STUDY MATERIALS

Cloud-Agnostic Container Processing Pipeline for KinaTrax

User Experience Research Study

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Contents

1 Session Scripts

These scripts provide standardized protocols for conducting research sessions. Follow them closely to ensure consistency across all participants and reduce bias.

1.1 Dashboard Evaluation Script (30 minutes)

Session Overview

- **Duration:** 30 minutes
- **Format:** Remote via Zoom
- **Design:** Between-subjects A/B test
- **Groups:** Group A (Control - spinner), Group B (Treatment - dashboard)
- **Data Collection:** Task completion time, satisfaction survey, observations

1.1.1 Introduction (5 minutes)

Script

"Hi [Participant Name], thank you for joining me today!

Before we begin, I need to confirm a few things:

1. Did you receive and review the Informed Consent form?
   - *(Wait for yes)*
   - Great! Do you have any questions about it?
   - *(Answer questions if any)*
2. I'd like to record this session for transcription purposes. The recording will be deleted after transcription. Are you comfortable with being recorded?
   - *(If yes)* Thank you! I'll start recording now.
   - *(If no)* No problem! I'll just take notes instead.
3. *(If recording)* This session is now being recorded.

What We'll Do Today:

You'll be testing a new biomechanical analysis processing system. I'm going to ask you to submit a processing request and then interact with the system while it processes your request. The whole session should take about 30 minutes.

Important reminders:

- There are no right or wrong answers - I'm testing the system, not you
- Feel free to be honest - critical feedback is just as valuable as positive feedback
- You can ask questions or withdraw at any time
- Your responses will be anonymized in my research

Do you have any questions before we start?

(Answer questions, then proceed)"

1.1.2 Task Explanation (3 minutes)

Script

"Okay, let's get started!
Scenario:
Imagine you're a biomechanical analyst who needs to process video from yesterday's baseball game. You have 8 camera angles capturing a pitcher's throwing mechanics, and you need the biomechanical analysis results as soon as possible.
Your Task:
I'm going to share my screen and show you the processing submission interface. I'll ask you to:

1. Submit a processing request for the game footage
2. Monitor the processing status
3. Tell me when you think the processing is complete

While the system is processing, I want you to interact with the interface naturally - you can click around, explore features, or just wait and observe. Whatever feels natural to you.
Think Aloud (Optional):
If you're comfortable, please narrate your thoughts as you use the system. For example:

- "I'm looking for..."
- "I expect this button to..."
- "I'm confused about..."
- "This is helpful because..."

But don't worry if that feels unnatural - it's totally optional!
Any questions about the task?
(Answer questions, then proceed)"

1.1.3 Task Execution (15 minutes)

Researcher Actions

Group Assignment:
- Randomly assign participant to Group A (Control) or Group B (Treatment)
- Ensure balanced groups (10 participants each)
- Note assignment in participant tracker

Group A (Control) - Generic Spinner:
- Show interface with "Processing..." spinner only
- No progress indicators or status information
- No real-time updates
- Processing completes after 2 minutes

Group B (Treatment) - Real-Time Dashboard:
- Show full dashboard with:
  - Progress bar (0% → 100%)
  - Current processing step ("Initializing...", "Processing camera 1/8...", etc.)
  - Estimated time remaining
  - Real-time status updates
- Processing completes after 2 minutes

During Task:
- Start timer when participant submits request
- Observe behavior silently (do not interrupt)
- Take notes on:
  - User actions (clicks, navigation, waiting)
  - Verbal comments (if thinking aloud)
  - Signs of confusion or frustration
  - Moments of satisfaction or understanding
- Stop timer when processing completes
- Note completion time in tracker

1.1.4 Post-Task Questions (5 minutes)

Script

"Great! The processing is now complete. I have a few quick questions about your experience:

1. How did you feel while waiting for the processing to complete?
   - *(Listen for anxiety, confidence, uncertainty, frustration)*
2. Did you feel like you had enough information about what the system was doing?
   - *(Listen for clarity, confusion, desire for more/less info)*
3. Was there anything confusing or unclear about the interface?
   - *(Probe for specific pain points)*
4. If you could change one thing about this interface, what would it be?
   - *(Note suggestions for improvements)*

"

1.1.5 Survey Administration (5 minutes)

Script

"Thank you for that feedback! Now I'd like you to complete a brief satisfaction survey about your experience.
I'm going to paste a link in the Zoom chat. The survey has 10 questions and should take about 5 minutes. Please answer honestly - remember, there are no right or wrong answers!
(Paste survey link in chat)
(Wait while participant completes survey)
(If participant has questions about survey items, clarify but do not influence responses)"

Survey Link: [INSERT GOOGLE FORMS / QUALTRICS SURVEY LINK]

1.1.6 Wrap-Up (2 minutes)

Script

"Perfect! Thank you so much for completing the survey.
Final Reminders:
- Your responses will be anonymized
- You'll receive a thank-you email from me shortly
- If you'd like a summary of the research findings when complete, let me know
- You can withdraw your data at any time by contacting me

Questions or Additional Feedback:
Do you have any final questions or feedback you'd like to share?
(Answer questions, note additional feedback)
Thank you again for your valuable contribution to this research! I really appreciate your time.
(End recording if applicable)
Have a great day!"

1.2 Usability Test Script (45 minutes)

Session Overview

- **Duration:** 45 minutes
- **Format:** Remote via Zoom
- **Method:** Task-based usability testing with think-aloud protocol
- **Tasks:** 2 realistic scenarios (high-priority playoff game, historical research)
- **Data Collection:** Task success, time, errors, SUS score, comprehension questions

1.2.1 Introduction (5 minutes)

Script

"Hi [Participant Name], thank you for joining me today!
(Follow same consent verification process as Dashboard Evaluation Script)
What We'll Do Today:
You'll be testing the priority request interface for our biomechanical analysis system. I'm going to give you two realistic scenarios and ask you to complete tasks using the interface. The whole session should take about 45 minutes.
Think-Aloud Protocol:
This is really important: As you work through the tasks, I want you to narrate your thoughts out loud. Tell me what you're thinking, what you're looking for, what confuses you, what makes sense, etc.
For example:

- "I'm looking for the submit button..."
- "I expect this will prioritize my request..."
- "I'm not sure what 'expedited' means here..."
- "Oh, this is helpful because..."

There are no right or wrong answers - I'm testing the system, not you. Critical feedback is extremely valuable!
Let's practice for a moment: Can you narrate your thoughts as you look at this screen?
(Show simple practice screen, listen to participant practice thinking aloud)
(Provide gentle encouragement: "Great!" or "Perfect, just like that!")
Any questions before we start?
(Answer questions, then proceed)"

1.2.2 Task 1: High-Priority Playoff Game (15 minutes)

Scenario Script

"Okay, here's your first scenario:
Scenario 1: High-Priority Playoff Request
(Read scenario slowly and clearly)

The video footage from all 8 cameras is ready to process. You need this analysis completed within the next 2 hours so coaches can review it before their morning strategy meeting.
Your task: Submit this processing request as a high-priority request and ensure it will be completed on time." **"You're a biomechanical analyst for a playoff-bound baseball team. Your team just won a critical playoff game, and the coaching staff urgently needs biomechanical analysis of the starting pitcher's mechanics to prepare for tomorrow's game.**
The video footage from all 8 cameras is ready to process. You need this analysis completed within the next 2 hours so coaches can review it before their morning strategy meeting.
Your task: Submit this processing request as a high-priority request and ensure it will be completed on time."
Start whenever you're ready, and remember to think aloud!
(Start timer when participant begins)"

Researcher Observations

What to Observe:
- Does participant find priority options easily?
- Do they understand priority levels (Standard, High, Critical)?
- Do they set appropriate deadline (2 hours)?
- Do they express confusion about any terminology?
- Do they successfully submit the request?
- Time to task completion
- Number of errors or wrong clicks
- Verbal expressions of confusion or satisfaction

Intervention Protocol:
- Let participant struggle for up to 2 minutes on any step
- If stuck for ¿2 minutes, provide minimal hint: "What information do you think the system needs?"
- If still stuck after hint, provide specific guidance
- Note all interventions in observation log

When Task Complete:
(Stop timer, note completion time)

1.2.3 Comprehension Check Questions - Task 1 (5 minutes)

Script

"Great job! Before we move to the next task, I have a few questions to understand how you interpreted the interface:

1. What priority level did you select, and why did you choose that one?
   - *(Check if participant understood priority hierarchy)*
2. How confident are you that your request will be processed within 2 hours?
   - *(Scale: Very confident, Somewhat confident, Not confident)*
   - Why do you feel that way?
3. Were there any parts of the interface that confused you or made you uncertain?
   - *(Probe for specific UI elements, terminology, workflow)*
4. If you had to explain to a colleague how to submit a high-priority request, what would you tell them?
   - *(Assess mental model and comprehension)*

"

1.2.4 Task 2: Standard Historical Research (15 minutes)

Scenario Script

"Excellent! Now let's try a different scenario:
Scenario 2: Standard Research Request
(Read scenario slowly and clearly)

This is for long-term research purposes - you don't need the results urgently. You're hoping to get the analysis within the next week, but there's no strict deadline.
Your task: Submit this processing request as a standard priority request." **"You're conducting biomechanical research on pitcher development. You want to analyze mechanics from 10 archived games over the past season to identify trends in a young pitcher's delivery.**
This is for long-term research purposes - you don't need the results urgently. You're hoping to get the analysis within the next week, but there's no strict deadline.
Your task: Submit this processing request as a standard priority request."
Start whenever you're ready, and remember to think aloud!
(Start timer when participant begins)"

Researcher Observations

What to Observe:
- Does participant differentiate between high-priority and standard workflows?
- Do they correctly select standard priority?
- Do they understand implications of standard processing (longer wait, lower cost)?
- Do they handle multiple games (10) appropriately?
- Time to task completion
- Comparison to Task 1 performance
- Any learned behaviors or improvements from Task 1?

When Task Complete:
(Stop timer, note completion time)

1.2.5 Comprehension Check Questions - Task 2 (3 minutes)

Script

"Perfect! A few quick questions about this task:

1. How did this task differ from the first one?
   - *(Check if participant noticed different priority implications)*
2. What do you expect the processing time to be for this request compared to the high-priority one?
   - *(Assess understanding of priority impact on speed)*
3. If you were managing both requests (the playoff one and this research one), how would you decide which to prioritize?
   - *(Assess decision-making framework and mental model)*

"

1.2.6 System Usability Scale (SUS) Survey (5 minutes)

Script

"Thank you! Now I'd like you to complete the System Usability Scale - it's a standard survey used in usability research.
I'm going to paste a link in the Zoom chat. The survey has 10 statements, and you'll rate your agreement on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree). It should take about 5 minutes.
Please answer based on your overall experience with the priority request interface.
(Paste SUS survey link in chat)
(Wait while participant completes survey)"

SUS Survey Link: [INSERT SUS SURVEY LINK]

1.2.7 Final Feedback and Wrap-Up (2 minutes)

Script

"Excellent! Just one final question:
If you could redesign one aspect of the priority request interface to make it better for users like you, what would you change and why?
(Listen carefully, probe for specific suggestions)
Wrap-Up:
Thank you so much for your detailed feedback! Your insights are incredibly valuable.
(Follow same wrap-up procedure as Dashboard Evaluation Script)"

1.3 Field Study Onboarding Script (15 minutes)

Session Overview

- **Duration:** 15 minutes
- **Format:** Remote via Zoom
- **Purpose:** Onboard participants for 4-week field study
- **Groups:** Email notifications vs SMS notifications
- **Requirements:** Process 2-3 games over 4 weeks

1.3.1 Introduction and System Walkthrough (8 minutes)

Script

"Hi [Participant Name], thank you for joining the field study!
(Follow consent verification process)
Field Study Overview:
Over the next 4 weeks, you'll be using our cloud-based biomechanical analysis system for real processing requests. Here's what to expect:

- **Duration:** 4 weeks starting today
- **Your Task:** Process 2-3 games using the system (at your convenience)
- **Notifications:** You'll receive updates on processing status
- **Final Survey:** After 4 weeks, complete a 10-minute satisfaction survey

System Walkthrough:
Let me show you how to use the system.
(Share screen and demonstrate)

1. **Logging In:**
   - Use the credentials I sent via email: [USERNAME/PASSWORD]
   - URL: [SYSTEM URL]
2. **Submitting a Request:**
   - Click "New Processing Request"
   - Select game date and camera footage
   - Choose priority level (you can use Standard for this study)
   - Click "Submit"
3. **Monitoring Progress:**
   - You'll receive notifications when:
     - Processing starts
     - Processing is 50% complete
     - Processing is complete
     - Results are ready to download
   - You can also check the dashboard anytime
4. **Downloading Results:**
   - Go to "My Requests"
   - Find your completed request
   - Click "Download Results"

Do you have any questions about how to use the system?
(Answer questions, provide clarification)"

1.3.2 Notification Group Assignment (3 minutes)

Researcher Actions

Random Assignment:
- Randomly assign participant to Email or SMS notification group
- Ensure balanced groups (10 participants each)
- Note assignment in participant tracker

Script

"Great! One more thing about notifications:
Notification Setup:
(For Email Group)
You've been assigned to receive notifications via **email**. You'll get email updates at: [PARTICIPANT EMAIL]
Please make sure to check your email regularly (including spam folder) during the 4-week study period.
(For SMS Group)
You've been assigned to receive notifications via **text message (SMS)**. You'll get SMS updates at: [PARTICIPANT PHONE]
Standard messaging rates may apply. You can opt out of SMS at any time by replying STOP.
Notification Preferences:
The system will send you updates when:
- Processing starts
- Processing reaches 50%
- Processing is complete
- Results are ready

Is this notification method okay with you?
(If participant has concerns, note them and offer to adjust)"

1.3.3 Expectations and Guidelines (3 minutes)

Script

"Perfect! Let me set clear expectations for the next 4 weeks:
What I Need From You:
- Process **2-3 games** over the 4-week period (you choose when)
- Use the system naturally - act like you would in your normal workflow
- Complete the **final satisfaction survey** at the end (I'll send a reminder)
- Contact me if you encounter any technical issues

What You Can Expect From Me:
- Weekly check-in emails (just to see how things are going)
- Technical support if needed
- Final survey link after 4 weeks
- Summary of research findings if you'd like

Important Reminders:
- This is a research study, not a production system yet
- Your data will be anonymized
- You can withdraw at any time
- No penalties if you can't complete all tasks

Questions or Concerns:
Do you have any questions about the field study?
(Answer questions)
How do you feel about the tasks? Does 2-3 games over 4 weeks seem reasonable?
(Listen for concerns, adjust if needed)"

1.3.4 Final Survey Preview and Wrap-Up (1 minute)

Script

"Excellent! One last thing:
Final Survey:
After 4 weeks, I'll send you a link to a brief satisfaction survey. It will ask about:
- Your overall experience with the system
- The notification system (email/SMS)
- Any suggestions for improvement
- Your likelihood of using this in your professional work

It should take about 10 minutes to complete.
Contact Information:
If you have any questions or issues during the study, please reach out:
- Email: pwinkler13@students.fullsail.edu
- Phone: (814) 516-2987

Thank you for participating! I'm excited to see how the system works for you in a real-world setting.
(End recording if applicable)
Good luck, and I'll be in touch soon!"

2 Procedural Checklists

These checklists ensure you don't miss critical steps during research sessions. Use them systematically for every participant.

2.1 Pre-Session Checklist

2.1.1 24-48 Hours Before Session

- ☐ **Consent Form Verified**
  - Participant has received Informed Consent form
  - Participant has signed and returned consent form
  - Signed consent stored in encrypted folder
  - Consent form filed separately from research data
- ☐ **Calendar Reminder Sent**
  - Email reminder sent with:
    - Date and time (with timezone)
    - Zoom link and credentials
    - Duration estimate
    - What to prepare (nothing needed)
  - Participant confirmed availability
- ☐ **Participant Assignment Prepared**
  - Random group assignment determined (if applicable)
  - Participant ID assigned (P001-P030)
  - Group recorded in participant tracker

2.1.2 1 Hour Before Session

- ☐ **Technology Setup**
  - Zoom meeting created and tested
  - Screen sharing enabled and tested
  - Recording enabled (if participant consented)
  - Internet connection stable
  - Backup device available (phone/tablet)
- ☐ **Materials Prepared**
  - Session script printed or displayed on second monitor
  - Observation log template ready
  - Timer ready
  - Survey links ready to paste in chat
  - Scenario descriptions ready (if usability test)
- ☐ **Interface Prepared**
  - Correct interface version ready (Group A/B if applicable)
  - Test data loaded
  - System functioning correctly
  - Backup version available

2.1.3 10 Minutes Before Session

- ☐ **Final Checks**
  - Zoom meeting joined
  - Camera and microphone working
  - Screen sharing tested
  - Notifications silenced on all devices
  - Door closed / "Do Not Disturb" sign posted
- ☐ **Mental Preparation**
  - Reviewed session script
  - Reviewed participant's background (role, experience)
  - Set neutral, welcoming mindset
  - Ready to follow script closely

2.2 During-Session Checklist

- ☐ **Consent Confirmation**
  - Verified participant received and reviewed consent form
  - Asked if participant has questions about consent
  - Confirmed participant understands voluntary participation
  - Obtained recording consent (if applicable)
  - Started recording only after explicit consent
- ☐ **Script Adherence**
  - Following script closely
  - Reading scenarios word-for-word
  - Asking comprehension questions as written
  - Not deviating from planned protocol
- ☐ **Note-Taking**
  - Recording start/end times for tasks
  - Noting participant ID and session date
  - Documenting user actions and behaviors
  - Recording verbal comments (if thinking aloud)
  - Noting signs of confusion or satisfaction
  - Tracking errors or unexpected behaviors
- ☐ **Neutral Interviewer Behavior**
  - Not expressing opinions about participant responses
  - Not suggesting "correct" answers or actions
  - Not showing disappointment or approval
  - Asking neutral follow-up questions only
  - Not defending the interface if participant criticizes it
- ☐ **Survey Distribution**
  - Survey link pasted in Zoom chat at appropriate time
  - Participant able to access survey successfully
  - Waited silently while participant completed survey
  - Did not influence survey responses

2.3 Post-Session Checklist

☐ **Data Saving**
- Zoom recording saved to secure folder
- Observation notes saved with participant ID
- Survey responses recorded in tracker
- Task completion times documented
- Any additional notes or insights captured

☐ **Participant Follow-Up**
- Thank-you email sent within 24 hours
- Any promised materials sent (if applicable)
- Participant status updated in tracker: "Completed"
- Survey completion verified

☐ **Transcription Timeline**
- Recording transcription scheduled (within 7 days)
- Transcription assigned to service or self
- Deadline for transcription completion set
- Reminder set to delete recording after transcription verified

☐ **Anonymization**
- Participant name replaced with ID in all notes
- Employer information removed from notes
- Any identifying details redacted from transcription
- Consent form filed separately from research data

☐ **Quality Checks**
- Reviewed notes for completeness
- Verified all required data collected
- Identified any missing information
- Noted any protocol deviations

3 Participant Schedules

These templates help you track all 30 participants across the study lifecycle. Keep them updated regularly.

3.1 Participant Tracker Template

Master spreadsheet for tracking all participants. Use Excel, Google Sheets, or Airtable.

ID	Name (CONFIDENTIAL)	Email	Phone	Role	Component	Group	Session Date
P001	[Confidential]	email@example.com	555-1234	Coach	Dashboard	Group A	2024-12-15
P002	[Confidential]	email@example.com	555-5678	Analyst	Usability	N/A	2024-12-16
P003	[Confidential]	email@example.com	555-9012	Tech Staff	Field Study	Email	2024-12-17
...	...	...	...	...	...	...	...
P030	[Confidential]	email@example.com	555-3456	Analyst	Dashboard	Group B	2025-01-20

ID	Status	Survey Complete?	Notes
P001	Completed	Yes	Positive feedback on dashboard
P002	Completed	Yes	Suggested improvement: larger fonts
P003	In Progress	No	Week 2 of field study
...	...	...	...
P030	Scheduled	N/A	Session scheduled for next week

Status Codes:

- **Recruited**: Initial contact made, expressed interest
- **Consented**: Signed informed consent received
- **Scheduled**: Session booked on calendar
- **In Progress**: Currently in multi-week field study
- **Completed**: Session finished and survey submitted
- **Withdrawn**: Participant withdrew from study

Time	Monday	Tuesday	Wednesday	Thursday
9:00 AM	P001 Dashboard (A) Zoom: [link]		P005 Usability Zoom: [link]	
10:30 AM		P002 Field Study Onboarding Zoom: [link]		P007 Dashboard (B) Zoom: [link]
2:00 PM	P003 Usability Zoom: [link]			P008 Dashboard (A) Zoom: [link]
4:00 PM		P004 Dashboard (B) Zoom: [link]	P006 Field Study Onboarding Zoom: [link]	

3.2 Session Schedule Template

Weekly calendar view of all scheduled sessions. Color-code by study component.

Color Coding:

- Blue: Dashboard Evaluation
- Green: Usability Testing
- Orange: Field Study Onboarding

3.3 Field Study Timeline Tracker

Track 4-week field study participants and their processing request milestones.

ID	Start Date	End Date	Game 1 Processed	Game 2 Processed	Game 3 Processed	Final Survey
P003	2024-12-17	2025-01-14	2024-12-20	2024-12-28	2025-01-05	Pending
P006	2024-12-18	2025-01-15	2024-12-22	2025-01-02	Pending	N/A
P010	2024-12-20	2025-01-17	2024-12-25	Pending	Pending	N/A
...	...	...	...	...	...	...

Milestone Tracking:

- **Onboarded**: Participant completed onboarding session
- **Game 1/2/3 Processed**: Date participant processed each game
- **Final Survey Sent**: Date survey link was emailed
- **Final Survey Complete**: Date participant submitted survey

3.4 Data Collection Progress Tracker

Real-time tracking toward target sample sizes across all components.

Study Component	Target	Current	Remaining
Dashboard Evaluation - Group A (Control)	10	7	3
Dashboard Evaluation - Group B (Treatment)	10	8	2
Usability Testing - Coaches	5	4	1
Usability Testing - Analysts	5	3	2
Usability Testing - Technical Staff	5	2	3
Field Study - Email Notifications	10	6	4
Field Study - SMS Notifications	10	5	5
Total Participants	**30**	**20**	**10**

4 Data Management Guidelines

Critical procedures for protecting participant confidentiality and ensuring data integrity.

4.1 File Naming Conventions

Consent Forms:

```
consent_P[ID]_[LastName]_[Date].pdf
Example: consent_P001_Smith_2024-12-15.pdf
```

Session Recordings:

```
recording_[Component]_P[ID]_[Date].mp4
Example: recording_Dashboard_P001_2024-12-15.mp4
```

Transcriptions:

```
transcript_[Component]_P[ID]_[Date].docx
Example: transcript_Usability_P005_2024-12-16.docx
```

Observation Notes:

```
notes_[Component]_P[ID]_[Date].docx
Example: notes_FieldStudy_P010_2024-12-20.docx
```

Survey Responses:

```
survey_[Component]_P[ID]_[Date].csv
Example: survey_Dashboard_P001_2024-12-15.csv
```

4.2 Folder Structure

```
KinaTrax_Capstone_Research/

 01-Consent-Forms/          [ENCRYPTED FOLDER]
    consent_P001_Smith_2024-12-15.pdf
    consent_P002_Johnson_2024-12-16.pdf
    ...

 02-Raw-Data/               [ENCRYPTED FOLDER]
    Dashboard-Evaluation/
       recordings/
          recording_Dashboard_P001_2024-12-15.mp4
          ...
       transcripts/
       notes/

    Usability-Testing/
       recordings/
       transcripts/
       notes/
```

```
   Field-Study/
       onboarding-recordings/
       final-survey-responses/
       notes/

03-Anonymized-Data/        [Research data for analysis]
   dashboard_results.csv
   usability_results.csv
   field_study_results.csv
   combined_dataset.csv

04-Analysis/
   statistical-tests/
   thematic-analysis/
   figures-and-charts/

05-Documents/
   IRB-Application.pdf
   Informed-Consent.pdf
   IRB-Approval-Letter.pdf

06-Backups/                [Cloud backup - encrypted]
    [Automated daily backups]
```

4.3 Security Protocols

Encryption:

- Use VeraCrypt, BitLocker, or FileVault to encrypt:
  - 01-Consent-Forms/ folder
  - 02-Raw-Data/ folder
- Password: Strong passphrase (15+ characters, never written down)
- Store encryption password in password manager only

Access Control:

- Only you (principal investigator) have access to raw data
- Faculty advisor may access anonymized data only
- Never share participant names or identifiable information
- Use participant IDs in all communications about data

Backups:

- Daily automated backups to encrypted cloud storage (Dropbox, Google Drive with encryption)
- Weekly manual backups to encrypted external hard drive
- Test backup restoration monthly

- Store backup drive in separate physical location

Data Retention:

- Keep all research data for 5 years after study completion (IRB requirement)
- After 5 years: Securely delete all files (use file shredding software)
- Maintain only published, anonymized results permanently

4.4 Anonymization Procedures

Step 1: Immediately After Session

- Assign participant ID (P001-P030)
- Replace name with ID in all observation notes
- Remove employer information from notes
- Save files using ID-based naming convention

Step 2: During Transcription

- Replace participant name with "Participant" or "P[ID]"
- Redact employer names: "[EMPLOYER REDACTED]"
- Redact team names: "[TEAM REDACTED]"
- Redact specific stadiums: "[LOCATION REDACTED]"
- Redact colleague names: "[NAME REDACTED]"

Step 3: Data Analysis

- Use only participant IDs in datasets
- Aggregate role data (e.g., "Coach" not specific team)
- Report statistics, not individual responses
- Never quote identifiable statements in publications

Example Anonymization:

Before:

> "John Smith from the New York Yankees said: 'I love this dashboard feature! It helps me analyze our starting pitcher's mechanics much faster than our old system.' John works with Coach Mike Rodriguez at Yankee Stadium."

After:

> "P001 (Coach) said: 'I love this dashboard feature! It helps me analyze pitcher mechanics much faster than our old system."'

END OF STUDY MATERIALS