

# ALLEVIATING PRIVACY AND SECURITY CONCERNS IN FINANCIAL AGGREGATION PROGRAMS

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## Abstract

This paper focuses on the privacy and security concerns of young people in Australia regarding the use of financial aggregation (FA) programs as a way of making decisions about their money. The use of FA programs to provide a comprehensive online picture of a person's finances, bringing together information from discreet providers, is one example of the increasing importance of Internet and media services in the lives of young people. Young people are likely to be the target user group for these programs; this is because younger Australians are known to use Internet banking to a greater extent than older Australians. They also see it as more private, more secure and more trustworthy than do older Australians. Drawing particularly on two user experience workshops in Melbourne around Sunario, a FA prototype, the paper documents the privacy and security concerns of the 24 participants, all of whom were between 18 and 45 years old. Despite these concerns and other usability issues, the majority of the participants said they would use the prototype. The paper describes how the design of the FA program had some of these concerns in mind when it decided against automatically downloading information from accounts held by another bank. Following the workshop, there were further attempts to alleviate the users' privacy and security concerns while increasing the trustworthiness of the service. The paper illustrates the value of user feedback to the design of a FA program. The design principles that emerged from the workshops have general applicability to all FA programs. The paper also recommends the need for regulatory overview to ensure that the provision of these new financial services continues to be a safe and private space for information and transaction.

## 1. Introduction

The global financial crisis has resulted in people becoming more uncertain about employment, savings and debt. Baby Boomers close to retirement, and younger Australians alike, will soon feel the financial pressure, if they have not done so already. Families and more debt-exposed people are at a particularly high risk. If price were no object, everyone would welcome a financial advisor, but the cost to provide comprehensive financial planning and the expected level of customer service to accompany it typically has been very high (IBM Institute for Business Value 2002). However, technology can be utilised to make self-service more feasible. The increasing availability of Internet access, combined with significant improvements in web technology capabilities and usability, presents an opportunity for firms to reduce the cost of providing quality advice and service. This is supported by increasing confidence in online banking and general web usage, and the growing trend

towards more interactivity and customised content delivery online in the 'Web 2.0' era. As a consequence, financial aggregation (FA) programs are gaining increasing attention.

'Financial aggregation' is the process of viewing and/or managing multiple accounts, usually held with discreet providers, via one website and a single login. It is thus a way of providing a comprehensive picture of a person's finances. Services offered by online aggregators include budgeting, billing, and payments management. Furthermore, many services are utilising Web 2.0 functionality like social networking (Wolfe 2007, 2008) and delivering services to mobile handsets. Other innovations include offering shared access with financial advisors and accountants, utilising Web TV, and even storing important financial documents for use in the event of death. As such, the facilities available are not limited to the conventional financial services of tracking expenditure, budgeting, and loans management. For example, Wesabe customers can get advice and tips from other users about good shops and services, bridging the ephemeral nature of the online 'world' and the 'reality' of the local marketplace. Another example of innovation is Expensr, which allows users to compare their financial situation to that of other members who have joined the same 'tag': a topic based sub-group organised around a particular issue. Service providers either charge monthly subscriptions or utilise referrals that generate commissions and/or advertising to generate revenue.

Banks are generally under a lot of pressure to meet customer expectations while cutting costs and keeping their operations efficient, while banking customers are demanding a high level of customer services, seamless, multi-channel sales and service experiences. Other financial institutions and non-traditional competitors are trying to gain market share by differentiating their offering and services (Deloitte 2008). Since price transparency is increasing due to Internet based information, and service providers' traditional banking products are on the way to becoming a commodity, customer loyalty will decline (PricewaterhouseCoopers 2005). Offering additional online services such as FA programs to customers may help increase customer loyalty and decrease dependence on person-to-person inquiries while improving the decision-making capability of customers.

However, FA programs have had a mixed history in Australia. They first appeared in the late 1990s. In 2001, Australian Securities and Investments Commission (ASIC) surveyed the market and found three online account aggregators: AMP's Account Minder, Maquarie's Enrichment, and E-wise (Howell 2001). Of these, E-wise provides services to other aggregators rather than directly to individuals, while the other two no longer operate. Maquarie's Enrichment closed the year after it was launched because there was a poor uptake of the service; of the 1000 emails advising users of the closure of the service, only 500 related to regular users of accounts (Derkley 2002). In 2000, ninemsn launched their Account Master and in 2002 the Commonwealth Bank introduced MyOnline. Both services have since been withdrawn. Westpac also has an account aggregation service, 'Other Accounts', which supports connection to two hundred other service providers including banks, rewards schemes, credit and store cards, telecommunication providers, and online auction sites. It appears to be dormant.

Financial aggregation programs are now reappearing in Australia. In 2008, ANZ started beta testing MoneyManager which is marketed towards a younger demographic and features aggregation of other bank accounts, rewards schemes, credit cards, investments, bills, and loans. It is now online and can be used to budget and track spending. MoneyManager can be used by non-ANZ customers. The service attracted 4000 registered users in its first two weeks (Wotnews 2008).

Financial aggregation programs differ in the way they gather information about a person's accounts. The model followed by the ANZ program requires the user to reveal his or her multiple passwords and logins to a third party. The program then apes the human user to 'scrape' the data and initiate transactions. The advantage of this approach is that the information is automatically updated. It however runs contrary to the regulatory guidelines that user access codes are to remain confidential. Moreover, divulging these access codes disqualifies the user from the protections of the Electronic Funds Transfer Code of Conduct.

The Sunario prototype which is the subject of this paper is being developed by Suncorp, a regional Australian financial services company, and SAP, a leading provider of enterprise software, within the Smart Services Cooperative Research Centre (CRC).

## 1.1 Sunario

Sunario is a web-based solution to help banking customers strategically manage their long-term finances. It provides consumers — whether individuals or families — with a personal financial planning and forecasting service that aims to improve their ability to make decisions regarding spending and savings.

The initial idea for Sunario came from an executive manager at SAP who has been managing his family finances using a spreadsheet tailored to his needs. Based on his experiences, there appeared to be a gap in the market for strategic financial planning for everyone — that is, a tool that is easy to use and that facilitates personal financial decisions by generating financial forecasts based on one's personal circumstances. Through the forecasts, different options for expenses, investments or loan decisions can be simulated. The key challenge for software to tackle personal financial planning is to keep it simple and yet powerful enough in order to cater for different life situations.

The core concept for a web based application providing financial planning for end users was shaped by a team of five SAP researchers and resulted in a paper-based prototype. The paper prototype was used to obtain feedback from other colleagues at SAP and was the starting point for discussions with the Suncorp team. Having a prototype and very concrete ideas early on proved to be very efficient even though it clearly bore the risk of actual end users not seeing any value in the application at a later point, which would have made all the initial work redundant.

Sunario enhances existing online banking applications through personal modules in a widgets-like, 'Web 2.0' manner. Suncorp hopes it will lower operational costs and bad debt losses while simultaneously increasing revenue through improved customer attraction, retention ('stickiness') and cross-/up-selling opportunities. It is hoped it will also enhance existing online banking applications, providing customers with the ability to model their financial situation and to simulate the impact of different scenarios.

The balance forecasting is based on estimates of incoming and outgoing payments per calendar month, for both periodic and once-off payments. Account interest rates can also be specified for savings and credit card accounts. The salary inputs will include automatic estimates (that may be overwritten) of taxation and superannuation contributions. The mortgage module enables the user to view the loan repayment graph and associated information (such as total interest payable and total loan duration) under different loan conditions. These loan conditions include interest rate changes over time and different loan repayment schedules (incorporating regular loan payments in addition to lump sum payments). Moreover, the user can realise the effect of an offset account on the total interest payable and loan duration, where the balance of the offset account is not necessarily a fixed amount but may change monthly (and the offset account balance is therefore represented through its own graph).

Additionally, the initial prototype of the system aims to provide users with functionality for making long-term investment projections, for example, term deposits and superannuation. The user can also input information about assets such as property and vehicles that may appreciate or depreciate over time. The information in the system is then aggregated to generate a long-term 'net worth' projection.

There will also be planning capabilities for scenarios based on life events, the intention of this 'What If' capability is to allow the user to take the rich data that they have compiled in the system and introduce life events to their situation. The outcomes are then able to be compared allowing the user to make informed key decisions. To drive these 'What if' scenarios the user will initially have to input key data for those events. Going forward, however, the intention will be for the user to have

access to key external services that allow them to create scenarios with minimal input. One example of this is aggregating real estate data from external companies. An option ‘What if I purchase a house’ is then available to the user. Upon selection of the option, the user nominates the desired suburb and is provided with the median price which is then used to create the impact to their current situation.

All data is archived for retrieval at a later stage, so the user does not need to input the same information more than once. The system will be able to handle multiple simulations for each user. In each simulation, the user can modify any number of their current or projected future financial circumstances — such as interest rates, expected salary increases, holidays, maternity leave, possible future expenses — and see their effect on their entire financial situation. Once the user has considered all effects of the changes, they may choose to ‘enact’ a particular scenario in the system to indicate that it is their current financial plan. Figure 1 shows how Sunario will help the user to take into account the possible purchase of a car.

The system will enable users to export their financial forecasts in a standard file format for their personal records. Also, the entire system will be integrated with the Internet banking platform of the financial institution to alleviate privacy and security concerns. Since the data are stored in a backend database, the potential exists for the institution to execute ad-hoc queries or perform large-scale ‘data mining’ to retrieve useful information about the users’ current financial situation, goals and anticipated future challenges. The data collected when the user interacts with Sunario may reveal the types of products that may be of interest to them. This customer information could then be utilised by the institution for cross-selling and up-selling of products and services, either online, with useful ‘recommendations’ in the system, or offline — for example, through targeted mailing campaigns. It is the responsibility of the institution to perform these functions in a manner that is deemed useful and unobtrusive to the customer.

**Figure 1: What if you bought a car? (June 2009)**



Given the forays of all financial institutions into the use of social media and the utopia of the 'Online Branch', Sunario offers the opportunity to expand the customer conversation and blur the line between 'self service and service by a self'. The user could be provided with the capability to discuss their scenarios and situations with financial advisors using a range of mechanisms such as Instant Messaging and Video Chat. This could enhance the conversation. However, to empower the users' control and sense of trust and security, users have the capability to share or not share these scenarios with the advisor.

## 1.2 Related products on the market

Sunario is different from most FA products which provide a retrospective view only and lack forecasting abilities. Unlike competitors, for example Wesabe.com, Geezeo.com or Mint.com, Sunario can be integrated into the customer's online banking installation to minimise security risks. It gives banks the unique opportunity to extend current technologies to furnish customers with improved access to external data and information. Most of the offerings in the market are not providing bank level security and trust. Account aggregation is mostly done by giving away the account login data. We detail some of the FA products currently on offer to place Sunario in the market context. We also see value in describing them as there is little academic discussion of financial aggregation and the products on offer.<sup>1</sup>

**Yodlee** sells online banking applications to other institutions (e.g. Bank of America, ANZ and mint.com). It seeks to make online banking more profitable for their business customers with their Customer (account) Acquisition Suite and BPay Suite. As with all the major competitors they facilitate account aggregation (for over 10,000 institutions) as a means to enable personal financial management. Customers can view financial data from many different angles, including: Account Overview, Dashboard, Net Worth Statement, Portfolio Manager, Rewards Manager, Bill Reminders, Home Equity Chart, Graphical Financial Calendar, and Spending Analysis views ([http://www.yodlee.com/solutions\\_pfm.shtml](http://www.yodlee.com/solutions_pfm.shtml)). Yodlee was established in 1999 and recently raised \$US\$35 million in an investment round. Since 2006 [http://www.yodlee.com/2008\\_06\\_04.shtml](http://www.yodlee.com/2008_06_04.shtml). Yodlee has also offered their MoneyCenter web application as a free service to consumers. MoneyCenter differs from most free services in acting as a front end that controls internet banking services like bill payments. It has some 120,000 users (<http://www.crunchbase.com/company/yodlee>)

**Mint.com** appears to be the leader among the competitors that offer free online account aggregation and management tools for consumers. Their primary claim is to be able to save their clients around \$1,000 while requiring only five minutes of data input. Their goal is to make financial management and planning simple and easy. They have created a Graphic User Interface (GUI) to enable this. While they use Yodlee applications and support aggregation from over 7,000 institutions (mainly in the United States) they do not provide all the functionality of Yodlee. The key to their success appears to be their strong business plan of brokering products from financial institutions through their user saving tips. They were established in 2007 and have around 600,000 clients. Investments in Mint.com are around US\$17million (<http://www.mint.com/company/>and <http://www.crunchbase.com/company/mint>).

**Quicken Online:** Quicken is a well established financial management application. It is the flagship product of Intuit, which is a large company that has total investments of over US\$1.5 billion. In order to compete in the online market Intuit released Quicken Online in 2007. Initially it charged a small monthly subscription fee but this was soon scrapped due to unpopularity. The functionality of Quicken Online is very similar to Mint. It is a cut down version of the Quicken application. It facilitates the aggregation of information from over 5,000 financial institutions. Quicken Online has

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<sup>1</sup> We would like to acknowledge Geoffrey Binder's initial contribution to the literature review of financial aggregation programs.

a good User Interface (UI) and is obviously a serious competitor due to Intuit's interests in maintaining market share. One problem they appear to have is that they do not want to provide all the functionality of their offline version free to online users (<http://quicken.intuit.com/personal-finance-software/free-online-money-management.jsp>).

**Wesabe** is another free online financial service. It differentiates itself by emphasising and utilising its community of users to offer tips and advice to each other. Wesabe, established in 2005, has received US\$4.7 million in investment capital and has around 120,000 customers. (<http://www.crunchbase.com/company/wesabe>). Another important selling point for Wesabe is that it does aggregation without storing users' login details and passwords. Wesabe provides users with a local application which captures the user's account information from their financial providers and then uploads the information to Wesabe without any sensitive personal identifiers being transferred (<https://www.wesabe.com/>). Wesabe appears not to be profit driven at this point.

**Geezeo** was founded in 2006 and is comparable in size to Wesabe, having around 130,000 users (<http://www.crunchbase.com/company/geezeo>). In a recent share sale Geezeo was valued at around US\$12 million. Geezeo connects to over 6,000 institutions. Its main selling point is that it offers users a 'fun' style with less serious features. While Geezeo generates some income through site advertising and gaining brokerage fees by linking its users to financial products, this is aimed more at 'covering costs'. At this point Geezeo appears to have potential but not a clearly defined business plan like its competitor, Mint.

**Finicity** is interesting because it uses a subscription approach (from \$8 a month) which targets serious users who want a quality product to help them save money (<http://www.finicity.com/>). In2M Corporation was founded in 1999 and recently changed its name to Finicity. In 2003 it developed its flagship product, Mvelopes which has also been renamed. It is now called MoneyManager. MoneyManager appears to have serious functionality benefits, connecting to 14,500 institutions and incorporating features such as BPay. Finicity also generates income through brokering product sales. It has a unique 'plan ahead' approach which it claims enables its users to achieve their personal goals. Finicity services its community by providing it with financial advisory information and by facilitating community discussion forums.

**Freeagent** (full name FreeagentCentral), like Finicity, uses a subscription based model (from US\$20 a month). Freeagent differs in that it is aimed at professionals, sole traders and small businesses. Freeagent is based in the United Kingdom and was established in 2007. It has around 3,000 customers and while it offers a global service, it provides a greater number of services, (e.g. tax) to local UK users.

**Buxfer** is a small business with investments totalling just over US\$0.3 million. Established in 2006, it is another free provider, and caters mainly for university level students (having around 3,000 users). It is interesting because it provides financial management tools for groups of users and majors on making access convenient. It is also relevant because it typifies the many small players in the market who may quickly become major players through partnerships and/or major investments (<http://www.crunchbase.com/company/buxfer>).

**Expensr** is another small business of a similar size to Buxfer with around 4,000 users. It is another competitor that focuses on the 'community' approach. It differs in that it does not provide automated aggregation, but it does allow statements to be uploaded and manual input. Expensr was established in 2006 (<http://www.crunchbase.com/company/expensr>). Expensr was purchased by Strands in 2008. Strands recently released its 'moneyStrands' product (<https://money.strands.com/>), utilising Expensr technology.

## 2. Young people are the target market

Young people are the target market for financial aggregation programs in general and Sunario in particular. This is because younger Australians use Internet banking more than older Australians. A random representative survey of 669 Australians over 18 years old, stratified by location (state and urban or regional), was conducted by Roy Morgan Research for the Smart Internet Technology Cooperative Research Centre and RMIT University in September 2007 (refer Table 1). It showed younger Australians were more likely to use Internet banking than older Australians. They use Internet banking more than older Australians as they see Internet banking as a convenient way to bank (Singh and Morley 2009).

**Table 1: Internet banking by age**

Age Groups	Yes (Row %)	n
18–24 years	59	83
25–29	71	55
30–39	69	121
40–49	50	132
50–59	47	118
60–69	29	82
70 +	6	78
		669

Source: Singh and Morley 2009

The 18–48 years old in Australia also see Internet banking as more private, more secure and more trustworthy than older Australians. These young people also have greater confidence in their own digital expertise. Like other users of Internet banking they trust the bank will look after them. These conclusions were drawn from a qualitative study of 108 Australian consumers' banking and management of money between April 2005 and March 2006, followed by a random representative survey of 669 Australians aged 18 years or more conducted in September 2007 (Singh and Morley, 2009).

These findings are in accordance with earlier studies. Rosa *et al* (2007) conducted a large multi-country survey of 6,100 users in Canada, France, Germany, Japan, UK and USA and found that young people 14/15–21 thought their personal information on the Internet was kept more private and secure compared to the past two years. This differed particularly from the 50+ cohort, who thought it was less secure and private (Rosa, Cantrell, Havens, Hawk and Jenkins, 2007). In Australia too, a survey of 1503 respondents found that more of the 18–24 and 25–34 group were less concerned about personal information on the Internet compared with two years ago (Wallis Consulting Group Pty Ltd., 2007).

There is little banking research in Australia on this cohort with a particular emphasis on privacy, security, trust and the use of Internet banking. Heaney's survey of students in an Australian university shows that Generation X and Y use Internet banking more than the older consumers, and that Generation Y uses Internet banking more often and for more services than Generation X (Heaney 2007).

In the rest of the paper we discuss the focus groups and design workshops held to gauge the users' experience of the Sunario prototype, with a particular emphasis on the privacy and security concerns of the 18–45 year old participants. We then discuss how these concerns together with issues of the usability of the interface prompted further redesign of the prototype. This is still a work in progress but we note some design and regulatory issues that emerge.

### 3. User experience studies

In order to understand whether banking customers see a value add in Sunario and in order to learn about required additional functionalities, a round of ten focus group sessions was conducted by the Queensland University of Technology (QUT) in collaboration with SAP and Suncorp.<sup>2</sup> Two user experience workshops were held at RMIT University in Melbourne to discover the usefulness of the Sunario prototype for persons between the ages of 18–45 years. It was hoped that design suggestions would be forthcoming, but these workshops were not aimed at participatory design or strict usability testing. The workshops were important as a way of gauging the use of financial aggregation in general—and Sunario in particular—within the participants' social and cultural context.

#### 3.1 Focus groups validating the value proposition

In the course of the focus group sessions it became apparent that there is a value proposition for end users in Sunario — most participants were very positive about Sunario, especially in the 20 to 45 age group.

We learned that a program in the FA space needs customisation to target markets in particular life stages in order to prove useful. We also learned about features that would be required in order to make Sunario more usable. Features were requested in the area of investment tracking, importing and exporting data out of Sunario as well as enhanced visualisation capabilities. Furthermore, it was requested that the system should be automated as much as possible — for instance, allowing for automatically recognising recurring spending patterns out of Suncorp transaction statements.

Security concerns were voiced in terms of having all financial data in one place and by enabling the bank — that is, Suncorp — to see exactly how much money a customer is holding.

#### 3.2 User experience workshops

The workshops at RMIT were conducted with two primary goals. The first goal was getting an insight into trust and privacy issues associated with Sunario. The second goal was to gain an understanding about the usability of Sunario and possible design suggestions to further improve the product.<sup>3</sup>

The overall conclusion from the two workshops was that most of the participants would like to use Sunario when fully developed (21 of 24). Participants liked its comprehensive picture of their finances, its convenience, and its use as a predictive tool for long term planning. This was despite the voicing of significant usability and navigation issues around the interface and privacy and security concerns. Like the focus groups, the workshop participants pointed to the need for Sunario to cater for different life stages such as 'Single and employed', 'Married with children', 'Divorced', 'Retired'. Some of the usability and life stage issues were partially addressed after the first workshop. Hence the second workshop had an updated version of the prototype.

All the participants in the two workshops used Internet banking, had a role in financial decision-making in the household, and had an annual household income of at least AUS\$50,000. There was a range of occupations across education, management, design, sales, technical services and naturopathy. Characteristics of the sample groups are shown in Table 2.

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<sup>2</sup> The focus groups were led by Professor Judy Drennan of QUT.

<sup>3</sup> The workshops were facilitated by Gerry Gaffney, a usability design consultant from InfoDesign.



**Table 2: Sample characteristics for the User experience workshops**

Characteristics	First workshop, 17 March 2009 N=13	Second workshop, 11 June 2009 N=11
Gender		
Men	6	6
Women	7	5
Age		
18–34	8	7
35–45	5	4
Annual household income		
\$50,000–\$74,999	6	2
\$75,000–\$99,999	2	4
\$100,000 +	5	4
Did not know		1
Work status		
Full time	11	11
Part time	1	
Unemployed	1	
Marital status		
Married/de facto	9	9
Divorce	—	1
Single	4	1
Language at home		
English	11	10
Other than English	2	1

Most participants had not used an FA program before. One person had used Quicken software to give a comprehensive view of his financial information, while some participants used Excel on a regular basis.

The workshops started with a brief introduction by the facilitator. Feedback was obtained on the usability of Sunario via a cognitive walkthrough approach. Participants were given a booklet of screen shots and were asked to make notes on how they would use the screens to complete a predefined scenario. After each screen, participants discussed their findings as a group, thus getting the benefit of rich group feedback. Specific suggestions for design modifications also emerged from this activity.

This was followed by a demonstration of Sunario. In the first workshop, Kathrin Fleischmann from SAP was online from Brisbane. In the second workshop, she was on site in Melbourne with the group.

There was then a brief group discussion of the perceived value of Sunario and concerns around privacy, security and other issues. This discussion began with affinity diagramming that allowed individuals to consider which Sunario features they liked and which they were concerned about. These responses on post-it notes were then grouped in clusters.

The workshop concluded with a demographic questionnaire. On leaving, each participant was presented with a \$100 voucher for books, wine or movies as they had previously chosen.

### 3.2.1 Privacy and security concerns

In the first workshop all but two of the 13 participants were very concerned that having all their information in one place, and accessing other bank accounts, would lead to a lack of privacy and security and expose them to unwanted marketing. It was assumed that the bank would want something for this free service. Not knowing what the bank wanted, some were concerned that they were playing into its hands, leaving themselves open to unsolicited marketing. At worst, they were vulnerable to someone accessing all their financial information in one place.

There was also concern about allowing Sunario to automatically access non-Suncorp accounts. On the other hand, if the data had to be entered manually, there was a risk of inaccuracy.

Privacy and security concerns were raised without prompting in both workshops. As Participant 8 (35–45, a manager, earning over \$100,000 a year) in the first workshop said, there is the ‘dilemma of needing to provide the information necessary to have a useful outcome but then risking misuse of this information.’ It was interesting that some of the features that led to convenience also led to privacy and security issues. The privacy and security issues would be diluted by trust in the bank and familiarity with existing practices.

Specific comments and questions from the two workshops included:

What is Suncorp’s hidden agenda? We don’t know what the bank wants from this free application. Is the program designed to discourage spending, and encourage us to borrow more?

If Suncorp knows that I owe \$5,000 on my credit card, will they call me every day?

Does the bank want to know who is going under?

Once we give the information it will be difficult to stop the bank from using it.

Who will have access to this information? Will the ATO be able to get to it?

We may be subject to unwanted marketing, spam, and telephone sales pitches, such as offers of new credit cards or increased credit limits.

We already receive unsolicited marketing information from banks, so what is a little extra?

Will my information be used to assess my eligibility for a loan?

I don’t want one organisation to have all my financial information in one place. It makes me more vulnerable to privacy and security breaches. It also goes against my initial reasons for separating money.

The security risk becomes greater if one is using a shared public computer.

Even though we live with little privacy in the digital world, a privacy infringement for Sunario will affect our financial situation.

I do not want to give Sunario my account information for non-Suncorp accounts.

If Suncorp has information from our non-Suncorp accounts, and the system is hacked into, it opens up all our financial information without the hacker having to access multiple accounts.

The system needs some type of privacy statement to clarify how the information entered will be used.

I would prefer to download Sunario to my personal computer rather than accessing it from a server.

We need to know what the bank’s liability is in terms of fraud.

We would trust a bank more than we would trust most companies.

#### 4. User experience shapes the design of Sunario

The feedback from the QUT focus groups and RMIT User Experience workshops provided useful input for modifying the design of Sunario. User experience insights have to date influenced the design in terms of its usability, navigation and attention to privacy and security. At the time of writing, these matters are being addressed by a team including Suncorp's IT Business analyst, eChannel specialist and IT Architect. The focus groups and workshops also led to the engagement of an independent Usability specialist to respond to users' feedback and provide best practice solutions and suggestions.

The Suncorp team acknowledged that the intrinsic functionality of Sunario was well received and did not require change. They looked at simplifying the navigation and where possible making it consistent with the bank's other online offerings. They would also ensure there is a consistent approach across each function of the application. The terminology needs to be consistent and easily understood by the user. The agreed approach was to strip back some of the functionality to enable simplicity of use. For instance instead of presenting a graphic representation of the inflows and outflows, the emphasis would only be on the output view. In brief, they aim to make the user interface more intuitive.

The Suncorp team found that by addressing the navigation and usability issues, many of the privacy and security issues could be allayed. The team agreed that perception was a large part of the security concerns. Sunario was always envisaged as part of the bank's Internet banking rather than a stand alone application. This would serve to leverage the 'Trusted Partnership' that customers already have with the bank and Internet banking. But now Sunario will be more clearly integrated, so that when a person first uses Sunario, the first time user help will come up. This user help will only come up the first time, unless the repetition is desired by the customer.

The first time a person uses Sunario, the legal and information use disclaimers will be prominently displayed. The exact wording is being negotiated. However, it is recognised that the wording will have to be brief and in plain English. The statements will help the user understand the reasons why information is gathered and its intended use. Moreover, the customer will be able to opt out of receiving marketing information, just as with Internet banking.

The aggregation of 'Third Party' data was acknowledged as a significant point of concern for users. The prototype had given users the manual capability to decide how much data they wanted to share. The user experience workshops confirmed this direction. In addition, the Suncorp team decided to take the following steps:

- a. Confirm the decision to allow the user to control what they input by using a manual input rather than an auto population mechanism as described above.
- b. Keep the input required for this information to a minimum and not make the description fields mandatory. This would provide the user with privacy about other accounts.

Further meetings with the SAP partners in this development have been scheduled.

#### 5. Conclusion: Design steps and regulatory concerns

Banks need to offer enhanced personalised services while reducing costs. Hence there will be a greater push towards the use of FA programs, either as a standalone feature or part of an online financial strategy. Young Australians' greater use and acceptance of the security, privacy and trust of Internet banking is also likely to translate to a greater use of FA programs. Increased Internet access and speed because of Australia's National Broadband Network will most likely lead to the greater use of video and video chat. This will further blur the boundaries between the 'virtual' and the 'physical'.

It thus becomes important to ensure that this trust in digital transactions is not betrayed, particularly with the growth in the use of social media, cloud computing and the increase in financial aggregation services on offer. Young people are in danger of placing personal information on sites that they may not be able to control. The UK Information Commissioner's Office has already warned that young people are putting a great amount of personal detail on Facebook, Though millions of young people would not want their employers to see this information, or be the target of advertising, few have realised that it is difficult to withdraw this information (Privacy watchdog warns of Facebook dangers 2007).

The dangers with cloud computing are also similar in that customers could lose control of their data. The Electronic Privacy Information Center (EPIC) in Washington DC complained to the Federal Trade Commission (FTC) on March 17, 2009 about the privacy and security practices of Google Inc., one of the largest providers of cloud computing. EPIC cited known breaches and flaws to argue that the data on Google's cloud computing platforms are neither secure nor private. EPIC argued that as Google had promised both privacy and security, these business practices are unfair and deceptive (Electronic Privacy Information Center 2009). The complaint is before the FTC.

The user experience studies highlighted issues regarding the ease of use of the prototype. In addition, they highlighted concerns with privacy and security. These led to some design modifications. Firstly, more attention was paid to ensuring the site was easy to navigate and had an intuitive and consistent interface.

Secondly, dealing with issues of navigation also led them to address privacy and security concerns. Users' concerns confirmed for Suncorp the need to enhance the trust in Sunario, by integrating it closely into the Internet banking application. Internet banking did not give rise to the same level of privacy and security concerns. Hence being part of a trusted site would increase users' comfort with Sunario.

Thirdly, the insights also confirmed the desirability of giving users the option to manually input financial information from their accounts with other institutions. The categories became simpler, and users had the option not to give this information. This sense of control would further trust and the perception of security and privacy.

Fourthly, the bank recognised they need a plain language statement when a person begins to use Sunario as to how customers' information will be needed. There is an easy mechanism to opt out of marketing information.

At the time of writing, these steps are still work in progress. It still has to be seen whether they satisfactorily address consumers' concerns of privacy and security. In the future also lies the issue of ensuring that the application can function across life stages.

It is important for service providers to take into account customers' privacy and security issues in mind from the beginning of the design process. We also recommend the need for regulatory overview to ensure that the provision of these new financial services continue to be a safe and private space for information and transaction. Regulators need to ensure that young people are aware of the possible privacy and security pitfalls they may face when using services such as cloud computing, social media and financial aggregation. Regulators need to monitor the providers of these services to ensure that these services are not flouting their own security and privacy conditions, or that they are encouraging behaviour which leaves users unprotected.

As Australia is on the brink of entering a new era of broadband access with the National Broadband Network, these issues will become more important. Internet and media services will become more pervasive and a taken for granted part of young people's lives. It is even more imperative that these services are safe and private.

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