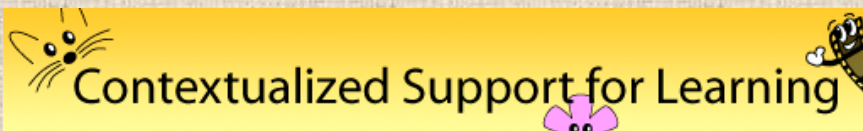


Storytelling with Digital Photographs:

Supporting the Practice,
Understanding the Benefit

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Digital Capture of Experiences



Sharing Our Experiences

- Display
 - Picture Frames
 - Photo Albums
 - Slideshows



Sharing Our Experiences

- Requirements for Photoware
 - “Reminiscing talk”
 - Co-present storytelling (for people who were not there)
 - Calls for technologies to support co-present storytelling

Frohlich, D., Kuchinsky, A., Pering, C., Don, A., and Ariss, S., Requirements for Photoware, Proceedings of the 2002 ACM conference on Computer supported cooperative work, (New Orleans, Louisiana, USA), pp. 166-175

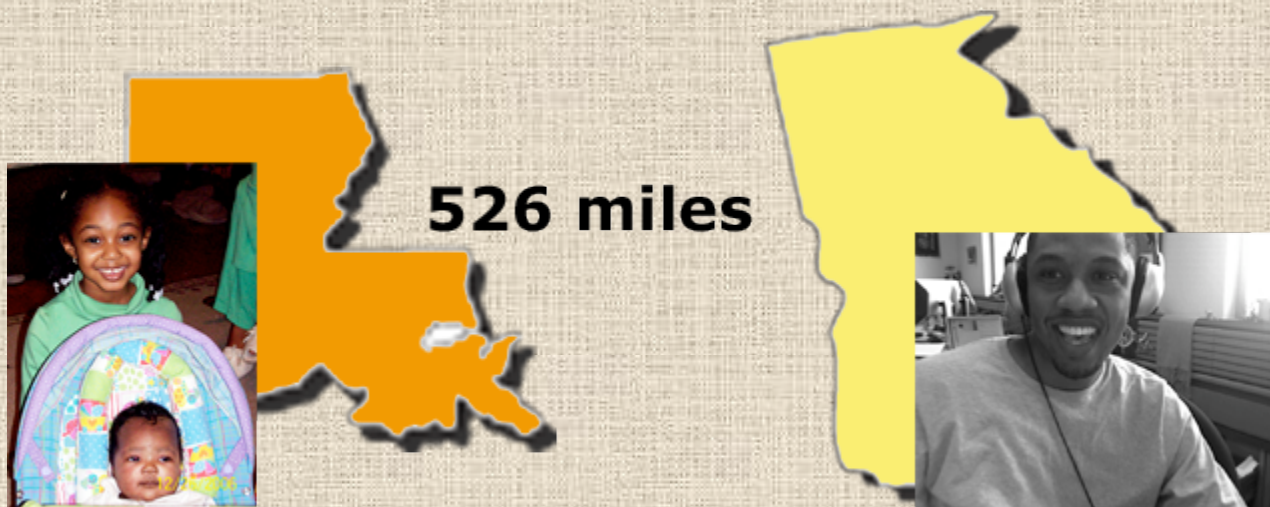


The Power of Story

- History Archival(StoryCorps)
- Remembering details of an experience
(Frohlich *et al.*, CSCW '02)
- Approach to increasing consumer-level digital literacy to “shape the technologies of tomorrow” (Lambert '02)
- Potential to become rich form of media annotation (Frohlich *et al.*, CSCW '02)

Sharing Our Experiences

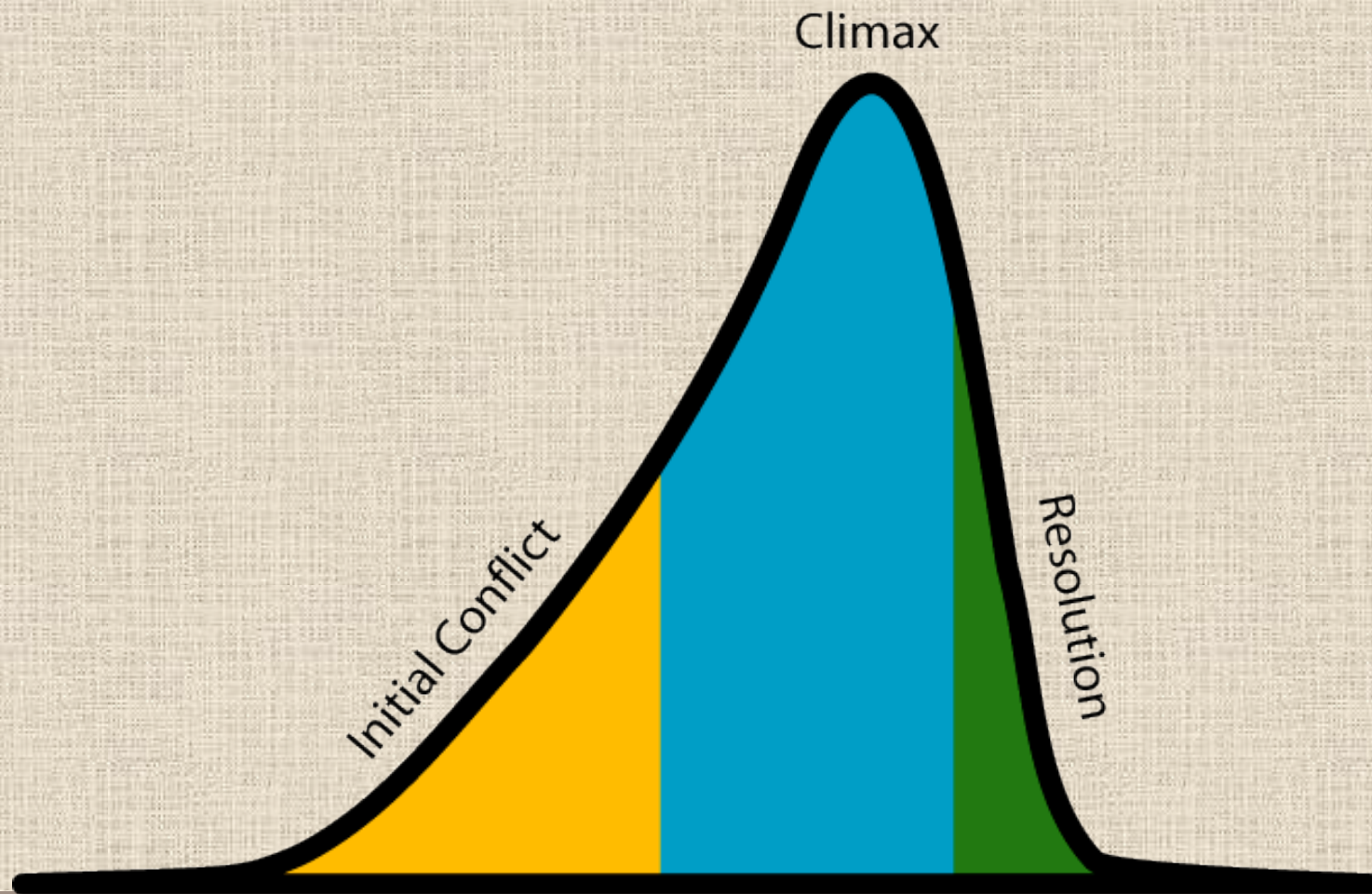
- But what happens when you're not co-present?



Driving Question

- How do we support storytelling using interactive technologies to communicate experiences to people not present?
- Selecting a structure by which to communicate is key

Plot Driven Story



The Power of Plot-Driven Story

- Dialog between people, cultures and times (Madej, Comp. Ent. '03)
- Storytelling helps us assign meaning to experiences (Polkinghorne '98)
- Self-realization (Davis, THEN '05)
- Therapeutic benefit (Pennebaker Lit. & Med. '00)

But it's Difficult with Photos

- Practical & Technical
 - Media Manipulation
 - **Media Composition**
 - **Process Management**
 - Time Consuming
- Plot-Specific
 - **Brainstorming**
 - **Story Development**
 - Pacing
 - Economy

Proposed Solution

- Structure photo activities as storytelling

Photo Activity	Storytelling Activity
Annotation	Brainstorming
Search	Brainstorming Story Development
Construction	Story Development Media Composition

Thesis Statement

Structuring photo activities as storytelling can lead to (1) the production of plot-driven stories that (2) are satisfying to the author, (3) satisfying to viewing audiences, (4) and increase the use of storytelling with digital media as a means to communicate personal experiences.

Research Questions

1. How do previous experiences as media consumers and producers impact the effort and desire of novices to create plot-driven personal stories?

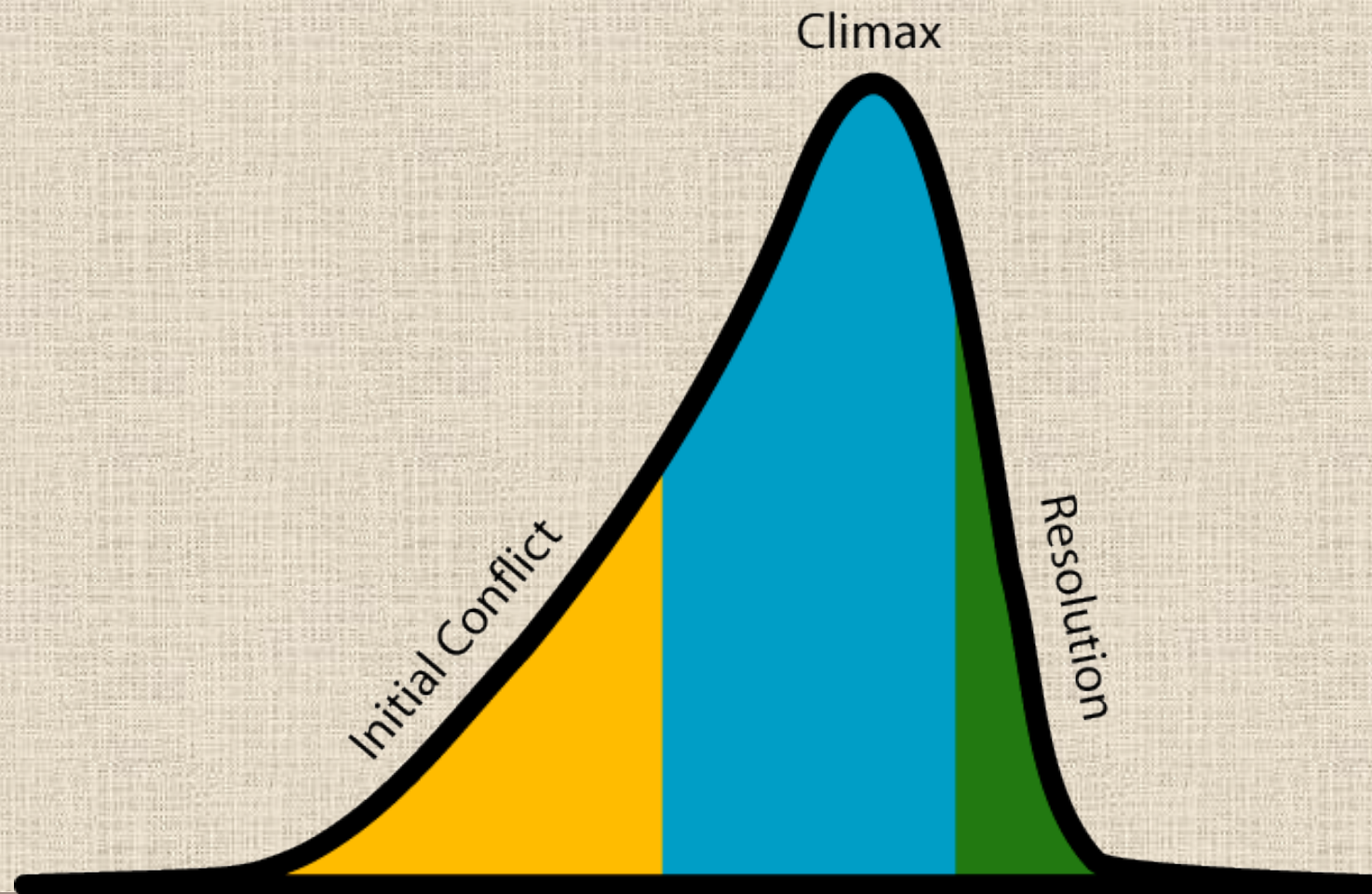
Can structuring photo activities as storytelling...

2. lead to a satisfying experience and output for story *authors*?
3. produce a satisfying outcome for viewing *audiences*?
4. produce plot-driven stories according to *professional practice*?

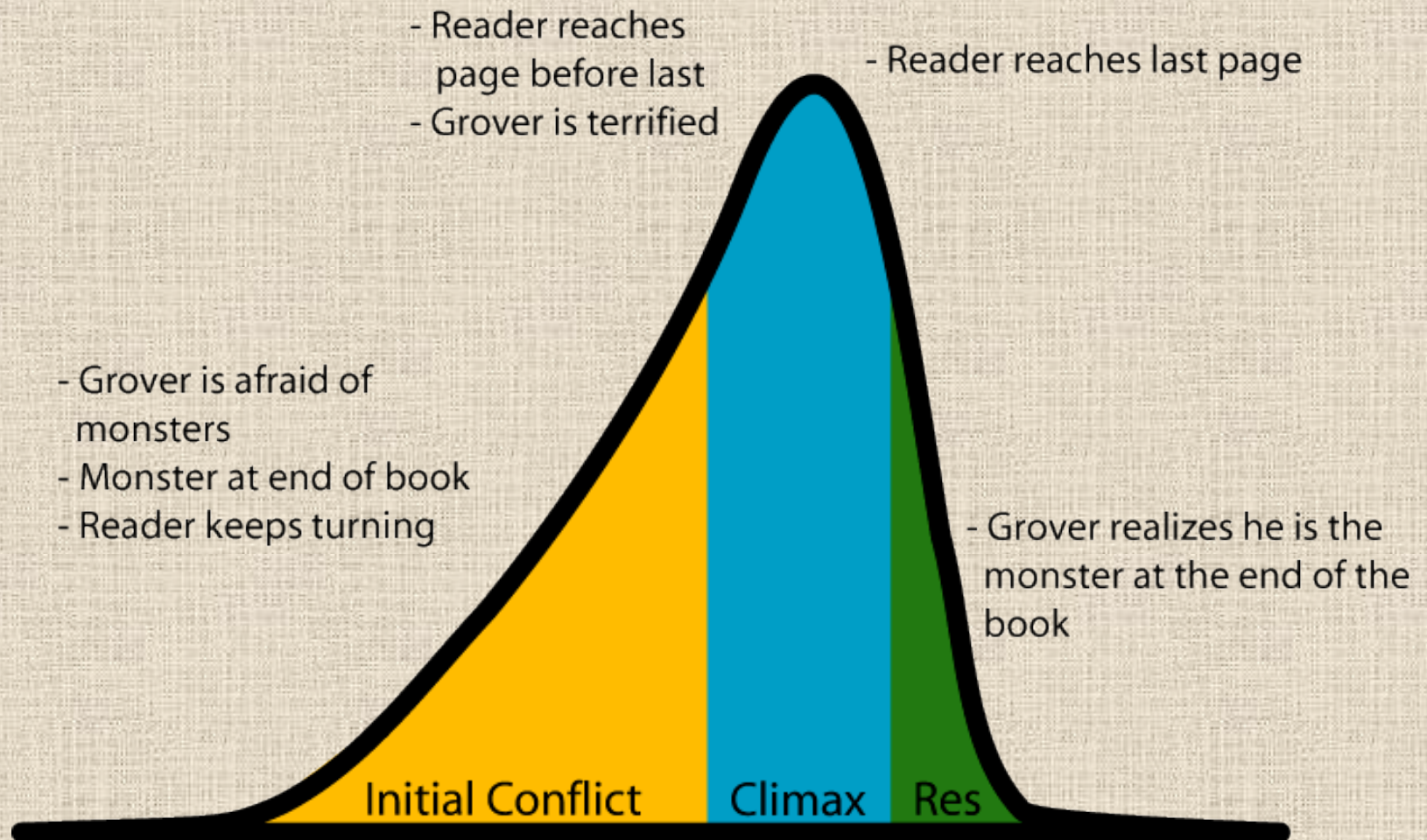
Research Questions

- How does a suite of annotation, search, construction supports impact the storytelling process?
- Can structuring photo activities as storytelling lead to adoption of digital storytelling as a means of communicating personal experiences?

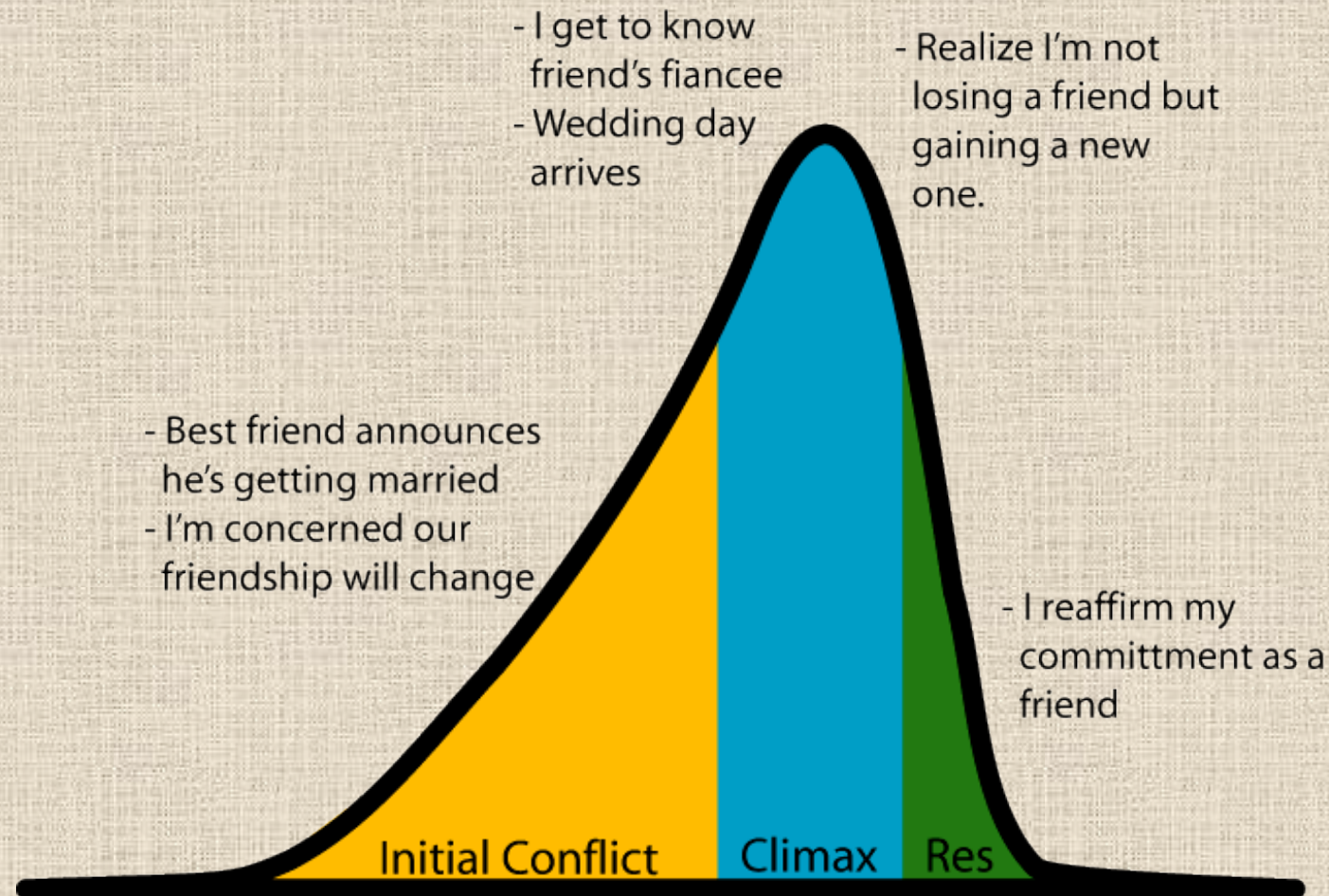
What is a Plot-Driven Story?



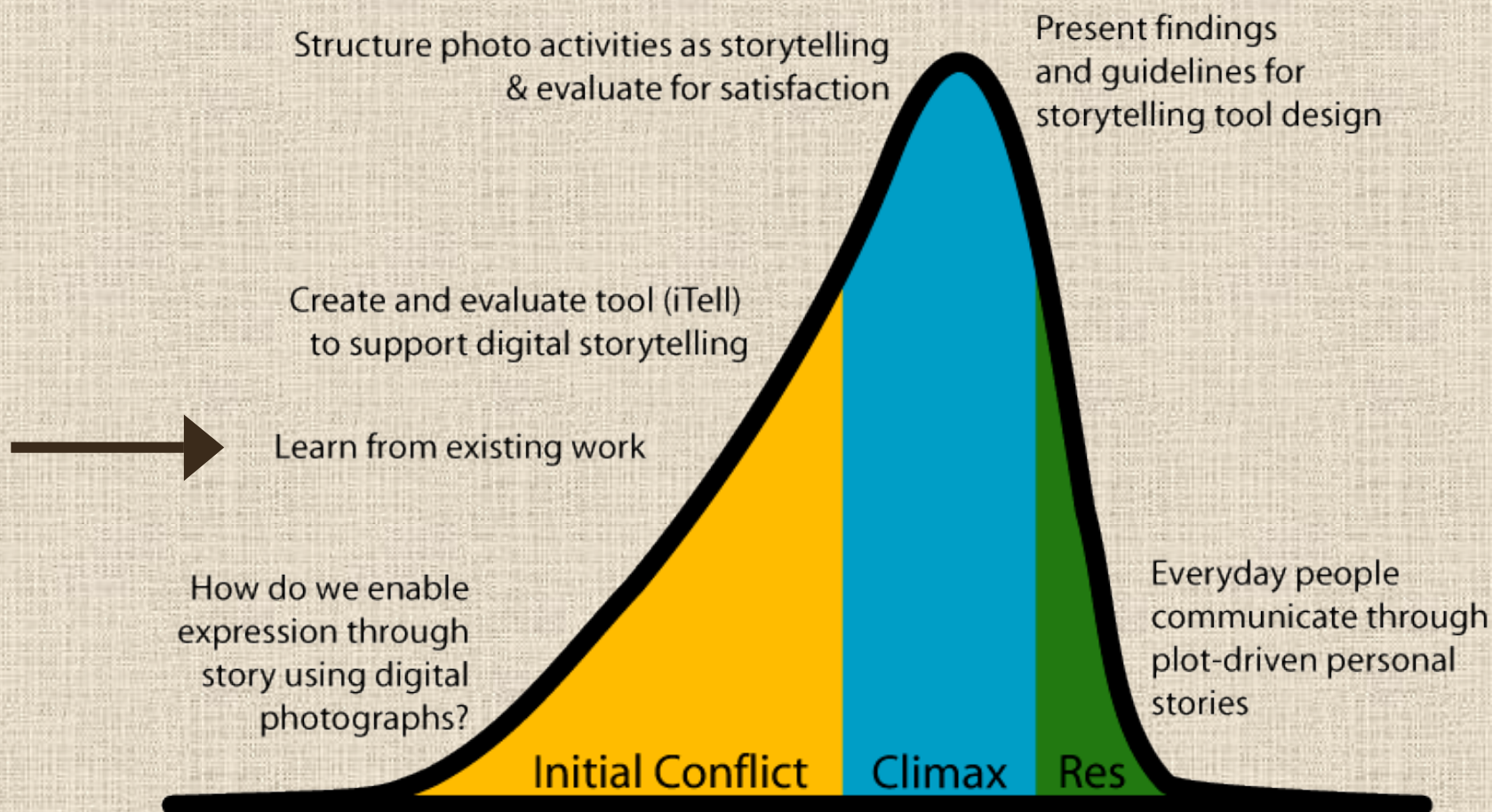
“Monster at the End of This Book”



My Best Friend's Wedding



Outline

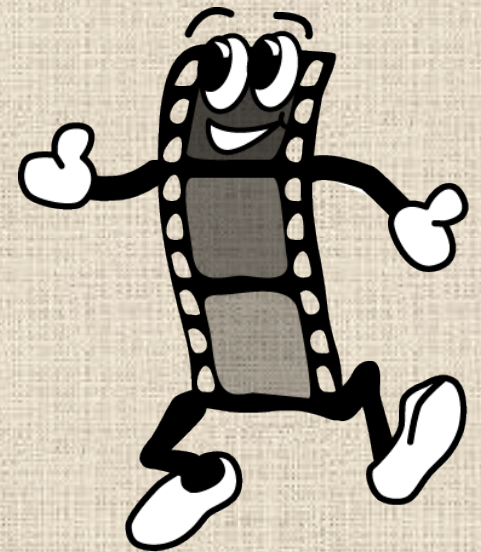


Learning From Existing Work

- Center for Digital Storytelling (Landry & Guzdial '06)
 - Story Development (models, feedback)
 - Process Management (facilitated)
 - Collaboration (story circle)
- Writing Support
 - Begin with a good story (Trottier '95, Collier '01)
 - “Set a tentative focus” (Hacker '98)
 - Procedural Facilitation (Bereiter & Scardamalia '87)
 - Dramatica

iTell

- Learned from CDS and experts in literature on writing, and media production
- Designed iTell to address novice needs:
 - Brainstorming
 - Story Development
 - Process Management
 - Media Composition



iTell: The Design

Landry, B. M. and Guzdial, M., iTell: Supporting retrospective storytelling with digital photos, Proceedings of the 6th ACM conference on Designing Interactive systems, pp. 160-168, 2006.

- Provide a holistic support for media and story activities
- Guide while not limiting creativity
 - Transaction process model
 - Four step process
 - Goals & directions



Step 1: Brainstorm



Step 2: Organize



Step 3: Writing



Step 4: Add Personal Media

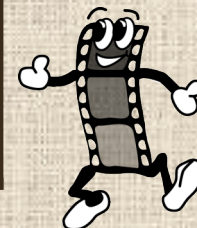
iTell: Lessons Learned

- Role of media in Retrospective Storytelling
- Storytelling Styles: Novice vs. Professional
- Balancing Writing and Media
- Supporting Novices via Expert Support Model

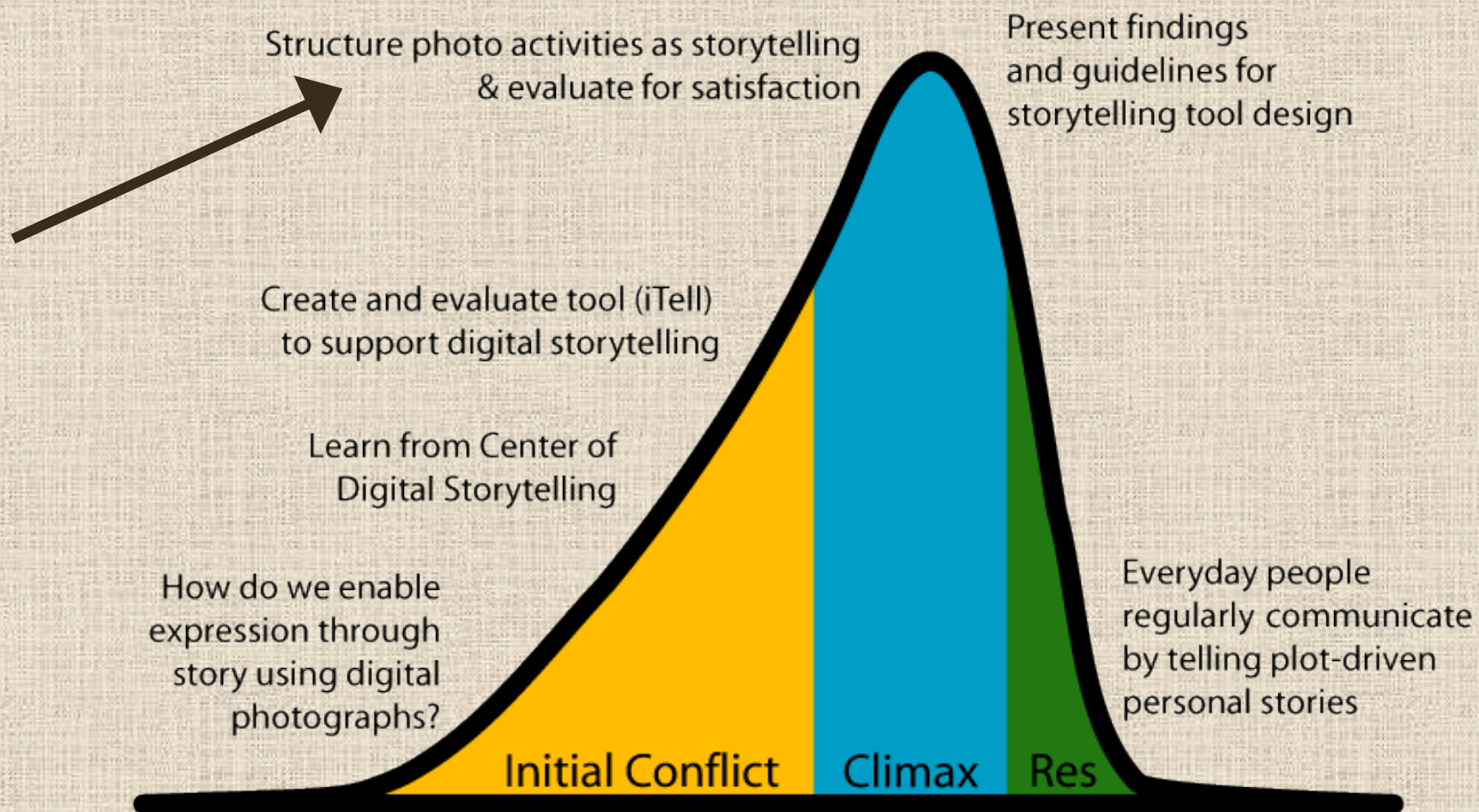
Proposed Solution

- Structure photo activities as storytelling

Photo Activity	Storytelling Activity
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Outline



Storytellr

- 3rd party flickr application
- Provide familiar entry-point to storytelling

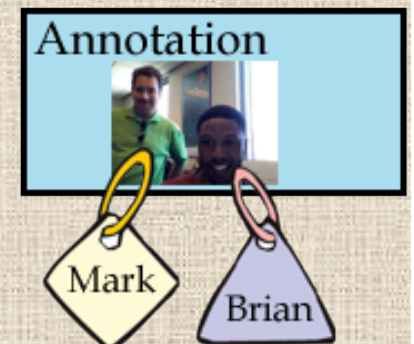


Annotation Phase

- Previous Work
 - GPS (Sarvas *et al.*, MobiSys '04)
 - Visual concepts (Smith and Chang, IEEE Mult. '97)
 - Face detection (Kuchinsky *et al.*, CHI '99)
 - Drag & Drop (Shneiderman and Kang, InfoViz '00)
 - Games (Von Ahn and Dabbish, CHI '04)
- Tend to capture
who, what, when, where

Annotation Phase

- Elicit the *how* and *why* of experiences for storytelling
- Begin brainstorming process
- Guided manual annotation
- Occurs in conjunction with the photo uploading process



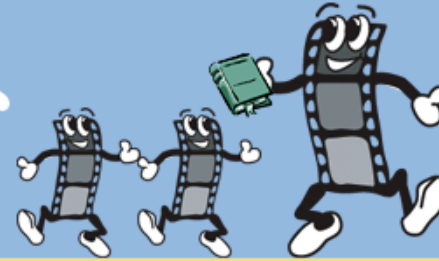
Annotation Phase

- Can occur apart from storytelling

Annotation Type	Plot Element
Positive Emotion	Setup / Resolution
Neutral Emotion	Setup / Resolution
Negative Emotion	Conflict
People Present	Characters
Place	Setting
Rating	Audience



Storytellr



Storytellr::Upload & Annotate

Photo 1 of 1



Tagging:

Title:

right in the kisser

Description:

brian and brian playing around with my new imac

What emotion(s) does looking at this image evoke?

happy
sad
angry

Add To List

Who is pictured in the photo?

brian dorn
brian landry

Add To List

Where was this picture taken?

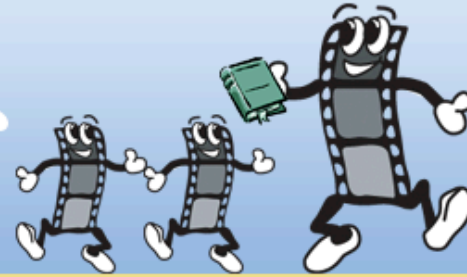
csl

Search Phase

- Continue brainstorming
- Initiate story development thought process
- Leverage story annotations via prompted search
- Select media for story



Storytellr



Storytellr::Search

What is the tone or mood of this story? What emotions come to mind?

happy
sad
angry

What people appear in this story?

brian

Where does this story take place?

vacherie

What events might describe this story?

wedding

Search

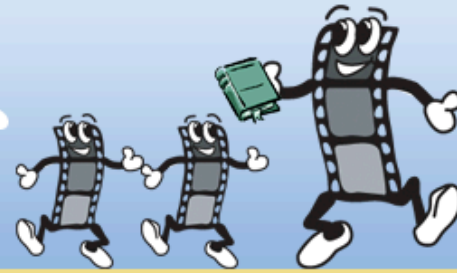


Construction Phase

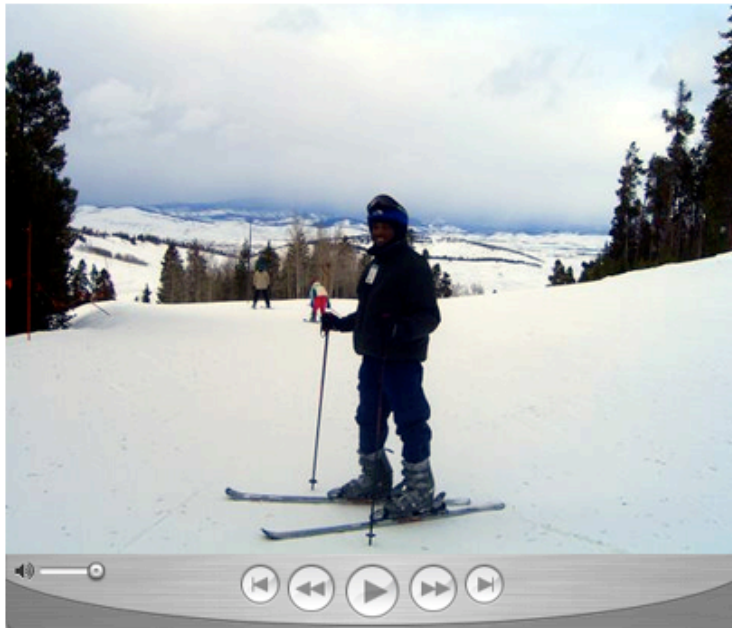
- Story Development
 - Assign images to plot elements
 - Develop text for each image/plot element
- Media Composition
 - Photos
 - Voice
 - Music



Storytellr



Storytellr:: Construction



Tone:

People:

Setting:

Event:



Setup



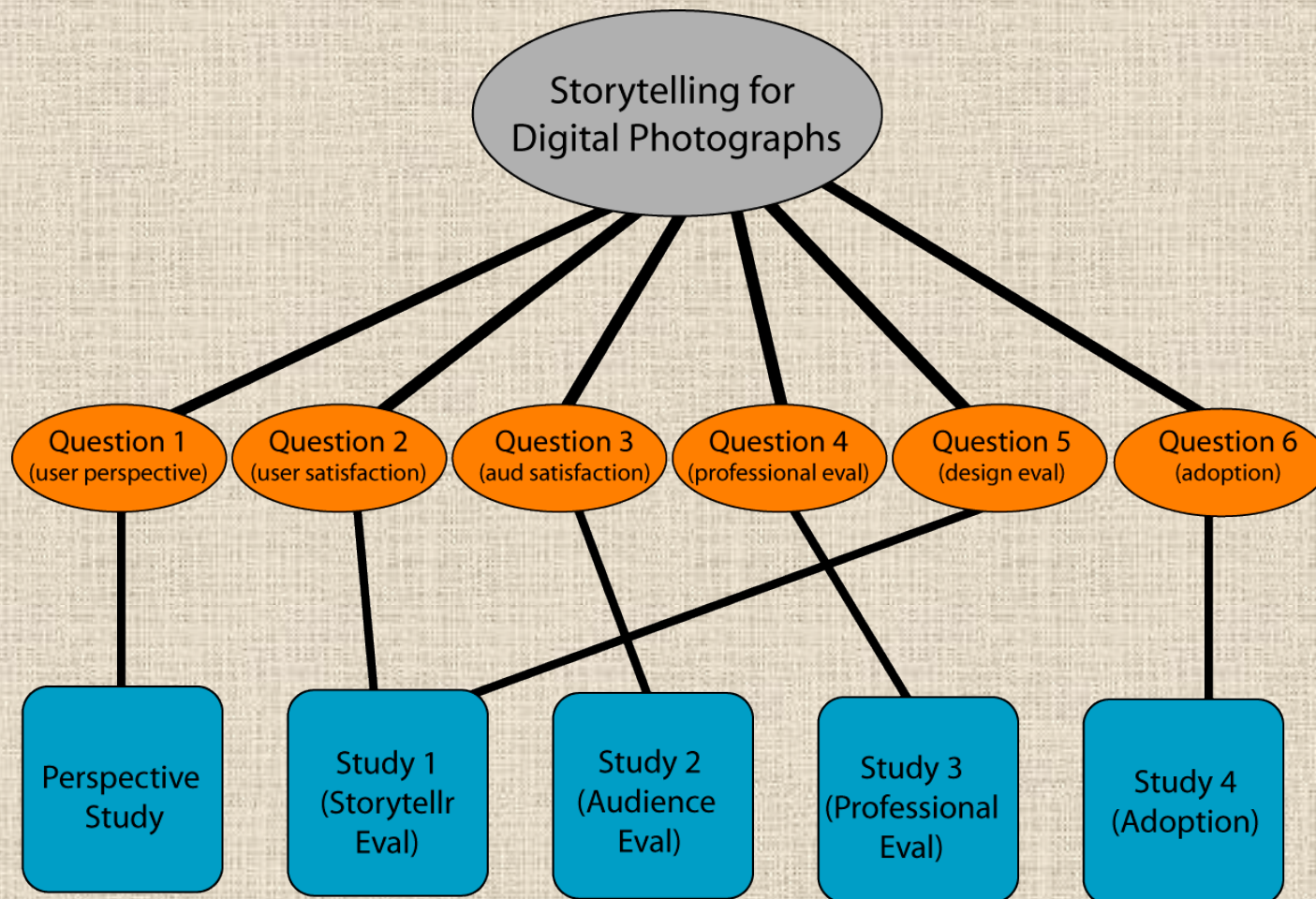
Climax



Resolution



Evaluating Storytellr



Perspective Study

- Views of participants will help explain their behavior as they use Storytellr
- Assess current level of satisfaction
- Establish a baseline to compare user experiences against

RQ 1
(user perspective)

Perspective Study

- Qualitative interviews regarding...
 - Consumption of end-user media
 - Telling plot-driven stories
 - Quality expectations of amateur productions
 - Perceptions of required effort
- 10 participants
 - Adults (varying age groups)
 - Own a digital camera
 - Take photos at least on special occasions
 - Novice media authors

RQ 1
(user perspective)

Storytellr Study

- Is the Storytellr experience and end product satisfying to users?
- Does the design support plot-driven storytelling

RQ 2
(user satisfaction)

RQ 5
(design eval)

Storytellr Study

- Lab Study
- 10 Perspective study participants
- Conduct observation, survey and focus group regarding...
 - Excitement
 - Pride
 - Required time
 - Required effort
 - Confidence with repeating the process

RQ 2
(user satisfaction)

RQ 5
(design eval)

Storytellr Study

RQ 2
(user satisfaction)

RQ 5
(design eval)

- Conduct observation, survey and focus groups about...
 - reports of development of a sense of the plot of an experience
 - reports of how the supports influence interaction with the tool
 - observation of how design elements lead users to a plot-driven output

Audience Study

- Do Storyteller stories satisfy audiences?
- Are audiences able to understand the plot of the story?

RQ 3
(aud satisfaction)

Audience Study

- 20 participants
- Each participant will view a random selection of Storytellr stories
- Surveys of target audiences regarding...
 - Identification of the plot's message
 - Perception of quality as compared to artifacts made with other tools

RQ 3
(aud satisfaction)

Professional Study

- Can structuring photo activities as storytelling produce plot-driven stories according to professional practice?

RQ 5
(professional eval)

Professional Study

- 5 experts as participants
- Random selection of stories from Storytellr study
- Content Analysis
 - Causally linked events
 - Initial conflict
 - Building tension
 - Climax
 - Resolution
- Solicit expert opinion

RQ 5
(professional eval)

Adoption Study

- Can structuring photo activities as storytelling lead to adoption of digital storytelling as a means of communicating personal experiences

RQ 6
(adoption)

Adoption Study

- Online Storytellr deployment
- Occur in parallel with Storytellr Study
- Software Logging of...
 - Number of accounts created
 - Number of stories completed
 - Number of repeat story creators
 - Number of requests for features

RQ 6
(adoption)

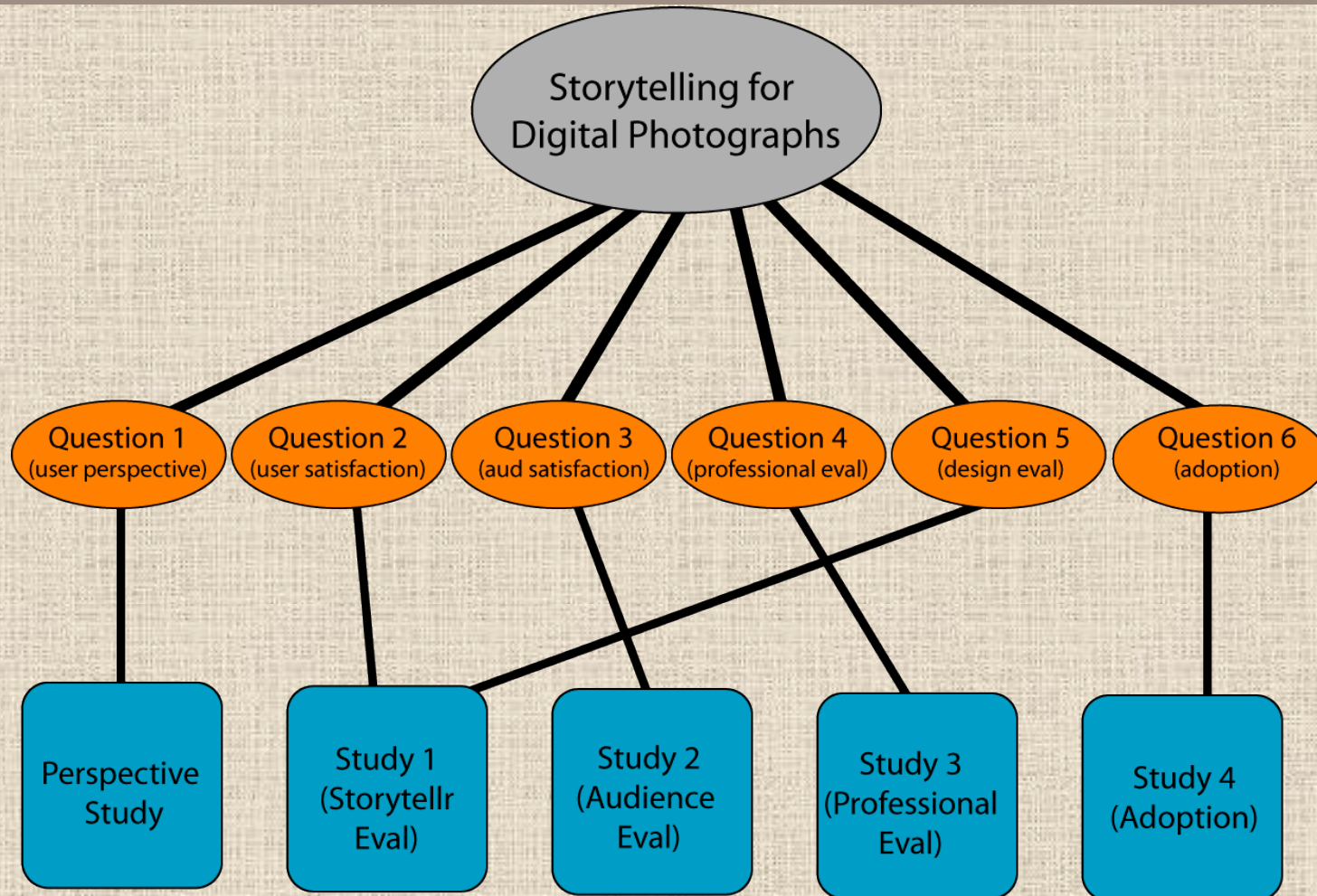
Plan of Completion

Task	Expected Completion
Perspective Study	July 2007
Data Analysis (Perspective Study)	August 2007
Storytellr Prototype Completion	October 2007
Storytellr Deployment	November 2007
Storytellr Study	January 2008
Audience Study	February 2008
Professional Study	February 2008
Data Analysis	April 2008
Thesis Draft	August 2008
Thesis Defense	September 2008

Acknowledgements

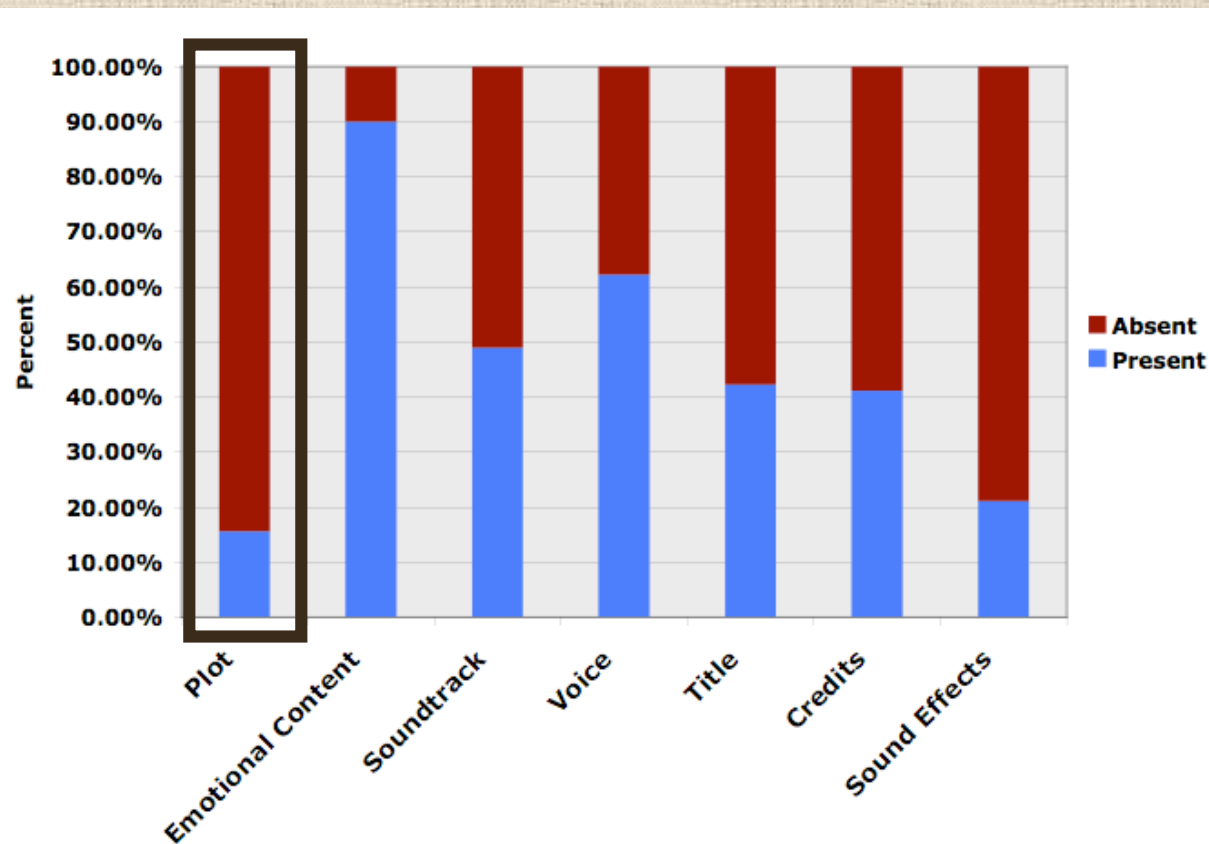
- Committee: Mark Guzdial (chair), Gregory Abowd, Beth Mynatt, Michael Smith and John Thomas

Thank You. Questions?



YouTube Analysis

- Are people creating plot-driven stories on their own?



Committee Feedback

- How many people do I really need?
- How do I recruit?
- In what instances will survey be sufficient and when should I interview?