Bump Tracker

Change You Can See

By Garrett Cox and Jk Jensen

Tracking Pregnancy - A Journey to Parenthood

The Gestational Period is a time full of emotion and as the woman's belly starts to grow, that's when the family first starts to realize the family is slowly growing too.

It's a precious piece of family history!

1. Goal

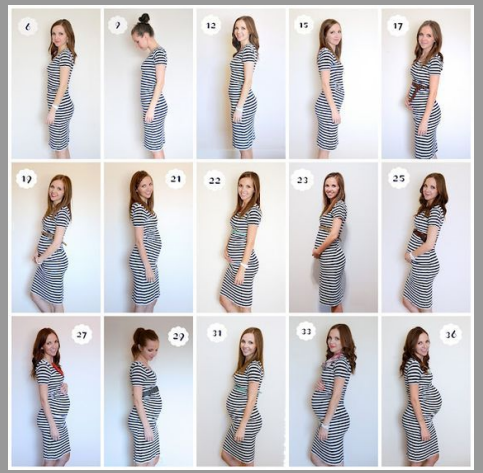
Process photos in a new way that allows the progress to be better recognized with:

➔ **Image Alignment**
Highlight what's new, unusual, or surprising.

➔ **Ease**
Give people a reason to care.

➔ **Organization**
Compile the photos in a way that effectively illustrates the growth

But wait, isn't that what people are doing already?



Not Quite

Attempts are already made to document progress, but **no tool exists** to make the desired outcome**.**

While making a collage is possible, it requires a lot of user intuition to perfect alignment

Until Now! Bump Tracker.

(With a little help from your smart phone)

Note

Bump Tracker is only available on iOS at this time.

Bump Tracker takes your pregnancy images and makes them

BEAUTIFUL

2. Solutions

Several methods were explored in finding the optimal solution

- **Contours, Moments, Best-Fit**
  Finding edges to detect body shape/similarity.
- **Chamfer Matching, Homography**
  Morphing and matching images via features.
- **OpenCV**
  Object detection.
- **Human Pose Evaluation with Deep Neural Networks**
  Using machine learning to evaluate what pose a person is in.
- **Profiling**
  Summing across axes to analyze image similarity.

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  Not enough resolution. The belly is not the only part of the body growing.
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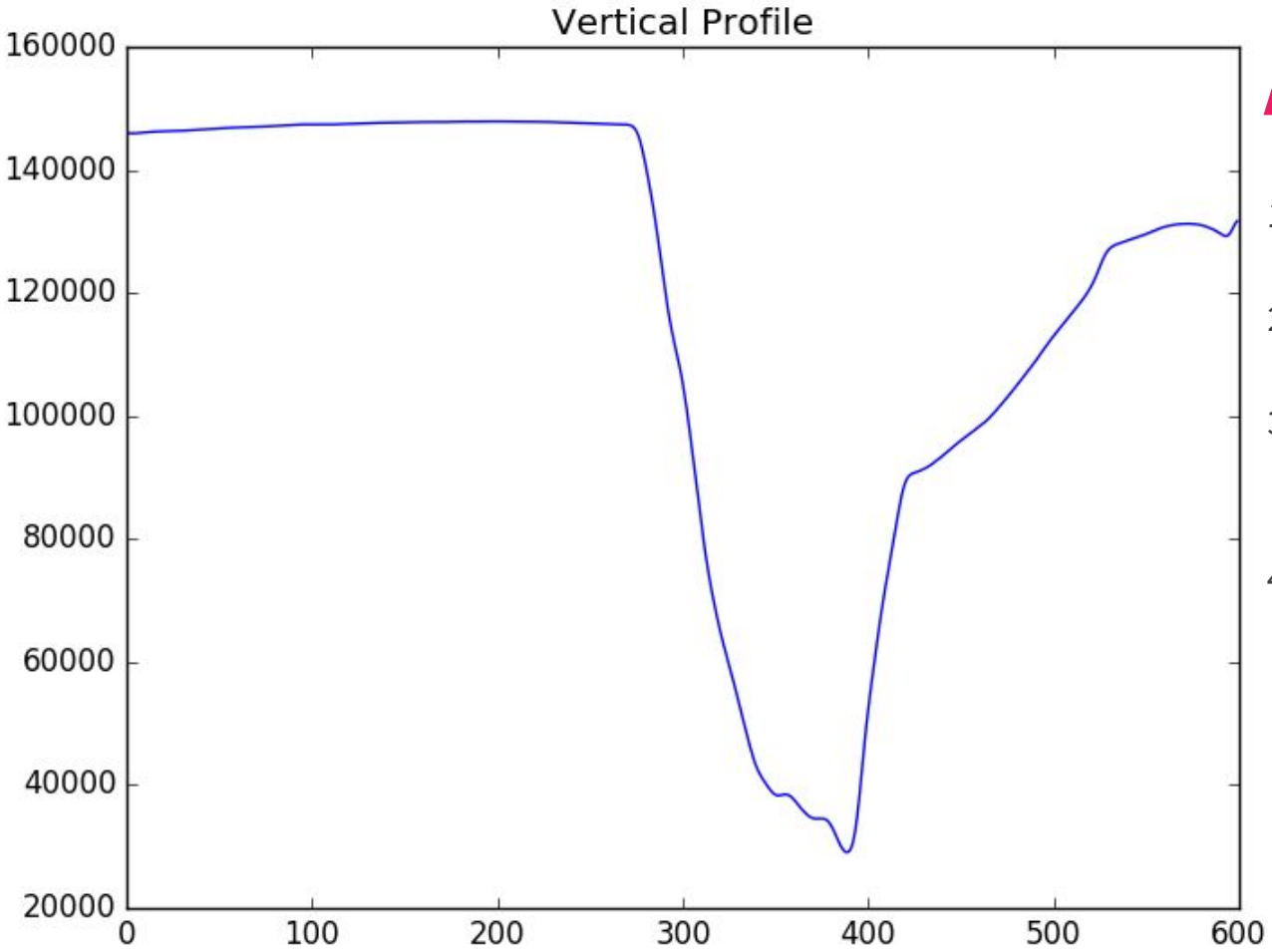
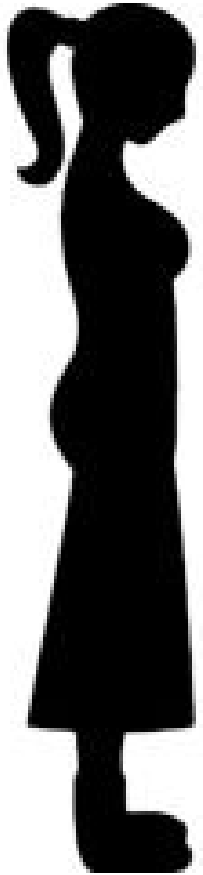
- Elegant and simple solution.
- Quick to set up.



Approach.

1. Sum previous image across x,y axis
2. Sum current camera image similarly
3. Extract absolute difference between summed arrays
4. Sum absolute difference array

Without Algorithm



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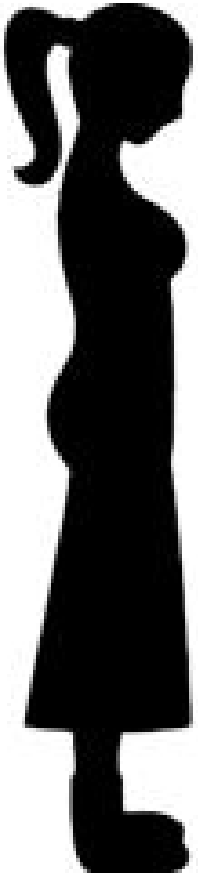

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User Timeline

First Time

User sets week and takes first photo using template

Repeat

Repeat photoshoot process

Progress

Takes photos as bump progresses with previous photo overlay

Create

Compile a gif of the progress and share with friends!

DEMO

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BEAUTIFUL

3. Next Baby Steps

Polish up the UI and functionality

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Add instructions to new users and real-time instructions during photoshoot

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Make it easier to share the gif images,

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