The
Conception
Fertility Calendar

Lelanthran Krishna Manickum

August 4, 2011

1   Introduction

Firstly, congratulations on your decision to have a child. Having and raising a child is one of the most rewarding activities many people experience during their lives, hence its continued popularity. Secondly, congratulations on choosing *Conception* to help ensure that you conceive your baby in the fastest time possible. *Conception* is designed to require very little work on your part to determine the days of the month that are statistically best suited to making a baby, and of course, those days that are better for making a boy baby and those days that are better for making a girl baby.

As every woman is an individually unique specimen of the fairer sex, it is sometimes necessary to fine-tune the workings of *Conception* in order to more accurately predict the fertile period of the cycle. In this document I will hold your hand through some of the more complicated parts of the process so that you get the most accurate predictions from *Conception*, and I leave the more natural parts of the process (you presumably know what these are) to yourself and your partner.

Figure 1: Conception *starting for the first time*

If your cycle follows the average in every way, you will not need to fine-tune *Conception* at all. In fact, it might be best to leave *Conception* as it is initially when you start using it, as *Conception* has some basic learning capabilities built in, and will make an effort to learn your rhythm as each cycle passes by. Of course, it is also possible to turn off the learning abilities of *Conception* if you ever feel that it is a bad learner.

While every effort is made to be as accurate as possible, please note that in the field of statistics, an event being highly improbable does not imply that it won't happen at all; it just means that there is a smaller chance of it happening. So, when I say *"the odds of conceiving a female is lower than conceiving a male"*, I mean just that — the odds are only lower; you might just beat the odds and get a female. Also, when I say that you have a high chance of, for example, getting pregnant, this does not automatically mean that you *will* get pregnant, it simply means that the odds are good that you will conceive.

Finally, there is the matter of the legal disclaimer. I did not initially want to put any legalese into this document, but the attack-shark who doubles as my lawyer has assured me that the world might in fact end if a product is released without a lawyer getting paid to write the legal disclaimer.

While this program does not come with any promises or guarantees, it does come with my heartfelt hope that it will work for you, and that you find it useful. Of course I would love to hear anything you have to say about this product, the good and the bad. If you have successes, please by all means let me know; I get a great deal of satisfaction from knowing that I helped someone. If you have any failures, be sure to let me know of these as well, as it would highlight shortcomings of *Conception* that might be fixable in the future.

2 How *Conception* will work with you

Conception was designed to be as easy to use as possible. It runs in the background of your Android device, and has been designed to use almost negligible power. Each month when your period starts you inform *Conception* of the date of your period, and then it calculates the fertile days for the rest of the month, and displays those days in particular shaded colours on the calendar (**RED** shades indicate a higher chance of conceiving a girl, **BLUE** shades indicate a higher chance of conceiving a boy). Some other dates on the calendar are also highlighted – see *Figure 2*.

After you quit the application, *Conception* maintains its calculations and updates your status bar at the top of the screen with a little icon that provides information on your fertile times (See *Figure 2* that displays where the notification icon is placed). This update is done a little after midnight each day.

Figure 2: *All the elements of the application.*

Once you have set the start date of your cycle (the very first day of your period), you will not need to start the application again until the start of your next cycle. In the 26-30 days between the period start dates, you can always see what your current fertility status is by simply looking at the notification bar. *Figure 3* shows each possible icon that can be displayed in the notification bar together with the meaning. If you feel that this is too public a place to display your status, you can turn this this ability off so that others who simply glance at your phone won't automatically see your private information.

In other words, if you are in a fertile period, you may not want to display this fact on the home screen of your phone; *Conception* will happily let you turn this display off. Turning this display off will

not affect the calculations that are done, and you are always free to turn it back on later. You can turn notifications on and off from the *Conception* menu.
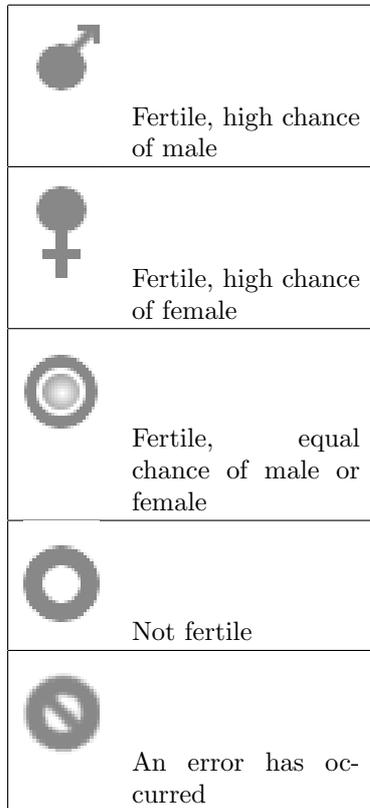
Whenever you start *Conception* it will always display a calendar with the current date highlighted with a white border, the calculated date of your next period highlighted in **YELLOW**, and your fertile days highlighted in shades starting with **RED** and gradually fading into **BLUE**. The more **RED** in the shade indicates a higher chance of conceiving a girl, if conception occurs at all, while the more **BLUE** in the shade indicates a higher chance of a boy, if conception occurs at all.

This is all you actually need to know to use *Conception*, I suggest you try using *Conception* for at least four cycles before you attempt to fine-tune it for accuracy. In other words, for the first four cycles it might be best to simply stick to selecting *"Period Start Today"* or *"Period Already Started"* from the Menu and let *Conception* try to figure out what the best values would be for you.

If you have already tried that, or if you already know that your cycle is not of the usual 28-day length, then you should go through the next section and try changing some of the options that would apply to you or your partner.

	Fertile, high chance of male
	Fertile, high chance of female
	Fertile, equal chance of male or female
	Not fertile
	An error has occurred

Figure 3: *The various notification icons.*

3 *Conception* Options

3.1 How to change an option value

Changing the values that *Conception* uses to track your fertile periods can, if done incorrectly, break *Conception* in subtle ways. If this ever happens, *Conception* can be restored to its factory-default settings by either:

- Selecting *"Reset"* from the *Conception* Menu.
- Clearing all the stored data from the Android System Menu.

Now that you know how to restore the program if it ever stops working, lets plunge headlong into the options. First, to bring up the options that can be changed, select *"Options"* from the Menu. What will be displayed would be a list of option by name, with each of the options current values on the right, such as shown in *Figure 4*.

You can change the value for each of the options (within certain ranges). *Conception* is of the opinion that **The Customer Is Always Right**, and so if you change a value to something that does not make sense, for example making *Conception* think that your partners sperm cells will live for a hundred years, then *Conception* will happily let you do that. This is why you should always take care before changing any value. If you give *Conception* incorrect information, it will believe you, and as a result give you incorrect results. In short, if you lie to *Conception*, it will happily lie right back at you.

Note that I might not explain *all* of the options that you may see on the options screen. This is not because I'm a dastardly crook trying to prevent you using *Conception* to the fullest, but merely because some of them are too difficult to change right now without further consultation with a doctor. I leave them in, in the hope that a future document will better explain how to make those changes.

Figure 4: *The options screen.*

After you have changed all the values you want to change, simply press *"Apply"* to save your changes. If you change your mind and don't want to save the changes you've just made, then instead press *"Cancel"*. Once you press *"Apply"*, there is no way to restore the previous value. You can always reset *Conception* to the factory settings as described above or simply just enter a new value for that particular option.

3.2 Sperm Life Span - *spermLifeSpan*

Sperm cells have a limited life-span after leaving the mans body. In the womans body they may survive for between three and five days. The default is four. The longer they survive, the longer the fertility period is. For example, if they survive for four days, then *Conception* will calculate a fertile period of around 6 days.

When changing this, you need to take into account your partners lifestyle. Use the following as a guide when changing this from the default of four days:
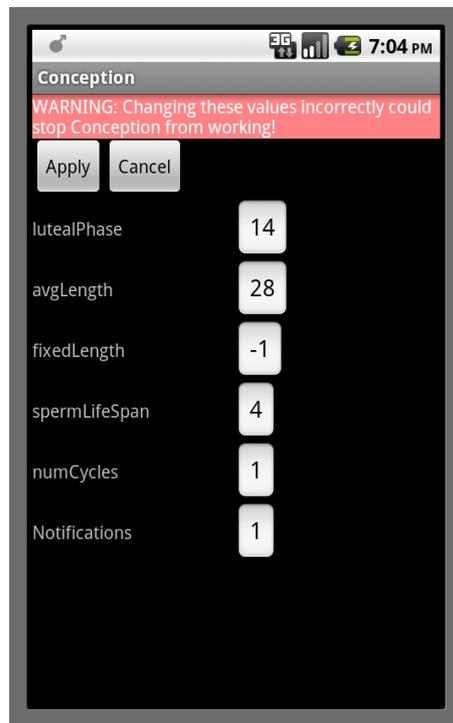
- Does your partner smoke or drink daily? Subtract 1 day (subtract $\frac{1}{2}$ a day if he either only drinks daily, or only smokes daily, but not both).

- Does your partner exercise (cardiovascular) on a regular basis? Add 1 day.

- Does your partner exercise excessively on a cycling machine or a bicycle? Subtract 1 day.

- Does your partner eat unhealthily? Subtract $\frac{1}{2}$ a day.

- Is your partner currently in a time of high stress? Subtract $\frac{1}{2}$ a day.

- Is your partner diabetic? Subtract $\frac{1}{2}$ a day.

- Does your partner sleep for more than 8 hours every night? Add 1 day.

You should consult your doctor to get a more accurate idea of how healthy your partners sperm can be. The above is a rough guideline to help you get an idea of the lifespan of your partners sperm cells. Note that there are many more factors that can affect the lifespan of sperm cells.

3.3   Luteal Phase - *lutealPhase*

The luteal phase of your cycle (together with the length of your cycle) is used by *Conception* to calculate the day of ovulation. This is usually 14 days in most women, but you can always measure your cycle in one of the two ways described below, and change the value used by *Conception* if you find that your luteal phase is not 14 days.

To measure the length of your luteal phase using temperature, you need to purchase a *Basal Thermometre*, available at most pharmacies, and you need to record your temperature every day for one entire cycle, starting on the first day of your period. Ensure that the temperature is always taken every day at the same time and under the same circumstance. It might just be easier to record the temperature the very instant you wake up, before even getting out of bed.

The luteal phase starts towards the middle of your cycle, and is identified by a slightly higher body temperature, and ends at the first day of your next period. After you've recorded your temperature identify the day that your temperature was slightly higher than usual, and count the number of days from that day (including the day the temperature was slightly higher) to the start of the next period. This number is the length of your luteal phase.

Its best to produce a chart of your temperature so that you can clearly see the day that it rises. See *Figure 5* for an example of a chart produced by measuring the temperature every day.

5

The second method of determining the length of your luteal phase is by using a urine-based ovulation test (which is also available at most pharmacies). This works similar to a home pregnancy test kit, and all you do is simply count the days from when the ovulation test is positive to the start of your next period.
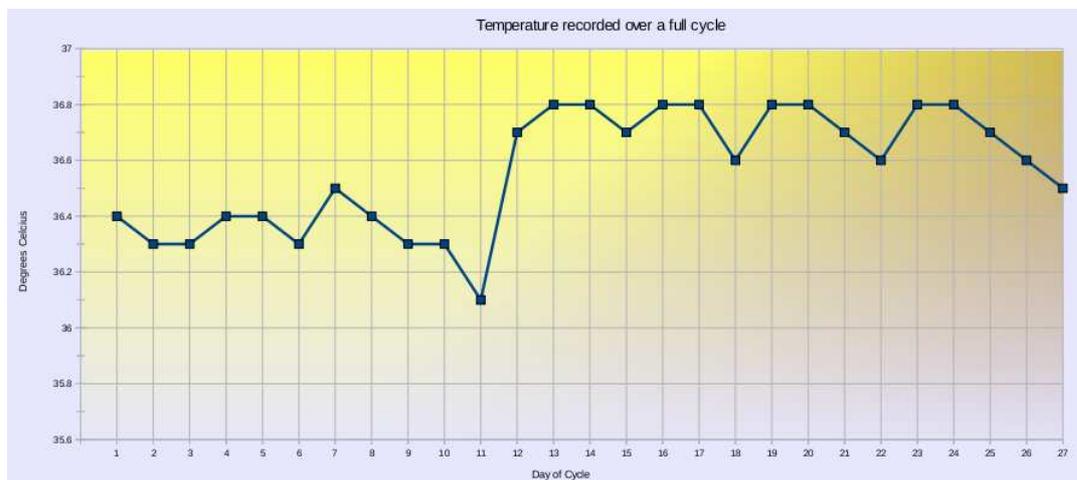

Figure 5: *A chart showing the temperature increase that indicate ovulation on day 12 of this womans monthly cycle.*

3.4   Average Cycle Length - *avgLength*

Conception uses the average length of all your cycles in its calculations. Obviously, if this is incorrect – for example it will start off using an average of 28 days – you will want to rectify it. For example, if you missed a period due to ill-health or similar, then you don't want *Conception* averaging your periods with a 60-day cycle. You can change this to what your average really is.

While *Conception* does try to learn your rhythm, it is recommended that you change this value if it is incorrect. If you would prefer *Conception* to use a fixed length as your period length and not use any of the averages it calculates, then change the option *fixedLength*.

3.5   Constant Cycle Length - *fixedLength*

Set this value only if you would prefer *Conception* to ignore the average cycle length; if this is any positive value, *Conception* will use this value as the length of your cycle instead of using the average it calculates. If you change your mind later and you want *Conception* to use the average again, simply set this value to *-1*, and *Conception* will use the average instead.

A word to the wise: *A study found that the majority of women who were asked how long their cycle was were found to be incorrect when their cycle was actually measured. Even if you think that your cycle is usually (for example) 26 days, please measure it before changing the behaviour in* Conception.

4 Further contact

If you'd like to contact me, please by all means do so. *Conception* has an item called *"About"* in the menu that will point you to a website with all the details about *Conception*, as well as contact information. I welcome feedback and criticism.

5 Acknowledgments

Nothing of value is ever created by the efforts of a single person. I thank the following people for their part in the creation of *Conception* and the various associated documents, and wish to draw attention to the fact that none of the people below are actually *responsible* for any errors that you may find. All errors are mine and mine alone.

- *Mr and Mrs Singh* and their daughter *Kaira* and son *Raiden*, who allowed me to use pictures of my niece and my nephew in this document.

- *Onkgepotse Molefe*, who performed the Tswana translation of *Conception*.

- *Mixo Shiburi*, who was (and still is) a useful sounding-board for ideas, and who frequently donated valuable contributions to this effort in the shape of criticism.

- *Dr Alisha Chunder*, who originally inspired me to develop the initial prototype of *Conception*, and who subsequently provided insightful feedback regarding the user-interface and utility of *Conception*.