

# AutoCollage: From Paper To Product

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# Summary

- Software for papers/events x product
- Researchers and the “path to market”
- Companies and the “path to market”

# A Big Software Company

- 100,000 employees
- 10,000 “software development professionals”
- 1,000 researchers
- About 500 ongoing “projects”

# Incubation and Tech Transfer

- “Microsoft Research” team:
  - Identify technologies ready for use in products
  - Work with product teams
  - Work with external partners
    - Recruiting, management, revisions, etc.
    - TAB (Technical Advisory Boards)

Microsoft  
**Research**

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- About Microsoft Research ▶
- Research Areas ▶
- People
- Worldwide Labs ▶
- Collaborative Projects ▶

- Publications
- Downloads
- Conferences and Events

- Careers ▶
- Visiting Microsoft Research ▶
- Press Resources



## Microsoft Research Cambridge



### Incubation and Tech Transfer



#### AutoCollage

Photo collages celebrate important events and themes in our lives. Microsoft Research presents **AutoCollage**, an advanced **computer vision** and image processing program which automatically create collages of your pictures. **Face detection**, saliency filters, and other Microsoft research identifies interesting parts of pictures. Advanced **object selection** and **blending** technologies seamlessly combine these pieces into a beautiful new AutoCollage. Pick a folder, press a button, and in a few minutes AutoCollage presents you with a unique memento to print or email to your family and friends.



#### Nimbus: Secure Peer Accelerated Downloads

Millions of people download files over the internet every day, and servers can't always keep up with the demand. Secure peer accelerated downloads distribute authorized files to more people more quickly than any server can alone. Based on **Network Coding research**, Microsoft Research's secure peer accelerated downloads use proven security technologies like **TLS** and **digital certificates** in innovative ways, protect clients and publishers alike. We also use

#### Overview

- [People](#)
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#### Windows Marketplace



[Proceed to Marketplace](#)

#### News

- Microsoft Research Cambridge Puts Visual Studio Beta on Fast Track. [Read more](#)

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# Digital Tapestry



**Figure 1. Tapestry comparison.** Top: eight different images from a consumer photo collection. Bottom: Four different ways to visually summarize such a collection: (a) Manually created tapestry using commercial image editing software [1]; (b) mosaic of representative images; (c) shape and appearance preserving epitome [7]; (d) digital tapestry created with the proposed method.

# AutoCollage

Carsten Rother, Lucas Bordeaux, Youssef Hamadi, Andrew Blake  
Microsoft Research Cambridge, UK\*



Figure 1: AutoCollage automatically creates a collage of representative elements from a set of images. Novel and desirable properties include: boundaries between images are appropriately positioned; there is little duplication of material; small and meaningless image fragments are avoided; faces are preserved whole; blends may either cut along natural boundaries or be transparent, decided automatically.



# Software For Papers/Events

- Demo (if possible)
  - Matlab Application

# Final Product

- Demo
- Expectations for the product

# From Paper to Product

- Main issues (generic)
  - Installation (setup)
  - Test
  - Support
- Specific issues

# Installation

- Software for papers/events
- Product
  - Always work
  - Detect and install dependencies
- “It works on my computer!”

# Test

- Software for papers/events
- Product
  - Test Matrix: test cases and their execution schedule
    - Test cases: positive, negative, stress, globalization/localization, compatibility, accessibility, internationalization, extensibility, programmability, etc.
    - Executions: BVTs (Build Verification Tests), daily, weekly, test pass, regression, etc.
- “This was working yesterday...”

# Support

- Software for papers/events
- Product
  - Support to other teams
    - Product Management, User Education, Test, Marketing, Sales, IT, etc.
  - PSS (Product Support Services)
    - Customer support (alpha, beta, final)
- “The application does <this>”
  - (No matter what the documentation says...)



# Microsoft Research AutoCollage

- Home
- About
- Demos

## Support

- Forum
- Blog

## Contributors

- Cambridge Incubation
- Vision Technology

## Research Topics

- Automatic Collage
- Face Detection
- Image Segmentation
- Image Blending

## AutoCollage 2008

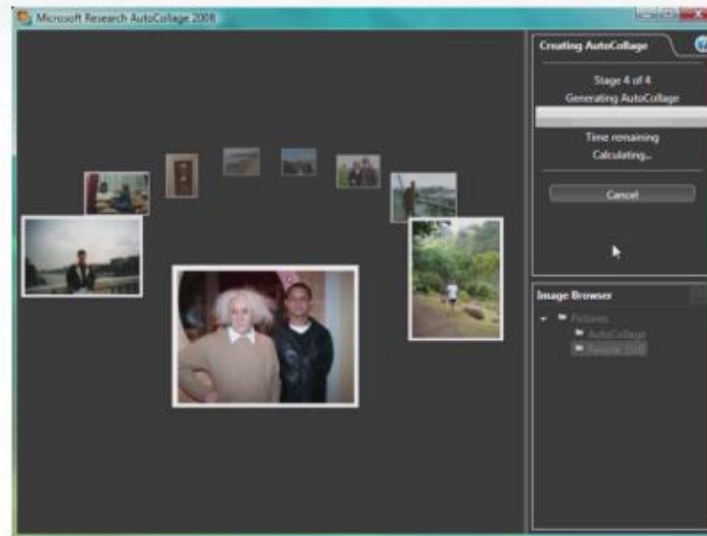
### What is AutoCollage?

Photo collages celebrate important events and themes in our lives. Pick a folder, press a button, and in a few minutes AutoCollage presents you with a unique memento to print or email to your family and friends.

### Maximise your photo collection

AutoCollage allows you to create beautiful collages of your favorite pictures in a few clicks of a mouse. [Click here](#) to see the program in action.

### Sample images.



# Specific Issues

- Only happens with products
  - Usability: the customer is the “expert”
  - Compatibility: other applications and versions
  - Bugs: fix as per user priorities
- Specific projects = specific problems
  - Hardware
  - Deterministic x random



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# Researchers

- Good technology <> “good product”
  - The “P”s from marketing
- A “good product” = market test
  - Some products will always be “seasonal”
- Let go...
  - At some point, it is no longer “your research”

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# Thanks!

- AutoCollage
  - <http://research.microsoft.com/AutoCollage>
- Cambridge Incubation
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- Microsoft Research
  - <http://research.microsoft.com>