

Parenting Research Centre

Cry Baby Smartphone App

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Business Analysis

Background

2.5 hours of crying a day is normal in a baby, however 20% of parents seek medical advice in the belief that something is wrong.

A crying baby is a distressing experience for some parents and has been linked to cases of postnatal depression and shaken baby syndrome. Parent education can go some way towards alleviating the distress and therefore reducing the risks.

Business objectives

An easy-to-use smartphone app that can help alleviate crying related stress in parents by:

- assisting in normalizing crying
- helping recognise emerging behaviour patterns
- reassure that their baby is displaying normal behaviour
- flag unusual activity
- provide relevant non-prescriptive feedback

Crying is one of
the most common
reasons parents seek
professional help.

Raising Children Network

Business Analysis cont'd

Requirements

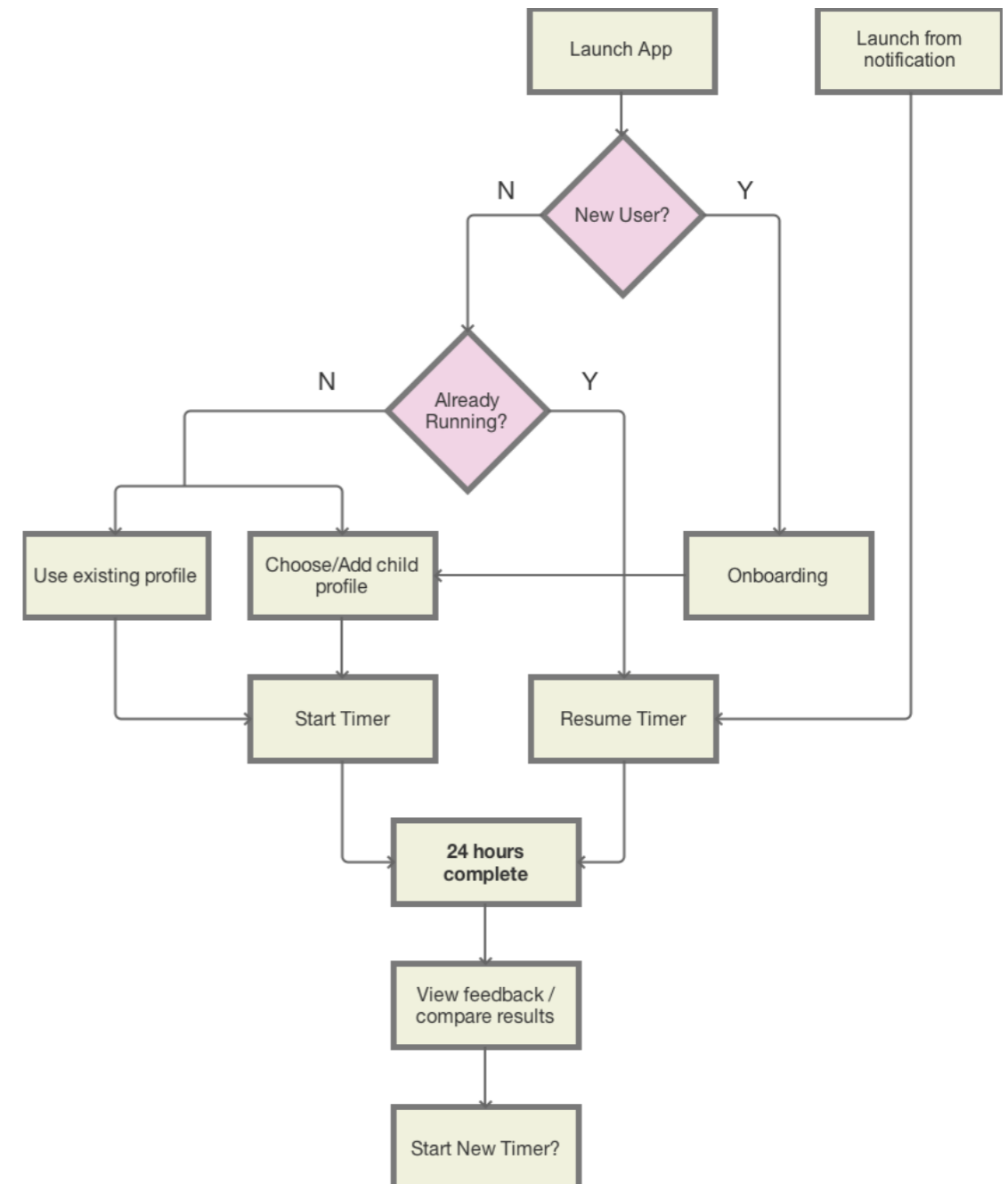
Parents of babies of 0 - 3 months will be invited to enter data over multiple 24 hour periods using a series of inputs i.e. feeding, awake, sleeping, crying.

When entered this data will be compared to predefined data points based on pre-existing normative data on how many hours infants typically cry for over 24 hour period.

Relevant, non-prescriptive feedback can then be offered to the parent after each 24hr period. This can take the form of hints or tips that are offered as feedback or via notifications staged over the 24 hour cycle.

Parents will also be able to view historical graphical representations of their babies crying patterns over time.

Task Analysis



Comparative Analysis

	BabyConnect	MoodOScope	Sprout	Kidfolio
Interface	Very busy and cluttered. Icons not consistent.	Simple controls & attractive design. Side swipe for graph then settings.	Attractive newspaper metaphor where info is displayed as modules.	N/A
Share/Sync	Appears only to offer on initial visit. Not clear how to add users afterwards.	N/A	Join devices through PIN number. Works through wi-fi. Primary device then secondary devices.	N/A
Photos	Choose photo from Photo Roll or Stream. Can take photo.	Choose photo from Photo Roll or Stream. Can take photo.	Choose photo from Photo Roll or Stream. Can take photo.	Choose photo from Photo Roll or Stream. Can take photo.
Infographics	Choose moods - Clunky need to stop timer choose mood from a list then reset timer.	Swipe to Bar chart with Face icon piechart	Simple bar Chart or graph. Done link.	Multiple graphs based on different data sets i.e. Sleeping, feeding, changing diapers
Moods	Basic with 4 filters	Choose from 3 moods via big button. Only 1 mood per daily.	Basic with 4 filters	N/A
Timer	Multiple timers, not intuitive, need time to work out.	No Timer but can set reminder.	Awake/Asleep animated icon switches as toggle switch thrown. times build up below	N/A
Login/Registration	User registers online on website or through app.	N/A	N/A	Users can register through app. Cannot use milestones and charts without logging in.

User Research

Objectives

- To ascertain whether online tools like the Cry Baby App are an attractive proposition to the target audience.
- To discover details about audiences habits and actions that may affect the way they interact and access information.
- To find patterns within the interviewees that help create a memorable experience for potential users
- To identify possible pain points at an early stage
- To create accurate personas of the target audience

Procedure

- Simple, anonymous user survey of 12 – 15 questions using multiple choice, open ended questions and likert scale.
- Face to face interviews of individuals not personally known to the interviewer will concentrate more on anecdotal questions with the purpose of gaining more insight into real-life experiences.

Recruitment

- All respondents must have had a child within 3 years of survey date
- Online survey respondents recruited through local Childcare centre.
- Face-to-face interviews with individuals recruited from partners acquaintances.

Sample of survey results

13 respondents (11 female & 2 male)

The level of crying from my baby never really bothered me



It was important to me to establish a routine with my baby



I would use a smartphone app if it helped me manage my babies crying



User Insights

Issues

Insight: All parents interviewed had various issues with crying during the first few weeks. This was more acute in parents having their first child.

Challenges: First time parents may be confused or ill-informed about crying patterns and types of crying. Diving straight into the app may be disorientating if they do not have relevant background information.

Solution: Include on the website, or in the app itself a short informative piece (animated?) that explains the causes of crying and the fundamentals of crying patterns including things to look out for.

Use of apps

Insight: Sleep deprivation and limited mental acuity are a major issue in parents of newborns. "... it was all I could do just looking after xxxx there was no thought of me doing anything for myself in the first few months"

Challenges: Complex interactions may cause confusion and put the user off.

Solution: Simple intuitive navigation and flow. Allow sharing of app and data with partner or other family members to help with input of data.

Other useful functions 1

Insight: One parent interviewed raised the issue of the parents emotional state and that it would be useful to record the data in tandem with the babies crying pattern.

Challenges: May complicate the data entry process. Privacy issues?

Solution: Consider adding this to a subsequent version, also consider further research to see if this would be a viable new function.

Other useful functions 2

Insight: Threaded discussions and other reading other parents experiences came up as "go to" source for a couple of the interviewees. "Did find it useful to find out what other people are experiencing, however I wouldn't be keen to share my own experiences".

Challenges: In danger of overloading the app with too much functionality, thereby losing focus as to the primary purpose. However it is a useful function.

Solution: Create a review section or anonymous 'share your experiences' user post section for the website.

User Persona



Carol Rivers

“Newbie mum”

“We didn't know she had reflux until the 6 week check-up. First 6 weeks, she wouldn't sleep flat - I had to hold her in my arms. Screaming and crying the whole time. Very challenging”

- Mid-30's
- Married
- Professional

Carol is currently on extended maternity leave from her position as an office administrator for a city based law firm. She has a reasonable, even tempered personality and likes to make educated decisions in her life choices.

However, nothing prepared Carol on how to deal with the level of crying from her newborn. From dusk until dawn it became a huge challenge to remain lucid and functioning while responding immediately to every cry.

“...there was no thought of me doing anything for myself in the first few months”

More of a practical user of technology, she found that her usage of her Smartphone continued during these months but limited to social apps where she connected with friends.

As well as general guidance from their Community nurse her husband Sam carried out research on threaded discussion groups and fed pertinent information back to Carol in an effort to find answers to some of the issues they were experiencing.

However it was not until a visiting friend mentioned that they did not think her baby was exhibiting normal crying patterns and a scheduled visit to her Paediatrician, that Carol was able to start taking practical steps towards understanding and addressing the issues and underlying causes of her babies crying.

Behaviours

- Chose the on-demand method over controlled crying because it “felt right”
- Trusts in her own instincts, but will accept advice when given by peers or experts
- Understands and utilises Smartphone technology, likes to use it for practical purposes.

Needs & Goals

- A source of re-assurance and expert opinion about what to expect in the first few months
- An easy to use tool to help manage crying in her baby
- Wants to alleviate some of the stress about making decisions about whats best for her baby.

Opportunities

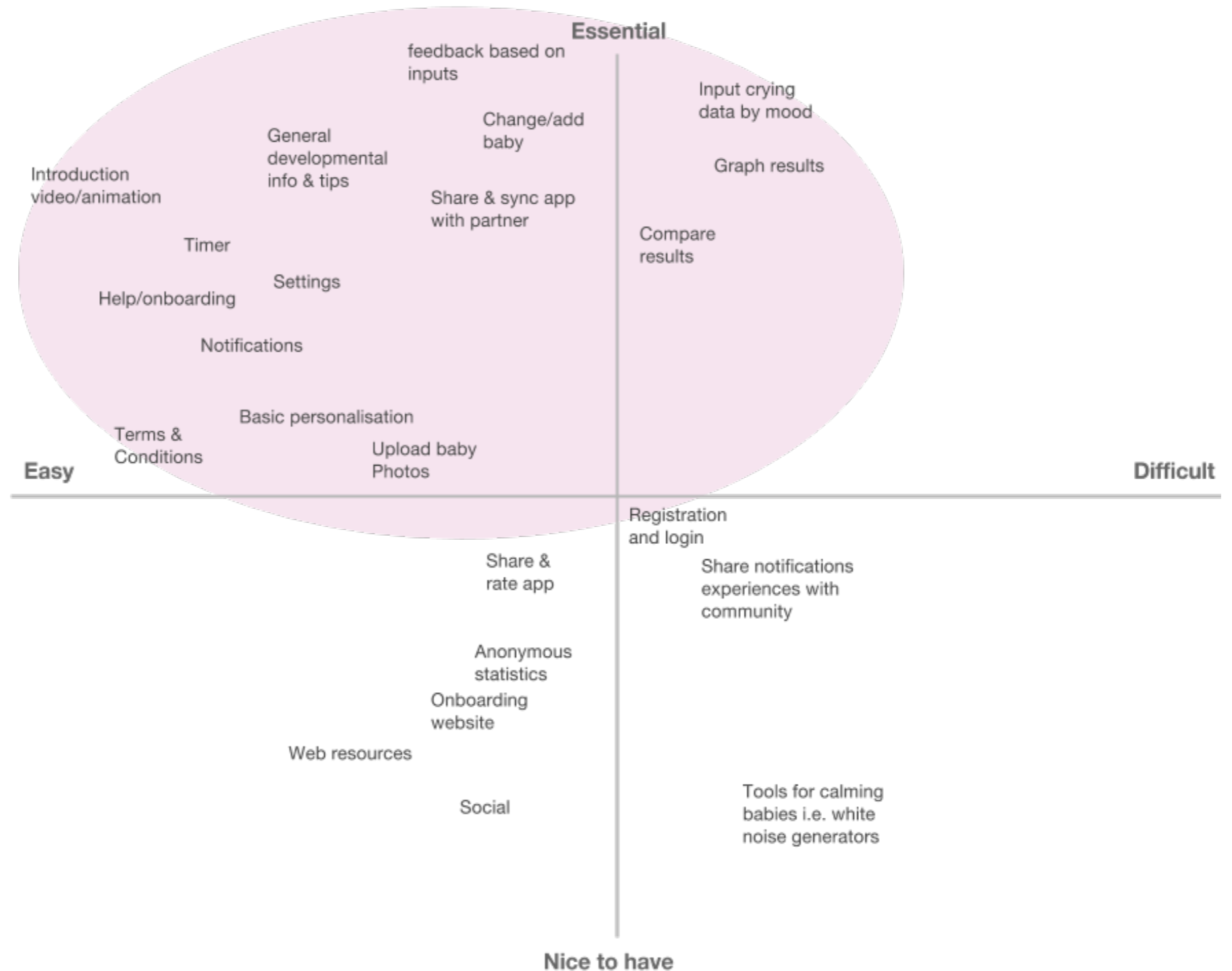
- Education and tips - what to look out for
- Intuitive input & tracking of babies crying
- Expert analysis of output from tracking
- App shareable with partner

Prioritisation

Final MVP

Based on user research minimum viable product includes:

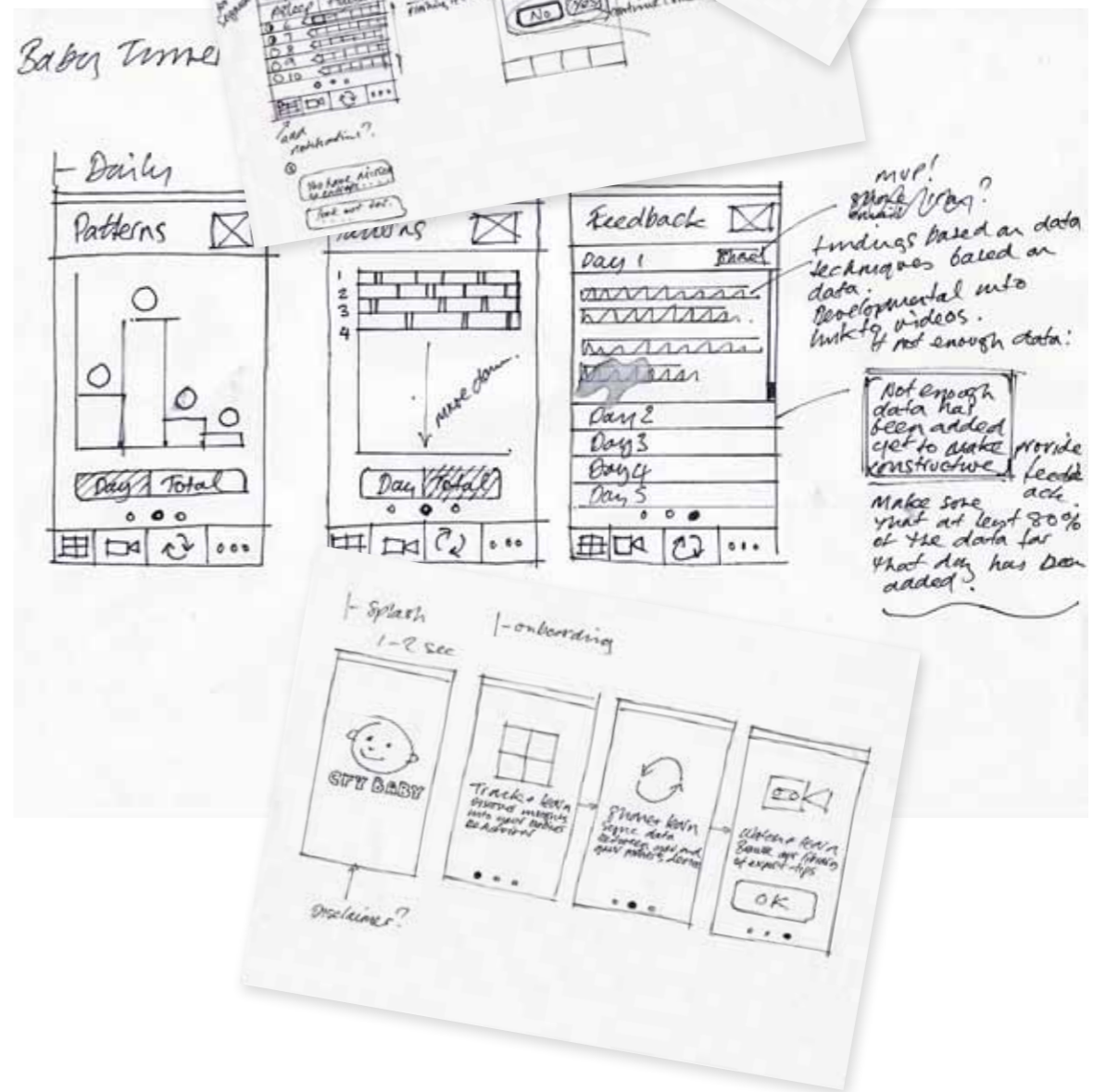
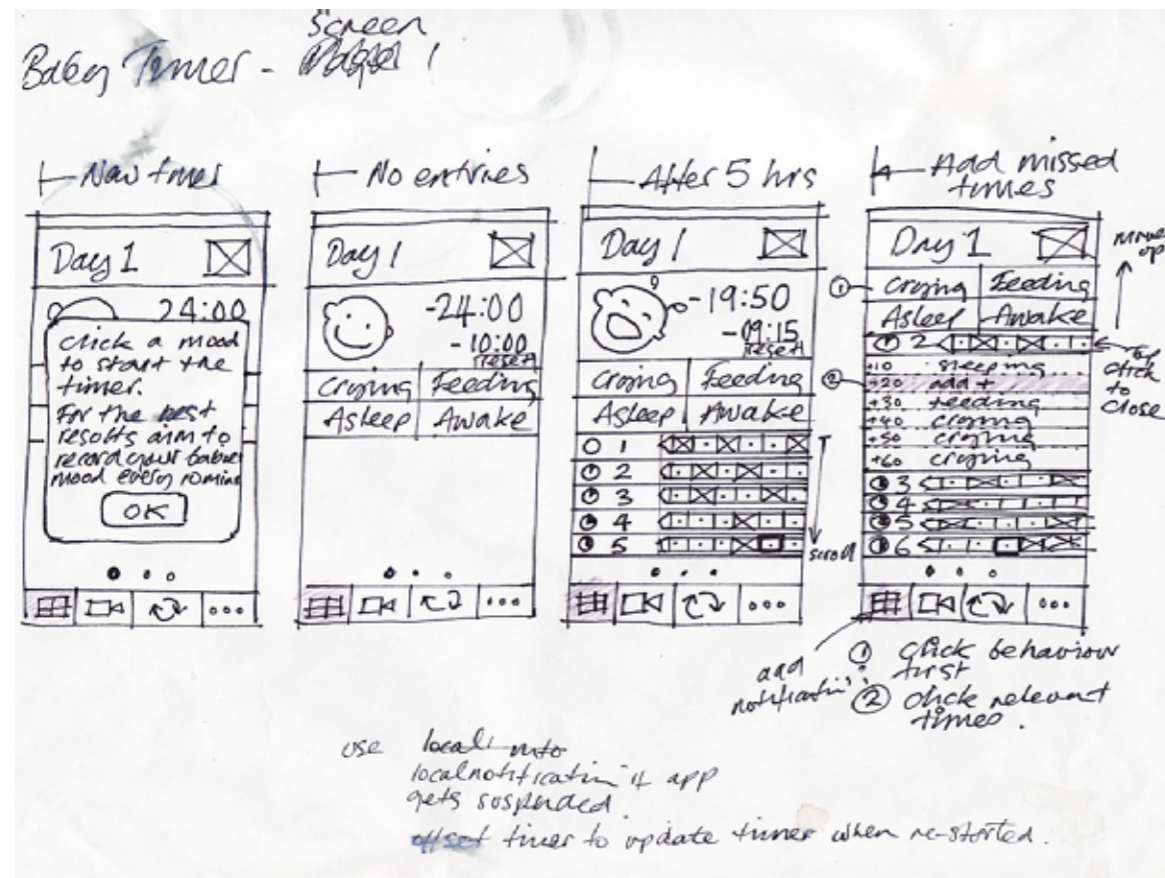
- Introduction
- Settings
- Notifications
- General developmental info and tips
- Basic personalisation
- Change/add baby
- Terms and conditions
- Share/sync app with partner
- Upload baby photo
- Help
- Recording Moods
- Timer
- Input crying data by mood
- Graph results
- Feedback based on inputs
- Compare results



Concept sketches

Low fidelity sketches

Post research and prioritation phase.



User testing - Round 1

2 x Testers

Tested onboarding and add baby by UX classmates on low fidelity sketches:

Feedback: Who's the audience?

Action: Add details onto Splash screen

Feedback: Re-size photo functionality

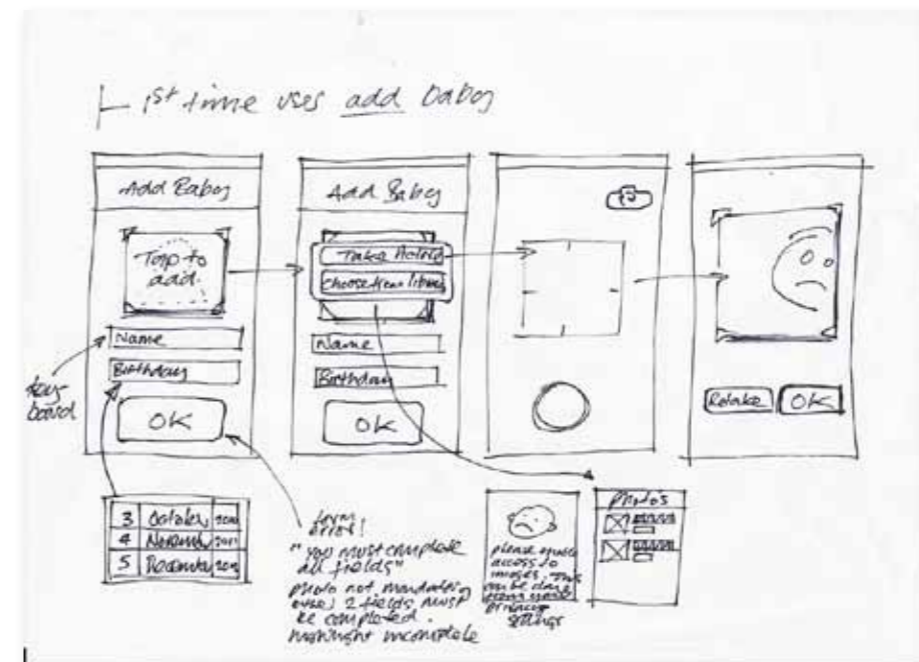
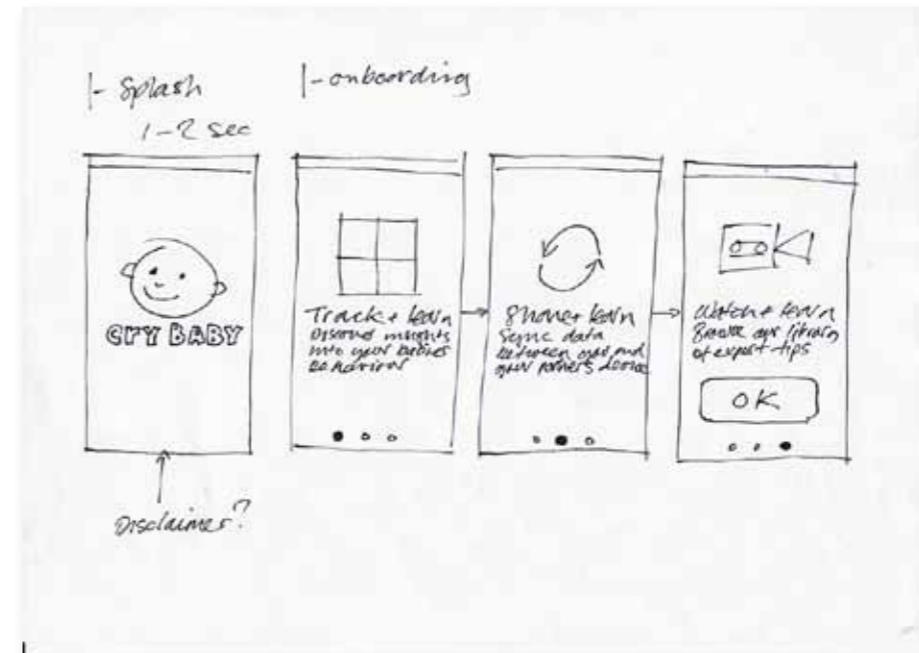
Action: Add to next functional specs

Feedback: On-boarding took a while

Action: Check with interactive version

Positive feedback from tester:

“It tells me exactly what it does, it's insightful”



User testing - Round 2

3 x Testers

Tested by young mother, father and digital producer on interactive prototype v3:

Feedback: Thought the icons during the onboarding were clickable (All 3 testers)

Action: Apply graphical treatment in creative stage

Feedback: Difficult to correlate 24hr countdown with real-time especially if the user needs to back fill. Using minus symbol has negative connotations.

Action: Use real-time clock. App detects time and updates icons and countdown accordingly.

Feedback: Icons next to progress bars not clear.

Action: Changed to reflect real-time. If user starts mid-way through phase then boxes remain unfilled.

Feedback: Alarm clock unfriendly

Action: Re-designed

Feedback: Add image of baby

Action: Added for clarity

Feedback: Confused by rewind button

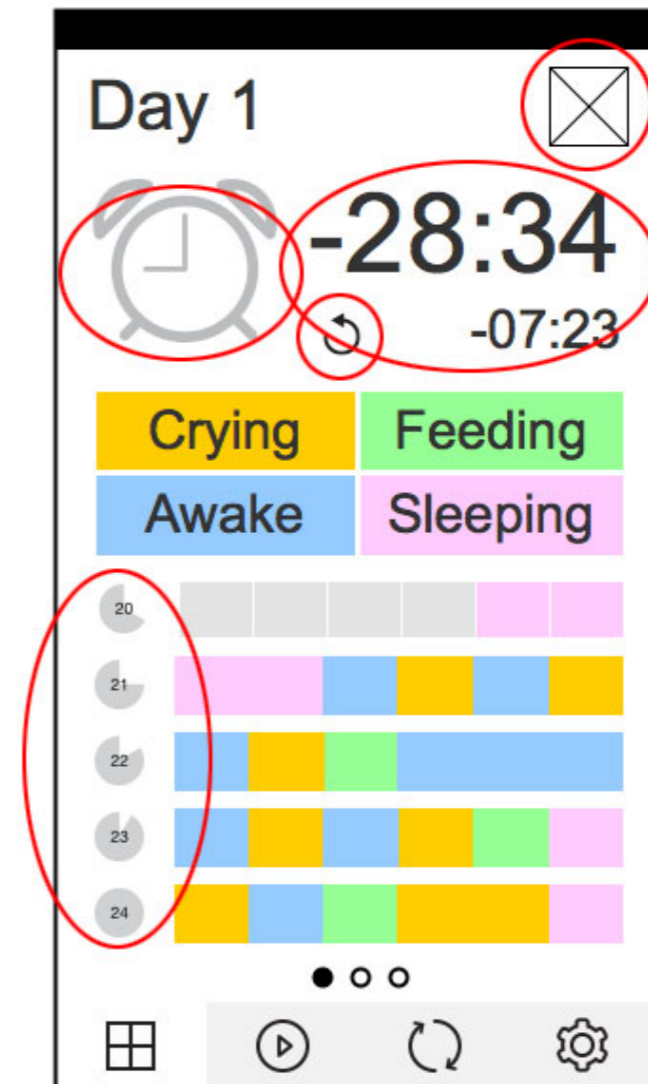
Action: Changed to text 'Reset'

Feedback: Add allow notifications dialogue at start of app

Action: Done, push notifications required for reminders and tips

Feedback: Progress bar should read left to right

Action: Updated now that no longer using countdown



Positive feedback from testers:

“Puts things into context”

“Colour works well”

User testing - Round 3

1 x tester

Tested by UX classmate on interactive prototype v5:

Feedback: Reset button too prominent - may be accidentally tapped

Action: Function hidden away into settings

Feedback: Main buttons too small, may be difficult to use especially by tired Mums Dads

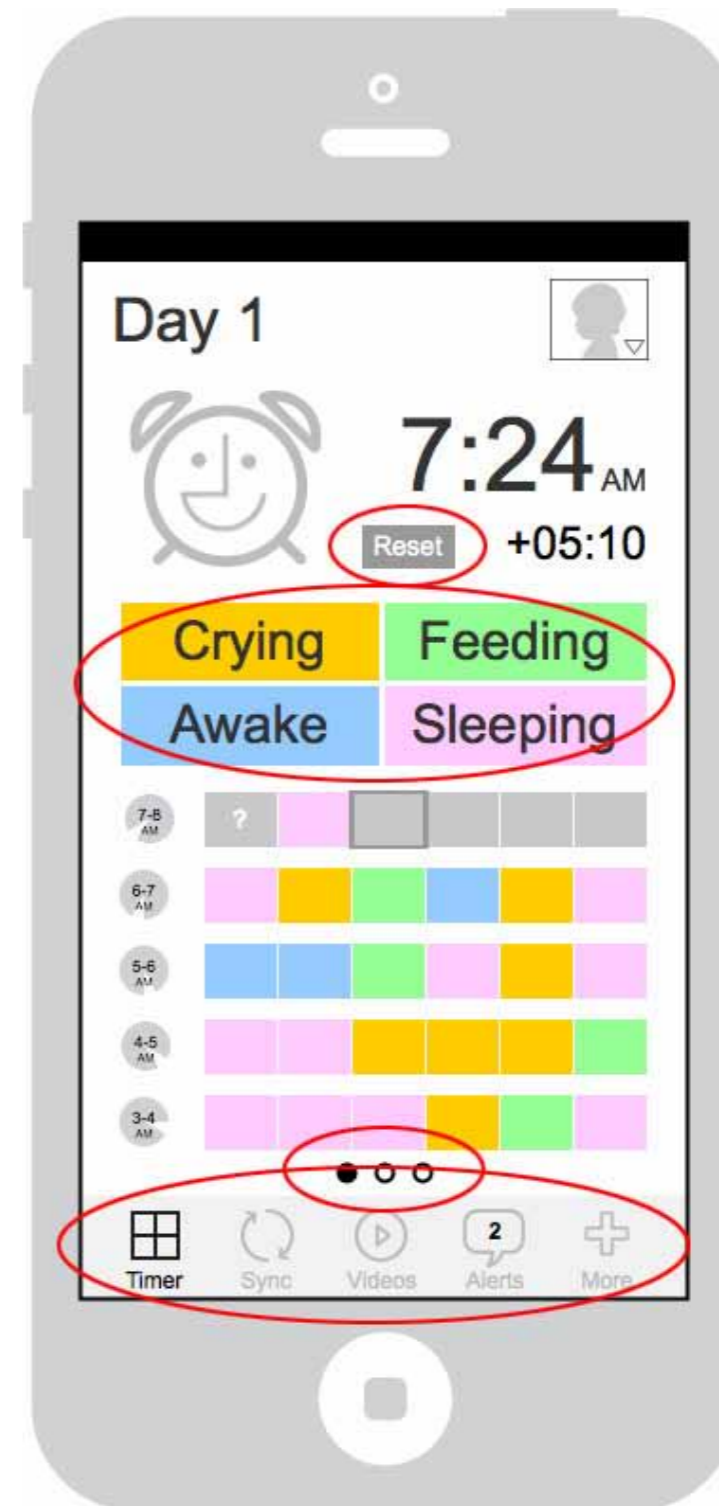
Action: Increased height of buttons from 44px to 65px. Removed one progress bar to make room. Users can still scroll to view other progress bars.

Feedback: Re-evaluate navigation bar, better access to core functionality

Action: The timer, patterns and feedback functionality are the main functions everything else is secondary. Moved these functions to the main navigation bar and everything else moved to 'more...'

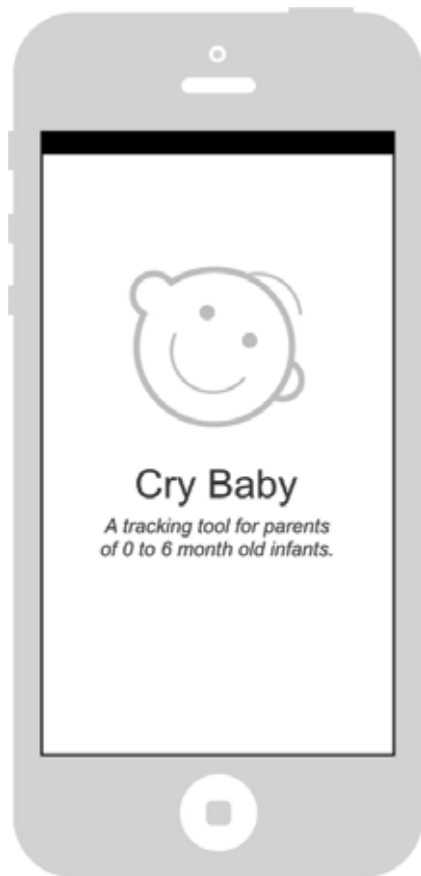
Feedback: Re-think navigation

Action: Removed swipe navigation - no longer required



Onboarding

Splash



Push notifications



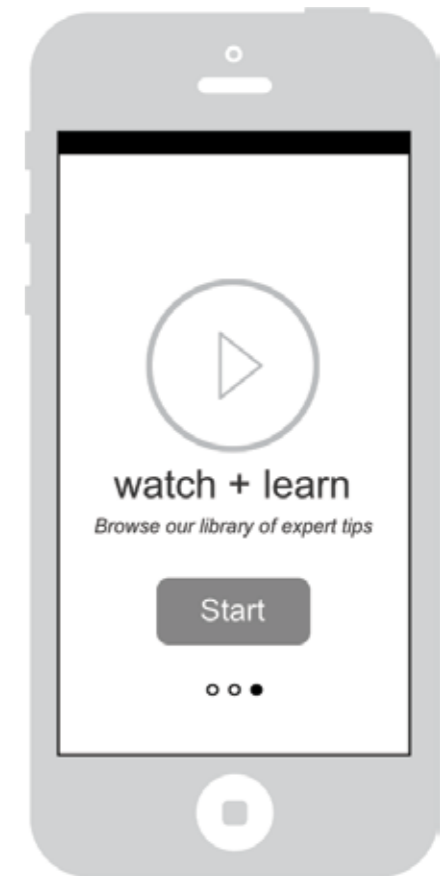
Onboarding #1



Onboarding #2



Onboarding #3

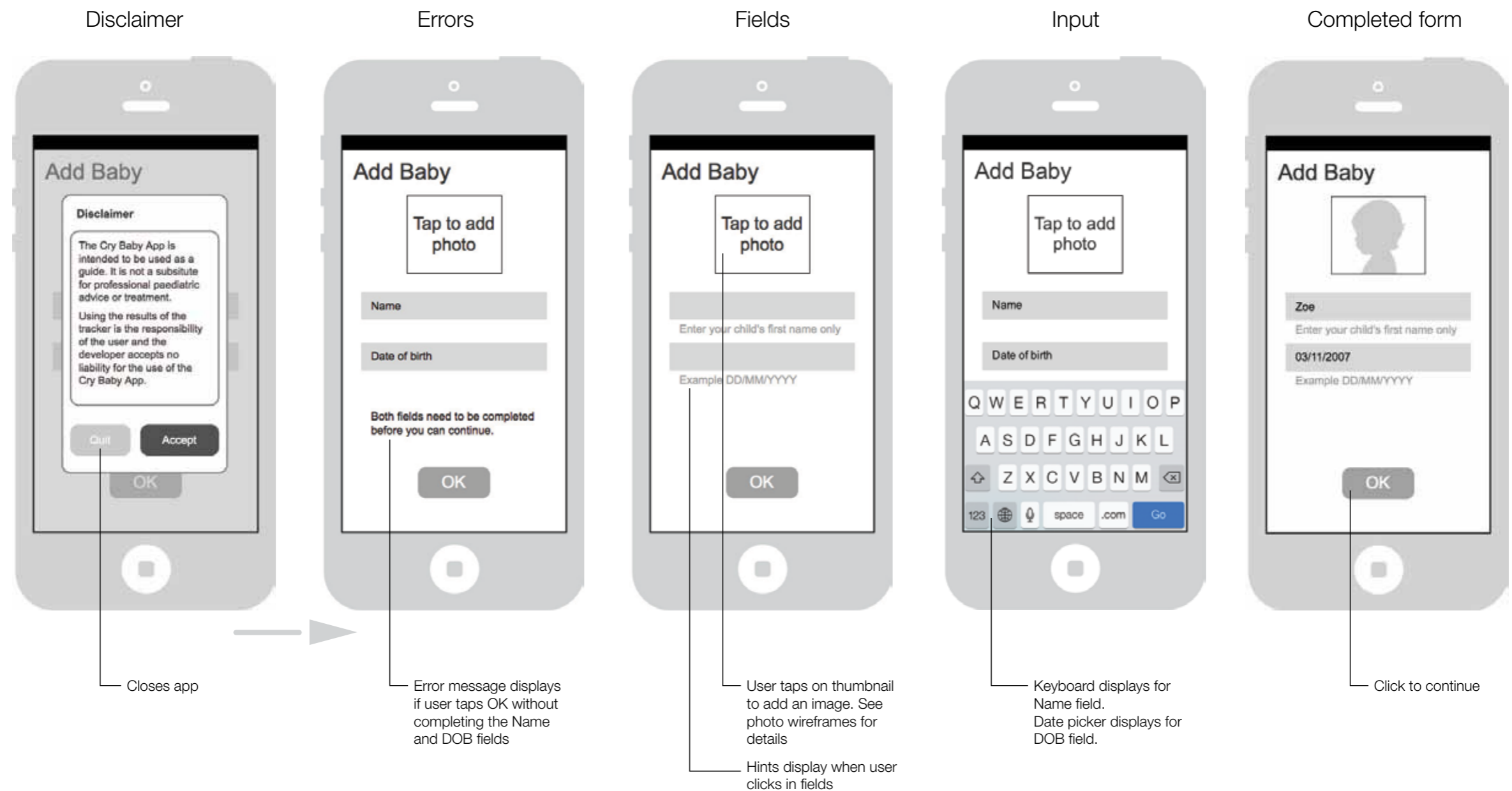


Swipe right 

Wireframes cont'd

Personalisation

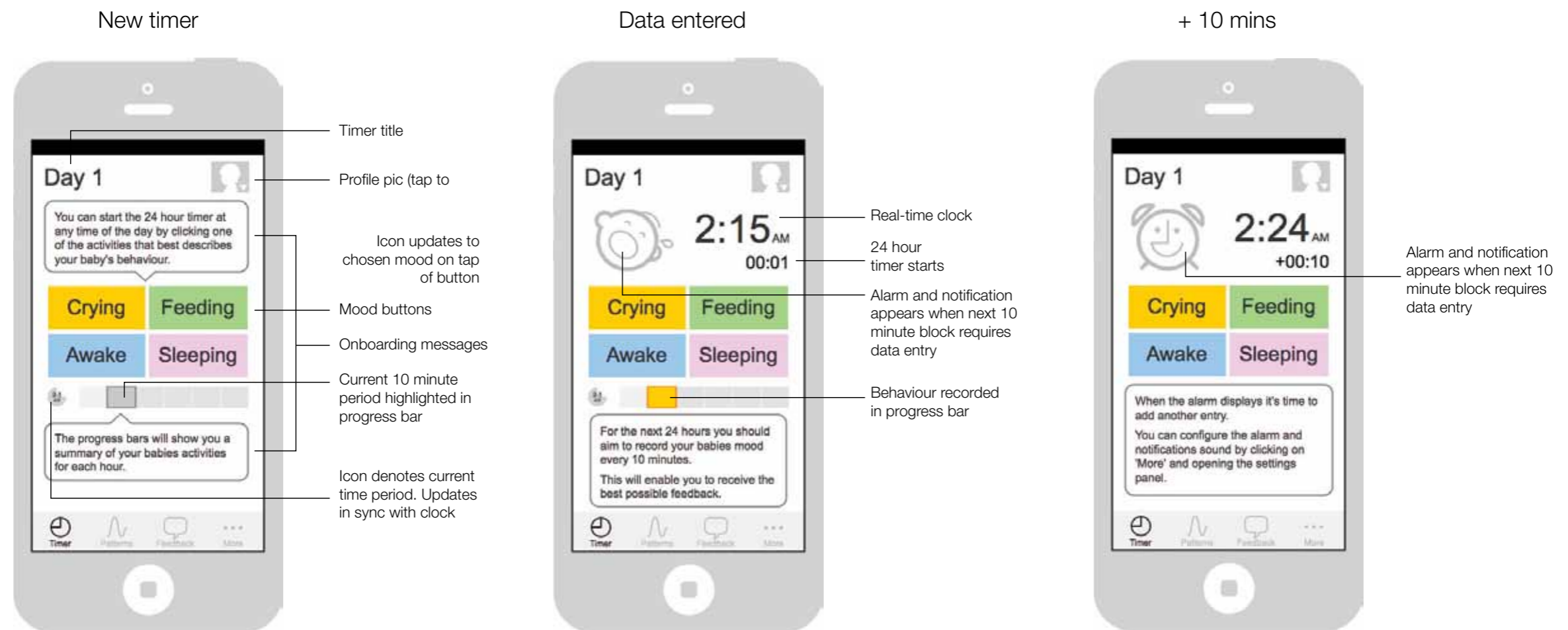
Before starting the recording process a new user needs to create a persona for their child.



Wireframes cont'd

Entering data

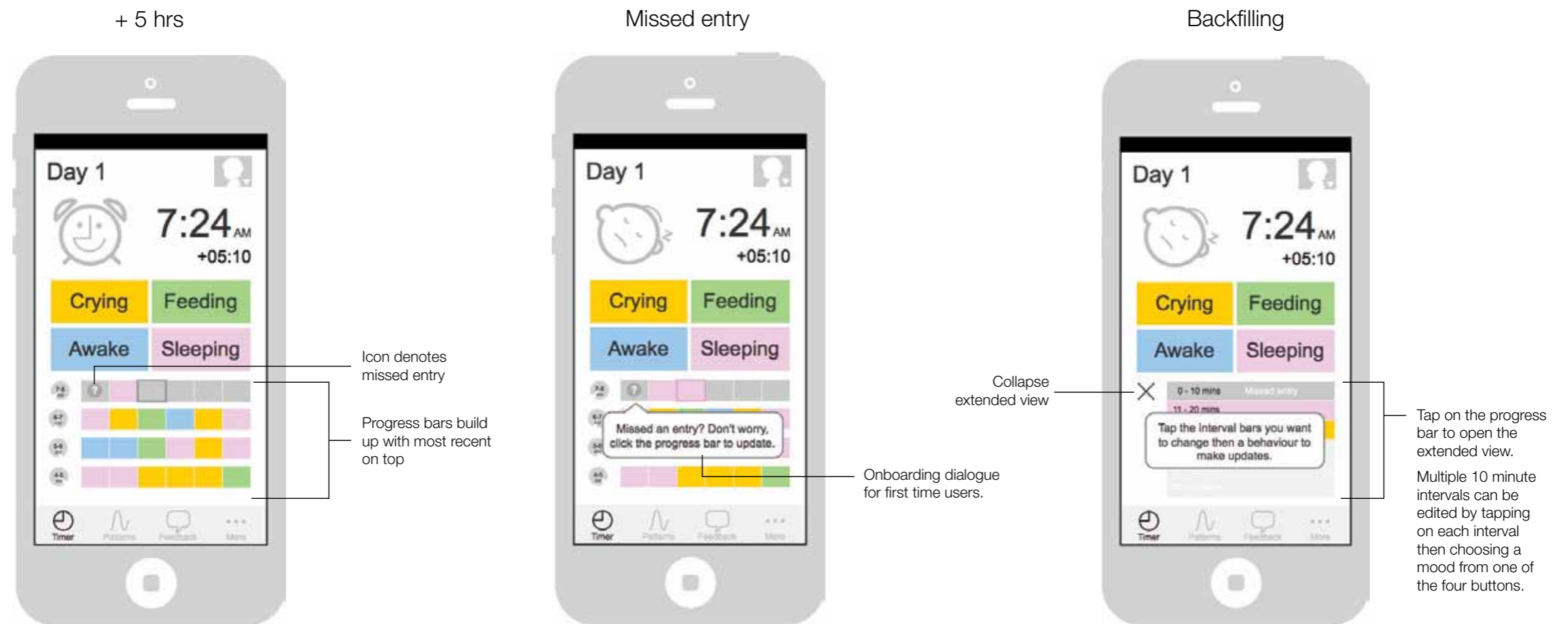
For accurate feedback the user(s) are required to add data every 10 minutes within a 24 hour period.



Wireframes cont'd

Entering data - backfilling missed data

Users will undoubtedly miss periods of data entry. Backfilling data is undertaken by tapping on the progress indicators.

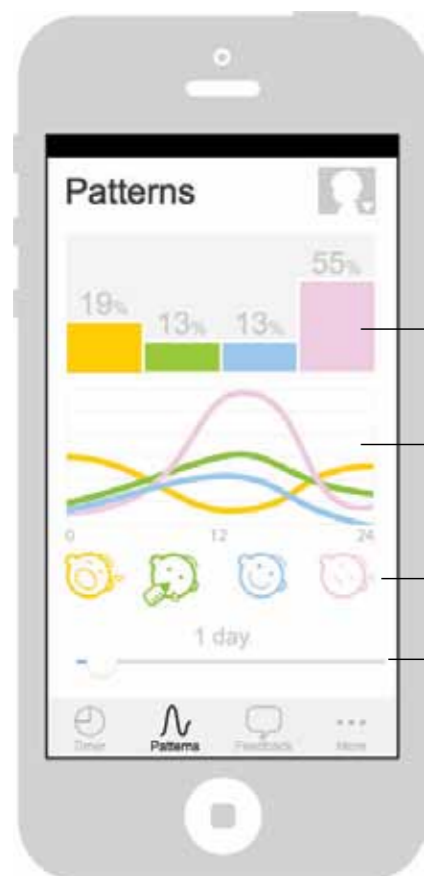


Wireframes cont'd

Patterns and feedback

Interactive infographics give instant feedback and let the user instantly see emerging behaviour patterns.

Patterns - 1 day view



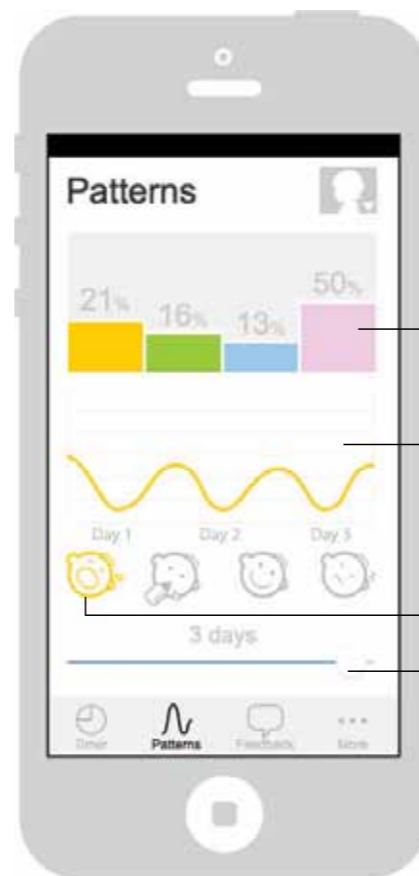
Interactive bar chart

Interactive graph

Mood key - toggles visibility of graph lines

Slider - dragging changes frequency of charts.

Patterns - 3 day view



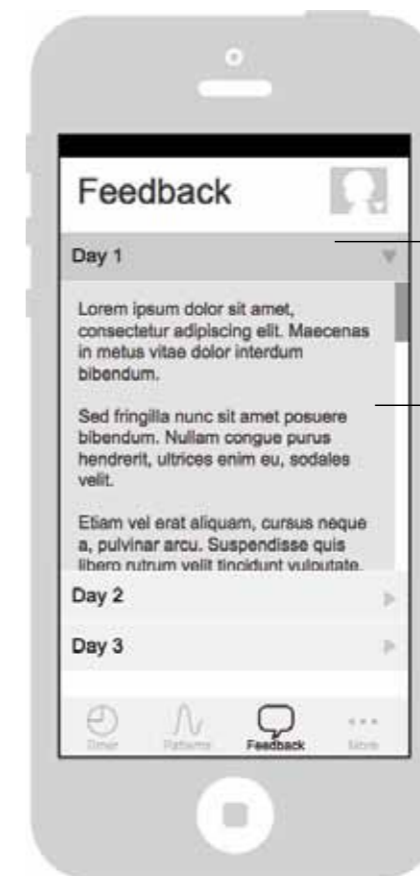
Bar chart shows data for 3 days

Crying data only visible on graph

Crying icon active

Slider - dragged to end position showing maximum amount of data (e.g. 3 days)

Feedback



Scrolling accordion menu

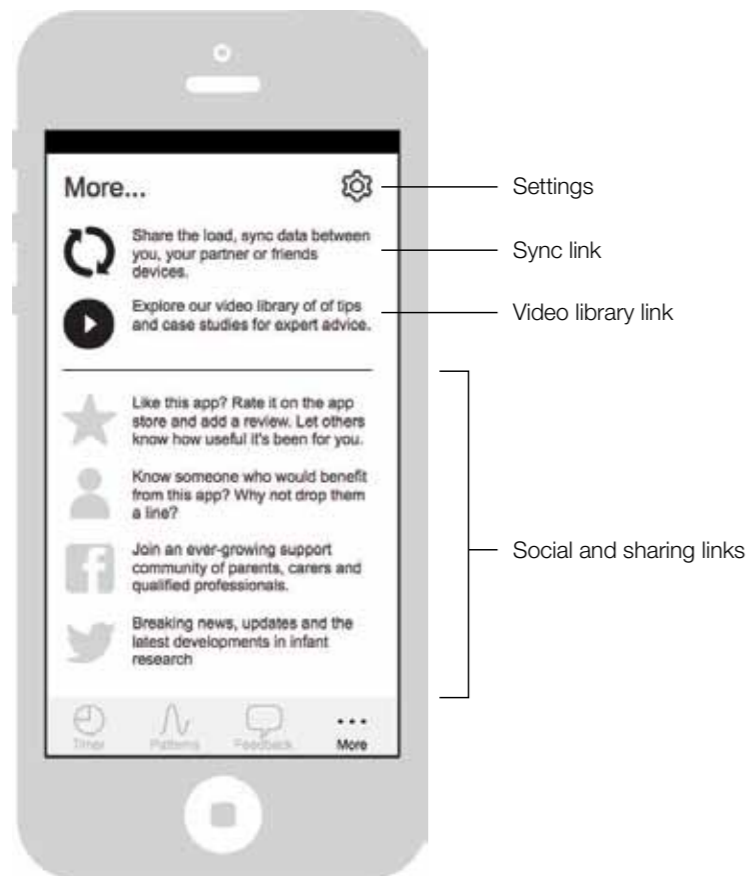
Non-prescriptive feedback appears after 24 hrs worth of data collected.

Wireframes cont'd

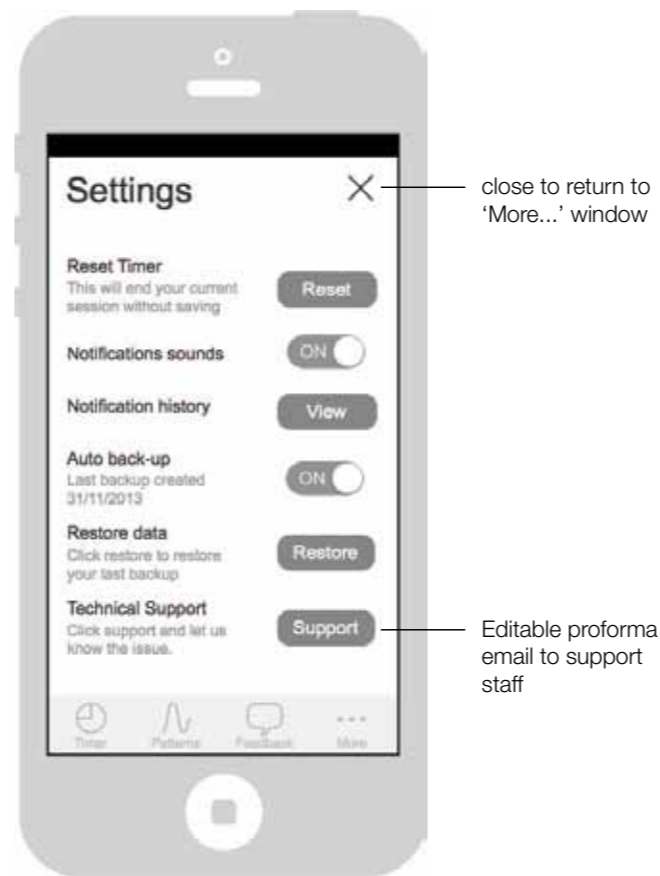
More...

Additional features can be found by clicking on the 'more' icon in the control bar.

More...



Settings



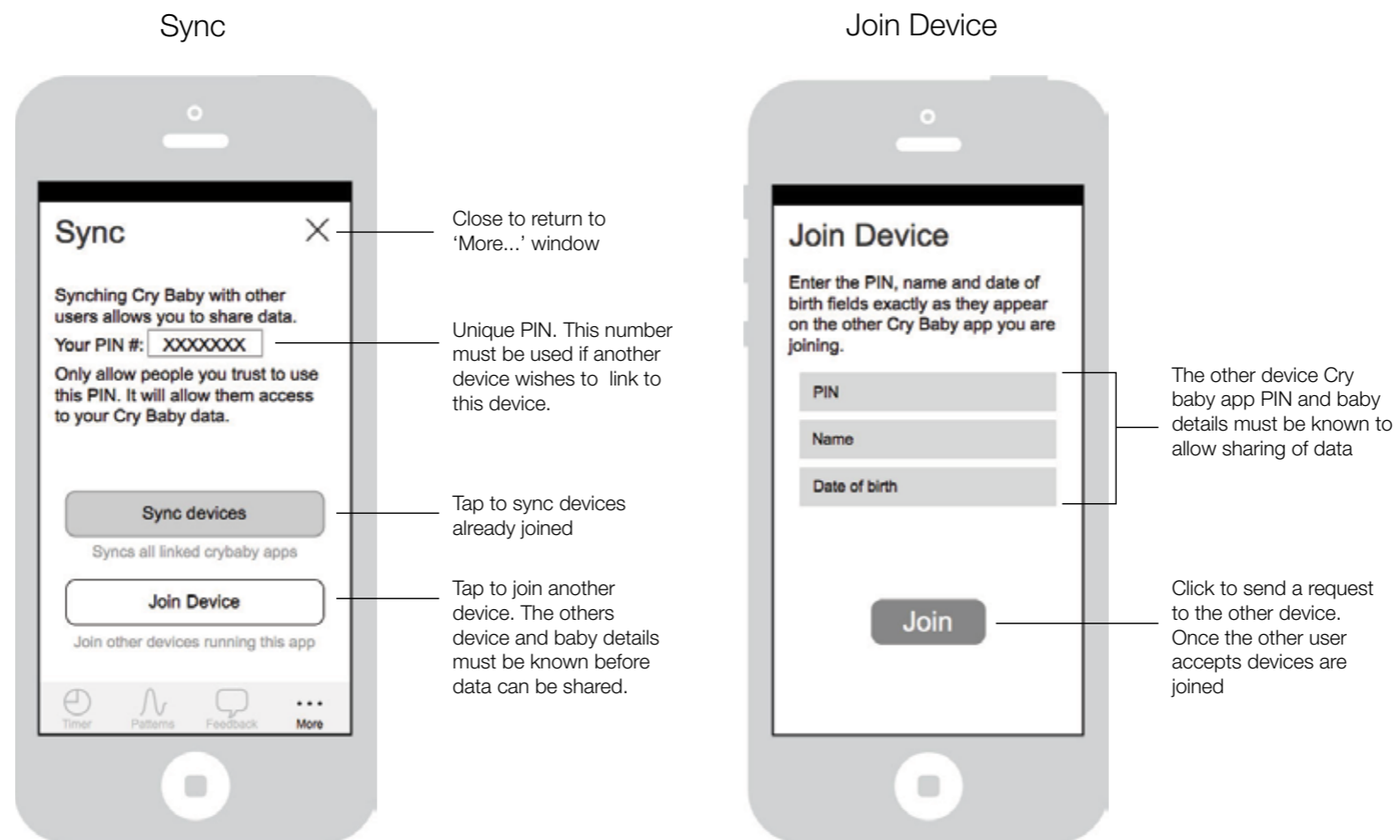
Notifications



Wireframes cont'd

Sync

The sync function allows the user to share or join another version of the Cry Baby app and share data.



Wireframes cont'd

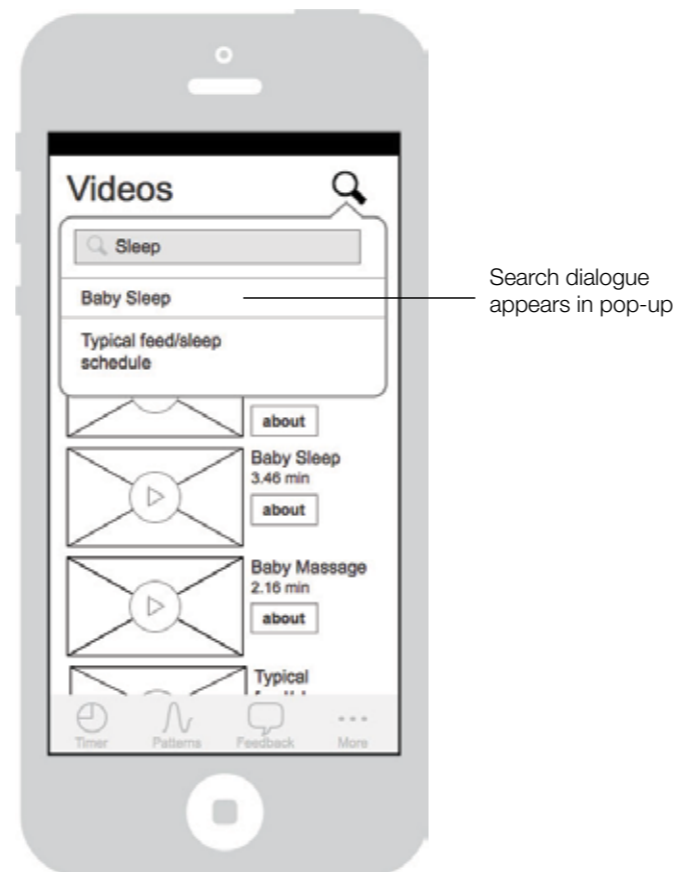
Video Library

The RCN video library consists of existing video and eLearning excerpts. These can also be accessed from the feedback.

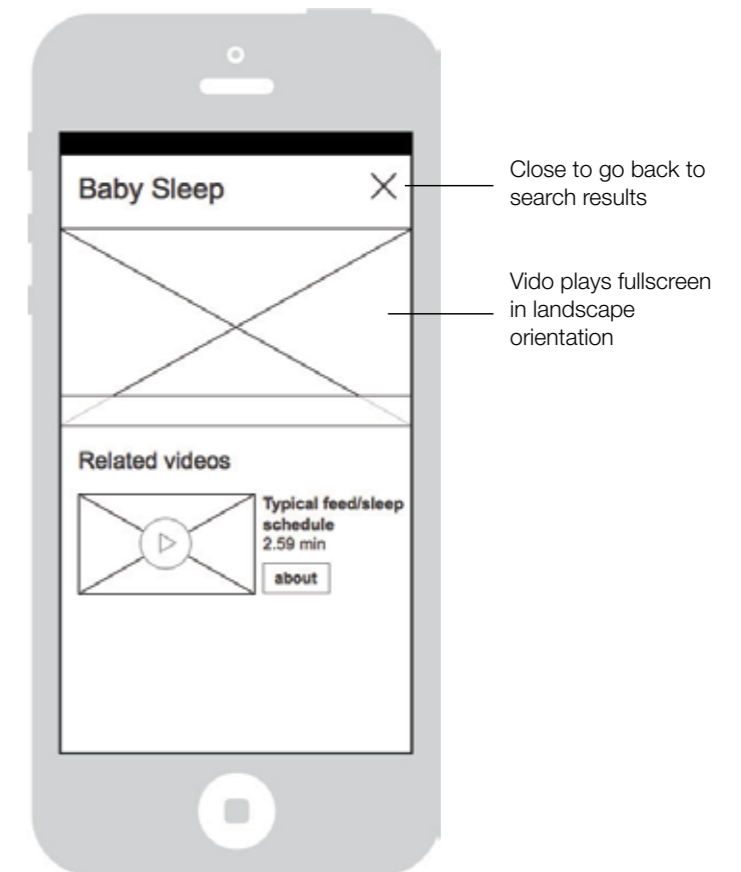
Video library



Video search



Video player (portrait)



Wireframes cont'd

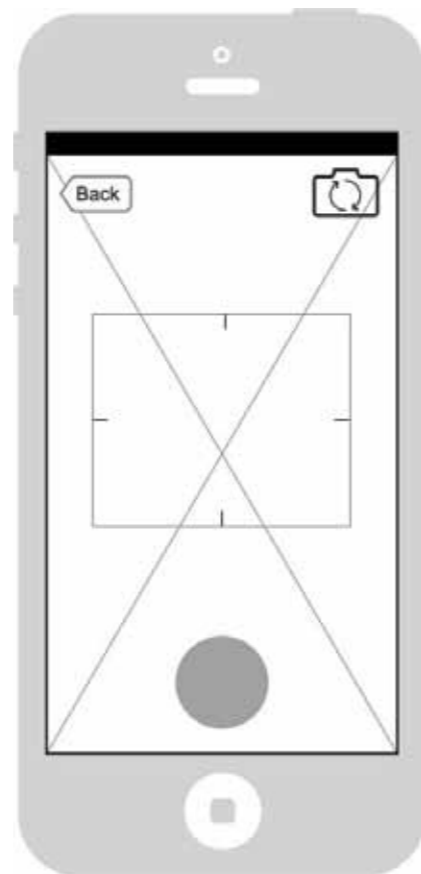
Add photos

In-built camera function allows the user to add library or custom images to the app.

Take or Choose photo



Take photo

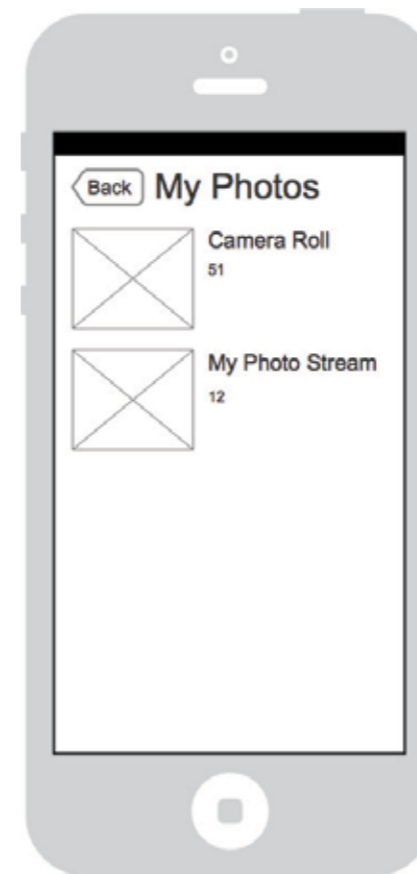


Review photo

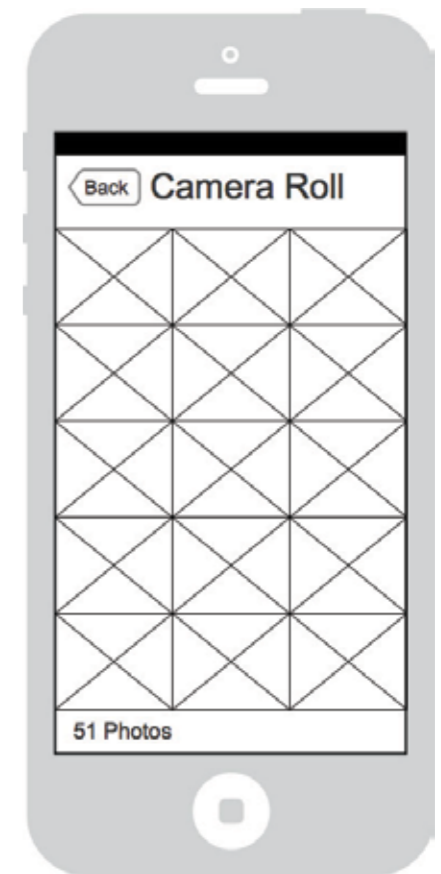


or

Select photo from existing



Choose



Next steps

UI creative design

Create PhotoShop mock-ups of key screens

Wireframes

Extend timer and backfilling functionality for user testing.
Add real content to feedback to test veracity and value.

Further user testing

Further user testing of interactive wireframes especially timer and backfilling functions.

Content

Build library of content for feedback and notifications in conjunction with the PRC. Investigate how data can be chunked and linked to existing strategies and information about crying patterns.

Functional Specification

Map out full specification and user flows.

Development Costs

Obtain 2 quotes into costs associated with building the Crybaby App

Website

Design onboarding website marketing and support portal