

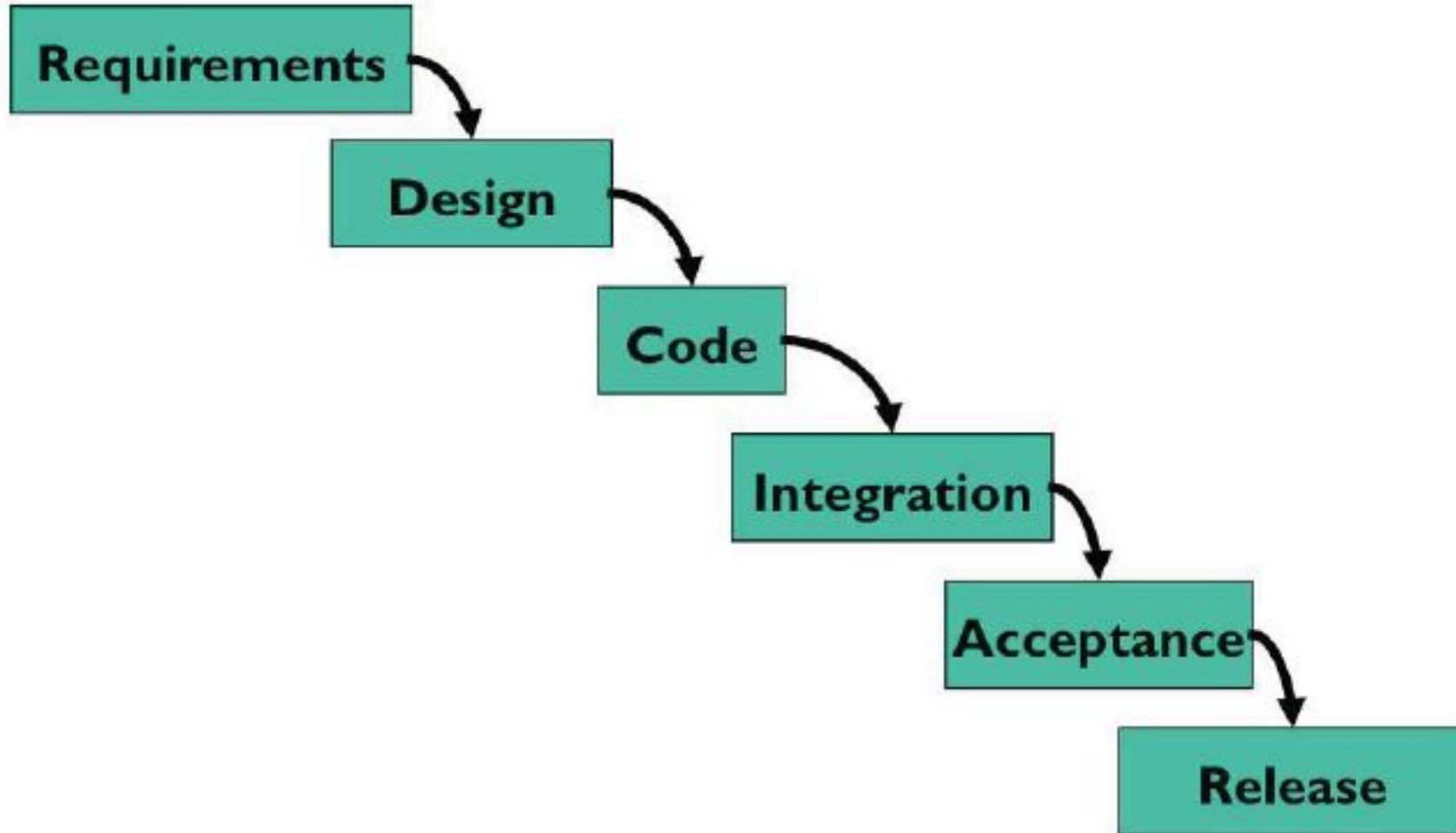
IE 403/476

Human-Computer Interaction
Week 4-Lec2

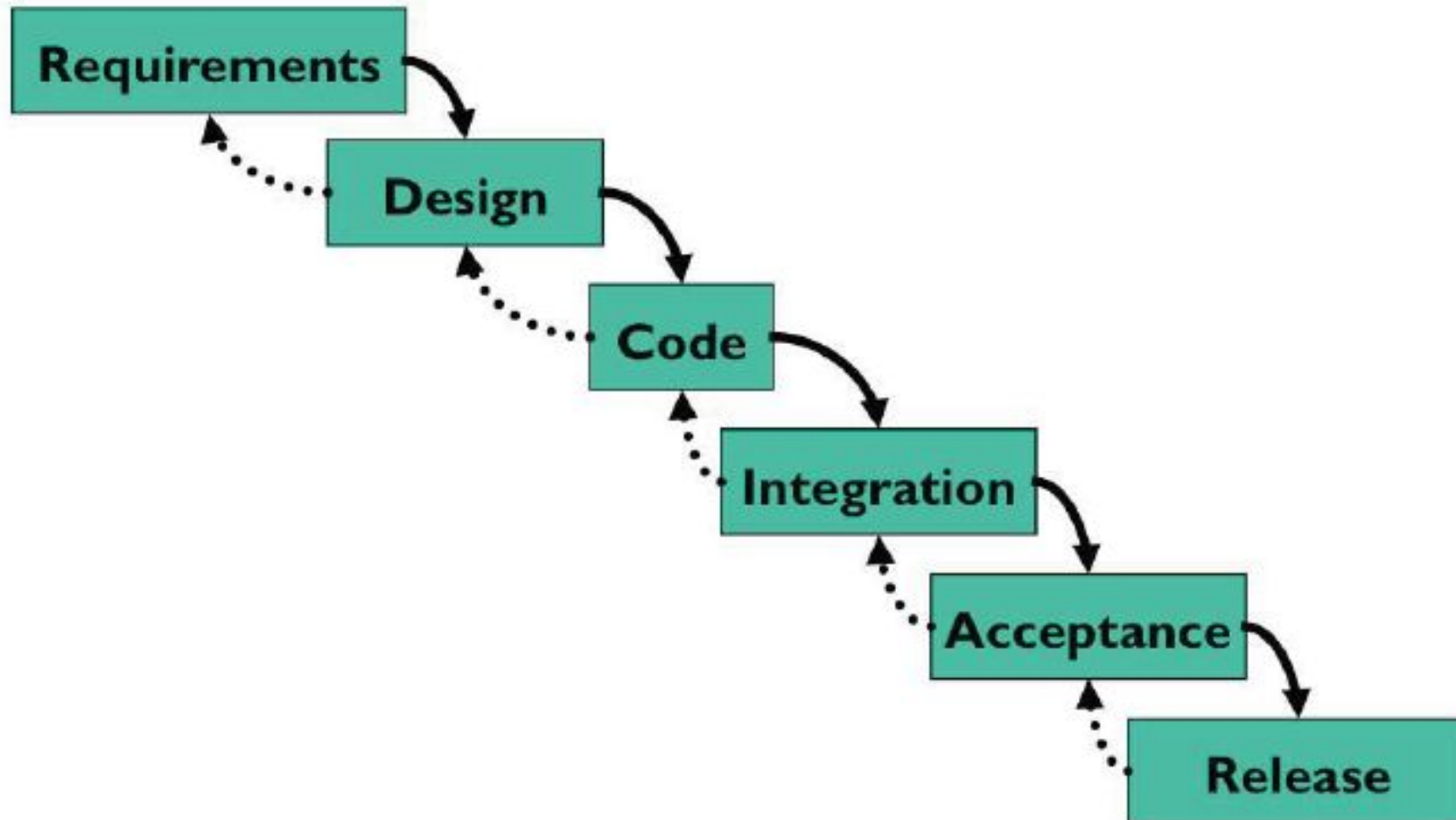
Agenda

- Iterative Design
- User centered Design

Waterfall model



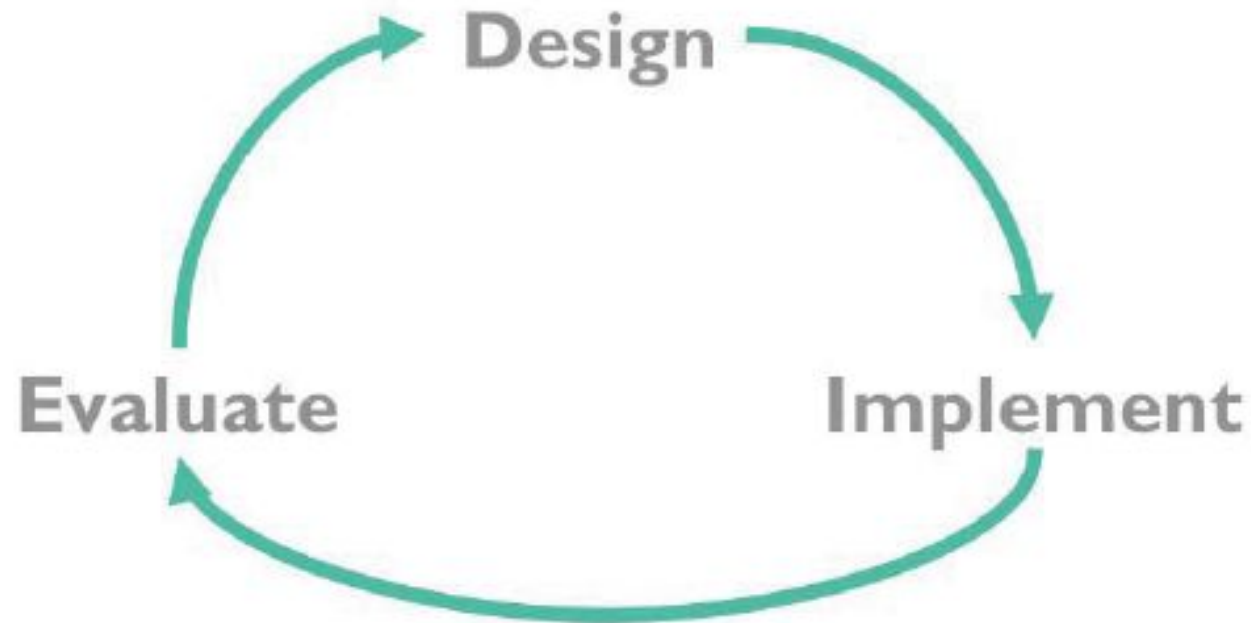
Feedback in Waterfall model



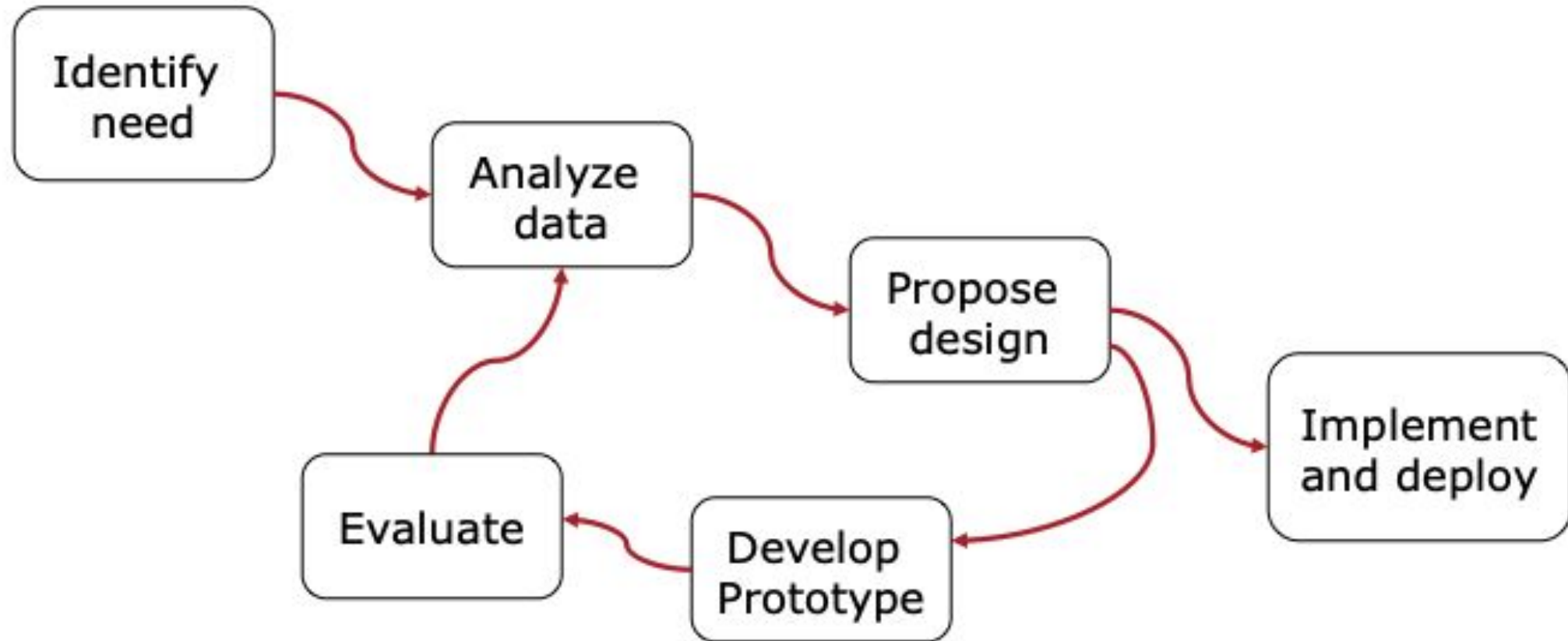
Why waterfall model bad for UI design

- UI is Risky - probability of getting wrong high
- No involvement of users till acceptance testing
- UI makes sudden changes in requirements and design

Usability engineering - Iterative Design



UCD Lifecycle



Identify Need

- Interview (structured, semi-structured, unstructured)
- Contextual inquiry
- Cultural probes
- Ethnography
- User models

Evaluate

- Heuristic
- Usability eval
- Full eval
-

Analyze Data

- Scenario analysis : User usage
- Task analysis : tasks reqd to be performed by user

Prototype dev

- Low Fidelity: paper based
- High Fidelity: Tools/software

Case Studies examples

Olympic Messaging system (1984)

- Iterative design
 - 200 Iterations for user guide
- Cheap prototypes
 - scenarios
 - user guides
- Absence of UCD
 - language barrier - telephone prompts

<https://www.youtube.com/watch?v=W6UYpXc4czM>

Microsoft Interactive Program Guide

- Embedded interactive TV application inside set top box
- Objective
 - Simple
 - Low level inputs
 - Familiar and usable interface
 - Accurate
 - Context based - what was entered

User Tasks listing

- Changing channels/channel surfing
- Finding out the name of the TV program currently being watched what it was about
- Searching for a specific TV program
- Setting a list of favorite channels
- Finding child-appropriate cartoons
- Setting parental controls

Procedure

- 13 core tasks to complete by users in lab
- Task performance for benchmarking
- Track progress of UI design over a year

STUDY #1 FINDINGS	ACTION TAKEN
<p>Expected to be able to specify a time rather than a timeframe in Search</p> <p>Three participants wanted the ability to specify specific times rather than a timeframe in the Search by Time feature.</p> <p>These participants also indicated that the labels Morning, Afternoon, Night and Late Night were ambiguous because they weren't certain if 11:00 pm constituted Night or Late Night.</p>	<p>Changed search capabilities from 4 generic categories to specific hours of the day to allow user to specify a specific time.</p> <p>Bug # A21B5</p>

STUDY #2 FINDINGS	FURTHER RECOMMENDATIONS
<p>Able to successfully search using By Day and Time label</p> <p>All participants were able to correctly search on a specific day (tomorrow) at a specific time for a specific program using the By Day and Time label. All participants easily picked out the day and time to complete the task.</p> <p>When asked to search for programs on today, six participants selected the Today label within search, while only one participant opted to use the Browse feature.</p>	<p>Continue to allow users to specify a specific day and time to complete a search.</p> <p>No recommendations are necessary.</p>

Usability Findings

Benchmark Study A

- 33 usability issues were discovered
- 30 of these issues were addressed through a redesign or UI change (to be verified in next study)
- Result – the team is addressing more than 90% of the usability issues found with the user experience

Benchmark Study B

- 15 usability issues were discovered
- 10 of these were new usability issues
- 5 were re-occurring issues – all had dropped in severity from previous study

Alarm design



- Emotional behaviour while user communicates factual information
- ability to recognise this emotional behaviour.
- It reflects and understands the expressed emotion.



Multiple methods of interacting with the Alarm

EASYCOM telephony design

- more supplementary features are supported
- the more difficult these phones are to operate
- integrating voice and data communication functions into a single PC-based user interface,
- Efficiency of employee workflows
- Conceptual model
- communication circle
- USer at the center
- drag, drop communication partners
- Direct manipulation

4:42 PM

00:04:57

Consulting Ingrid (12345)



-  Barry
-  Chris
-  Thomas
-  Julia
-  Ingrid
-  Jane
-  Mike
-  Sebastian
-  Voicemail
- ▶ Address Book



Consult

Hold

Alternate

Conference

Transfer

Hand Over

Send Digits

Hang Up

Share Program

Call Waiting

Forwarding

Address Book

E-Mail

Internet

Configuration

Style

Help

- improve the handling of complex synchronous communication processes by striving for ease of use
- designing for fun and emotion has become an equally important success factor
- observations are based on user feedback collected in internal and external field trials as well as interviews with customers and sales people.
- reduced Anxiety in making conference calls which were complex
- Pleasant UI
 - innovative
 - USP for Siemens VOIP products



GUI: avatars or talking heads