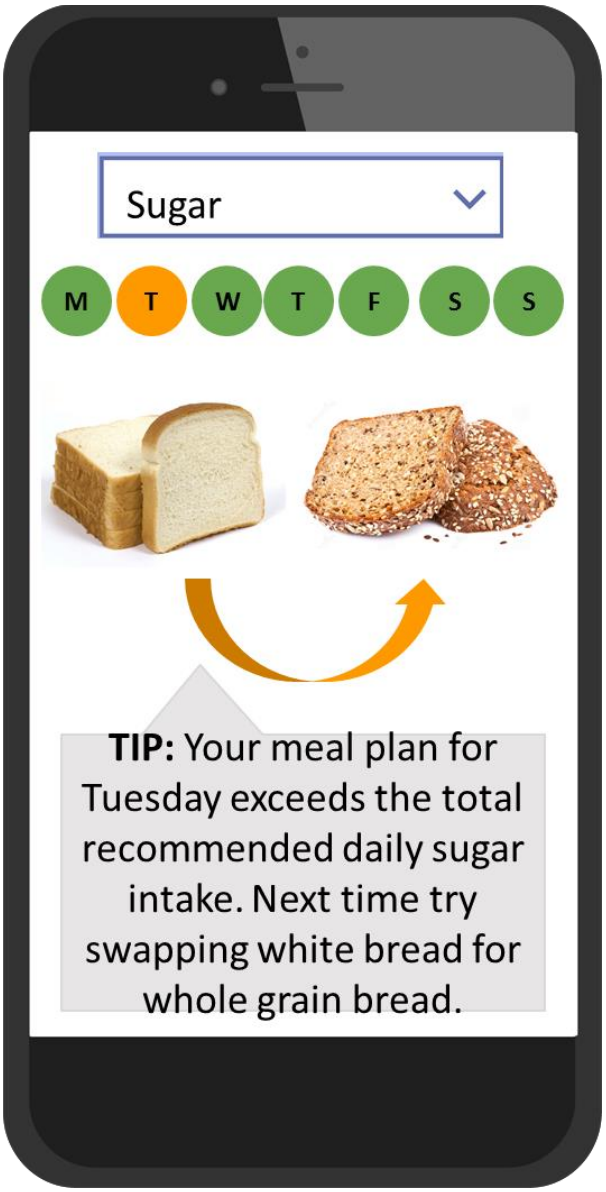
With the information that Graham has logged into the app, *Chews* can leverage the information to assist him in any aspects of diabetes management. For example, the app can help predict Graham's future blood glucose.
Chews will be able to help him make the right decisions to manage diabetes.

Follow-up Consultation

In between consultations, Graham often has questions about his diabetes management that need to be clarified by this healthcare practitioner. Whenever a question comes to mind, Graham records it in the app.
At his next consultation, Graham raises the questions with his healthcare practitioner.

CHEWS app mock-up





CHEWS app experiential prototype