Wearable Fertility Tracker
allowing women to track their fertility in an easy and stylish way
Background

• grocery lists, to-do lists, calendars, address books, project lists, organizational software, etc.

• mom as artist/ fashion designer + father as director in data analysis

• topics in women issues, interested in “what is not being said”
What’s out there?

current methods of tracking fertility
To measure your BBT, use an older oral glass/Mercury thermometer, or a special BBT thermometer available at some pharmacies. (For glass thermometers, shake it down before going to bed, and leave it close by, within reach.)

As soon as you awake, with minimal movement, put the thermometer in your armpit, next to the skin.

Leave it for ten minutes.

Record the readings for three to five consecutive days.
Issues

- specificity of the readout dependent on movement and time of day
- effort required can be disruptive to daily routine
- the whole process is not conducive to “romantic activity”
Also...
How Scary is This?
Ov-Watch

• detects chemical surge of chloride ions on skin (predictor of fertility)

• wear to sleep

• notify 4 days before ovulation

• no long-term data collected
Software

- Based on numbers, not actual body

- Limited accuracy, more of a “rough estimate”
The Number Game

• day 14 of cycle (12-14 days before start of next period)

• very small window (1-2 days before ovulation to about 24 hrs after)

• about 20% chance of couple getting pregnant
Challenge

• current fertility trackers - limited accuracy

• women are the ones who typically have to keep track of all of this

• typically kills the mood for both involved
Ovü is made up of a lace arm band, with a highly sensitive thermistor attached inside that picks up changes in the Basal Body Temperature (BBT) of a woman to detect fertility.
How It Works

1. Wear the Ovü on your upper arm.

2. The thermometer constantly takes in temperature in the underarm & tracks changes.

3. When the change is significant enough to imply a hormonal change (typically during ovulation), the device sends a txt to your partner’s mobile phone.
Components of the Ovü

measurement:
tracks temperature changes

analysis:
analyzes data against previous readings

notification:
allows couple to know when it’s time
WEARABLE DEVICE

- THERMISTER
  - ARDUINO
  - BLUE SMiRF
Weareable device

- Thermister
- Arduino
- Blue SMiRF

Bluetooth

Constantly taking in readings and sending to mobile device.
BLUETOOTH
Constantly taking in readings and sending to mobile device

MOBILE PHONE

J2ME
Phone sends data to database when connection is available
BLUETOOTH
Constantly taking in readings and sending to mobile device

MOBILE PHONE

REATEABLE DEVICE

THERMISTER

ARDUINO

BLUE SMiRF

MYSQL DATABASE

PHP
Phone sends to invisible web page that adds data to database

J2ME
Phone sends data to database when connection is available
BLUETOOTH
Constantly taking in readings and sending to mobile device

WEARABLE DEVICE
- THERMISTER
- ARDUINO
- BLUE SMiRF

MOBILE PHONE

MySQL DATABASE

PHP/MYSQL
Send text message to phone when significant change in data

php
Phone sends to invisible web page that adds data to database

J2ME
Phone sends data to database when connection is available

INTERNET
Wearable Device

Inner View

Outer View
Wearable Device (the guts)
Basic Requirements

Setup

• create username/password in database through website

• load mobile app onto bluetooth-enabled phone, start (program runs in bg)

Proper Use

• wear device as often as possible

• change battery when necessary
Who are the users?

Typical Users
Barbara & Doug*

- Typical User: 35+ yr old couple, ready to start family
- Objective: trying to get pregnant
- Context: needs to monitor ovulation, wants to track fertility in an easy & stylish way
- Priorities: focused on career, busy life, constantly on the go

* first image to come up in google search for “happy couple”
Statistics & Such

Why Do Women Need the Ovü?
Women Have Children Later in Life
Times Are A-Changin'

• increasing number of women postponing motherhood (career, financial, travel, etc)

• birthrates for women in their 30s risen 9.65% between 1990 and 1997 (ages 40-44 up 29%)

• even couples who marry early will often decide to wait
Fertility Decreases for Women with Age- Yikes!
Pregnancy Rates (1 Yr)

Source: Management of the Infertile Woman by Helen A. Carcio and The Fertility Sourcebook by M. Sara Rosenthal
More Statistics

• chances of having a baby decrease 3-5% each year after 30 yrs of age (faster rate after 40)

• viable eggs occur less frequently with increased age
Benefits

• the Ovü frees those women trying to become pregnant from having to be so focused on their cycle

• the partner is involved in some way

• the accuracy improves the chance of finding the “right time”
User Testing: Evaluation

• one-on-one interviews

• surveys regarding experience

• comparison to control

• test the following:
  - accuracy!!
  - durability
  - ease of use
  - comfort
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