Procedure Ideation

For this project, I will focus on the Kardia ECG monitoring application developed by AliveCor as the foundation for my procedural documentation. This FDA-cleared mobile health platform integrates with portable electrocardiogram devices to facilitate at-home cardiac monitoring. The application provides users with medical-grade heart rhythm recordings, automated diagnostic analysis, trend tracking capabilities, and seamless integration with healthcare provider systems through patient portals and alert management features. All screenshots and procedural examples will be drawn from the Android version of the Kardia application, which I am using as my primary reference source. The procedures outlined will remain applicable across both Android and iOS platforms, as the application maintains consistent functionality and user interface design across operating systems.

Analyzing Your Audience

In this section, follow the guiding prompts to gather up a sense about your intended audience. Typically, you should conduct user research to qualify and verify such information. But, for the purposes of this exercise, it is fine if you rely more on your particular subjectivities. The point is to craft a more defined understanding of the audience.

Exigence: What is the occasion for these procedural instructions?

- Why are these procedural instructions necessary at this particular time and place? What issues/problems do these instructions aim to address?
- Why is this issue important right now? What is at stake, and for whom?

Answer:

- **Occasion**: Patients with cardiac conditions need to effectively use ECG monitoring apps and web platforms to record, review, and share heart rhythm data with healthcare providers through digital interfaces.
- **Why necessary (issues/problems addressed)**: These instructions ensure patients can navigate ECG app interfaces, interpret automated analysis results, manage digital health records, and communicate effectively with healthcare teams through patient portals. Errors in app navigation, data interpretation, or platform communication can lead to missed health insights, failed doctor-patient communication, or ineffective use of digital monitoring tools.
- **Why important right now (what's at stake, and for whom)**: With healthcare digitization and remote monitoring growth, patients must master app-based health management platforms. At stake is the patient's ability to self-advocate through data, the healthcare provider's access to comprehensive patient-generated data, effective telehealth communication, and the caregiver's ability to support digital health

Who is the audience?

Highlight some of the characteristics that you think might apply to the projected audience:

- Potential user (someone who's exploring the product)
- New user (someone who's getting started with the product)
- Intermediate user (someone who has used the product before)
- Experienced user (someone who's well-versed with the product)
- New professional (someone who is new to the field and probably new to your product)
- Experienced professional (someone who is an expert in the field but might be new to your product)
- Admin/Leadership
- New contributor

- Experienced contributor
- Caregiver (someone assisting the user by setting up, troubleshooting, or maintaining the product)
- Other: Elderly cardiac patient with limited digital literacy — often living alone or with minimal caregiver support.

What are the audience's goals for these procedures? Develop 4 goals that all share the same context of activity with each other.

Here are some examples to follow: 4 goals pertaining to making espresso drinks; 4 goals when playing Zelda: Tears of the Kingdom game; or 4 goals to improve one's basketball skills.

Answer:

1. Navigate and use ECG app interfaces for recording and data review
2. Interpret automated analysis and alerts within the app dashboard
3. Share and communicate ECG data through patient portals and provider platforms
4. Manage digital health records and troubleshoot app functionality

What situations and reasons might have brought the readers to your document(s)?

Answer:

- After experiencing chest discomfort.
- Routine daily monitoring.
- During a telehealth appointment.
- After doctor recommends frequent tracking.

How might have they come to find your document?

Answer:

- App help section or in-app tutorials
- Hospital's digital health training materials
- Patient portal support resources
- QR codes linking to app-specific guidance
- Healthcare provider's digital literacy programs

What information do they already have about the product/feature?

Answer:

- Basic smartphone/tablet navigation skills
- Understanding of login credentials and account management
- Familiarity with downloading and updating apps
- Experience with digital health platforms (fitness apps, patient portals)

What are the main questions readers are likely to have?

Answer:

- How do I set up my profile in the ECG app?
- What do the colors and symbols in my app dashboard mean?
- How do I share my readings with my doctor through the app?
- What should I do when the app shows "abnormal rhythm detected"?
- How do I access my historical data and trends in the platform?

Write Your User Scenarios

Based on the above information, write 4 scenarios that include the 4 main parts of information: Who, Motivation(s), Goal, and Important Characteristics.

You may not write a procedure for all of the scenarios in the end, but this will help you gather a sense of how many procedures you will need to write for the major assignment.

Scenario 1:

Mr. Rahman is a 65-year-old retired teacher recovering from a mild heart attack. His cardiologist has prescribed daily ECG monitoring using the Kardia app. Having only learned basic computer skills after retirement, Mr. Rahman feels anxious about setting up medical apps correctly, particularly when handling his health data.

His goal is to successfully create his Kardia account, verify his email, and complete the basic profile setup with his medical information and medications. Mr. Rahman's main concerns include creating a secure account, entering medical information accurately for reliable readings, and not missing critical setup steps. He needs clear, step-by-step guidance that acknowledges his limited digital health experience while building his confidence in using the app for his prescribed monitoring routine.

Scenario 2:

Mrs. Lopez, age 72, lives alone and has a scheduled telehealth appointment with her cardiologist. She has been consistently using the Kardia ECG app for several weeks and needs to prepare her monitoring data for the appointment. Her doctor has requested that she bring comprehensive ECG reports covering the last 30 days.

Her goal is to navigate to her Kardia app's History section, locate her ECG recordings and trends, generate a comprehensive PDF report for the specified date range, and successfully email it to both herself and her doctor before the appointment. While she has become comfortable with basic app use, Mrs. Lopez still feels uncertain about finding the right sections in the app, selecting the

correct date ranges for reports, and ensuring the PDF generates properly with all her ECG data included.

She needs clear guidance on accessing her ECG history, generating the appropriate reports her doctor expects, and confirming the report contains complete information for her telehealth consultation.

Scenario 3:

James is a 55-year-old working professional diagnosed with arrhythmia who relies on his ECG monitoring app for daily tracking. One morning, his app displayed multiple "abnormal rhythm" alerts and sync error notifications. Motivated by understanding what these app alerts mean and ensuring continuous data reliability, he needs to manage the alert system effectively. His goal is to access the app's alert history, understand different types of notifications, adjust alert sensitivity settings, troubleshoot sync issues, and know when alerts require medical attention versus app troubleshooting. James is tech-comfortable with apps and systematic about problem-solving, but gets frustrated when app notifications are unclear and worries about missing important health alerts due to technical issues.

Scenario 4:

A daughter caring for her 70-year-old father takes responsibility for managing his ECG monitoring app and coordinating care through digital health platforms. Motivated by ensuring comprehensive care coordination and maintaining organized health records, she needs to manage multiple aspects of the digital health ecosystem. Her goal is to set up family caregiver access in the ECG app, organize and export health data for medical appointments, coordinate information sharing across multiple healthcare provider platforms, and manage app permissions and privacy settings. As an experienced caregiver with moderate digital skills, she appreciates streamlined digital workflows but needs

clear guidance on managing multi-user access, understanding data privacy controls, and coordinating care across different healthcare platforms and apps.

Analyzing Your Audience(s) Tasks

Complete one of the following tables to analyze the tasks that you will write for each user scenario. A task analysis will help you develop a better understanding of the following questions:

- How much supporting reference and conceptual information to provide
- What level of "completeness" (low, mid, high) may you need to write the steps

Remember that this is meant to be an ideation exercise—not a finished draft of the actual procedure. Yet, it should help you develop an initial rough draft.

Refer to Bellamy et al.'s discussion and example of a task analysis in Chapter 1 for support, as you move through this analysis work.

Task Analysis for Scenario 1

Guiding Question	Details
What is the user-oriented goal? • Do not fall into the function/feature-oriented goal.	Set up comprehensive ECG app profile and understand dashboard navigation for daily heart monitoring

What tasks does the user need to perform to accomplish the goal? • Remember tasks are not the same as goals, and tasks are not synonymous with steps. • Steps are the more specific actions needed to complete a larger “high-level” task. • Don’t worry about sequence or the “completeness” yet.	• Download and install the ECG monitoring app • Create user account with medical profile information • Configure health history, medications, and emergency contacts • Set up automated recording reminders and notifications • Complete app privacy and data sharing settings • Navigate main dashboard and understand interface elements
What are the mental and physical steps involved in each task?	**Mental**: Understand medical terminology in forms, recall health history details, comprehend privacy implications **Physical**: Type personal information, navigate app menus, adjust settings sliders/toggles
Who performs the task?	**Audience**: Cardiac Patient **Experience**: New to health apps, basic smartphone skills **Role**: Patient responsible for daily self-monitoring **Authority**: Patient managing own digital health profile

When and under what conditions is the task performed?	**Requirements:** Smartphone with internet, email access, medical history information **Limitations:** Limited app experience, may need larger text/simple interface **Environment:** Home setting with good cell/WiFi signal
What are the potential distractions to accomplishing the goal?	**Alternative path**: May ask family member to help with app setup **Exception path**: App crashes or login issues require technical support **Boundaries**: Should not share login credentials with othersnd seek medical help instead of continuing.
What does the user need to know about the task?	**Duration**: 20-30 minutes for complete setup **Complexity**: Medium (personal information + app navigation) **Frequency**: One-time setup with occasional updates
What is the sequence of tasks or steps?	1. Download app from app store 2. Create account with email and password 3. Complete medical profile questionnaire 4. Enter emergency contact information 5. Configure notification preferences 6. Review privacy and data sharing options

	7. Complete guided tour of app interface
What is the expected result?	Fully configured ECG app profile with personalized settings, ready for daily heart monitoring and data tracking

Task Analysis for Scenario 2

Guiding Question	Details
What is the user-oriented goal?	Review ECG app data and ensure successful integration with patient portal for telehealth appointment.
What tasks does the user need to perform to accomplish the goal? (*Don't worry about sequence or the "completeness" yet.*)	• Navigate to app's "Health Summary" or "Reports" section • Review recent ECG readings and automated analysis • Interpret trend graphs and alert history • Generate comprehensive report for doctor • Verify data synchronization with patient portal • Test connectivity for telehealth appointment
What are the mental and physical steps involved in each task?	**Mental**: Interpret medical data visualizations, understand trend patterns, assess app feedback **Physical**: Navigate between app screens, tap report generation, check portal access

Who performs the task?	**Audience**: Elderly cardiac patient living alone. **Experience**: Intermediate app user, limited data interpretation skills **Role**: Patient responsible for self-monitoring and communication with doctor. **Authority**: Patient managing own health communication
When and under what conditions is the task performed?	**Requirements**: App with stored data, patient portal access, stable internet **Limitations**: Difficulty interpreting medical data, may not understand technical terms **Environment**: Home, before telehealth appointment
What are the potential distractions to accomplishing the goal?	**Alternative path**: May call doctor's office instead of using digital tools **Exception path**: App data doesn't sync to portal, requiring manual sharing **Boundaries**: Should not attempt to self-diagnose based on app data
What does the user need to know about the task?	**Duration**: 15-25 minutes for thorough review **Complexity**: Medium-high (data interpretation + technical verification) **Frequency**: Before each doctor appointment
What is the sequence of tasks or steps?	1. Open ECG app and navigate to "Health Summary"

	2. Review last 30 days of ECG readings 3. Check automated analysis results and trends 4. Generate PDF report for doctor discussion 5. Log into patient portal to verify data sync 6. Test video call functionality if integrated 7. Prepare questions based on app data review
What is the expected result?	Comprehensive understanding of recent heart data with verified access for telehealth appointment discussion

Task Analysis for Scenario 3

Guiding Question	Details
What is the user-oriented goal?	Understand and manage ECG app alerts while troubleshooting technical issues
What tasks does the user need to perform to accomplish the goal? (*Don't worry about sequence or the "completeness" yet.*)	• Access app alert history and notification center • Interpret different types of alerts (medical vs. technical) • Adjust alert sensitivity and notification preferences • Troubleshoot app sync and connectivity issues • Determine when alerts require medical attention • Contact appropriate support (medical vs. technical)

What are the mental and physical steps involved in each task?	**Mental**: Differentiate between alert types, assess urgency levels, troubleshoot systematically **Physical**: Navigate alert menus, adjust settings, restart app/device
Who performs the task?	**Audience**: Middle-aged working professional with arrhythmia. **Experience**: Tech-comfortable, systematic problem solver **Role**: Patient responsible for self-monitoring. **Authority**: Patient authorized to manage own alert settings
When and under what conditions is the task performed?	**Requirements**: App with alert history, notification access **Limitations**: Time pressure from work schedule **Environment**: Home or work, possibly during morning routine
What are the potential distractions to accomplishing the goal?	**Alternative path**: May ignore alerts if unclear about meaning **Exception path**: Persistent technical issues require manufacturer support **Boundaries**: Should not disable critical health alerts
What does the user need to know about the task?	**Duration**: 10-20 minutes for alert management **Complexity**: Medium-high (medical judgment + technical troubleshooting)

	Frequency: As needed when alerts occur
What is the sequence of tasks or steps?	1. Open app and navigate to "Alerts" or "Notifications" 2. Review recent alert history and types 3. Identify medical alerts vs. technical notifications 4. Adjust alert sensitivity in app settings 5. Test app connectivity and sync status 6. Contact doctor for medical alerts or support for technical issues 7. Document resolution for future reference
What is the expected result?	Properly configured alert system with clear understanding of when to seek medical vs. technical assistance

Task Analysis for Scenario 4

Guiding Question	Details
What is the user-oriented goal?	Manage family caregiver access and coordinate care across multiple digital health platforms
What tasks does the user need to perform to accomplish the goal? (*Don't worry about sequence or the "completeness" yet.*)	• Set up caregiver account access in ECG app • Configure family notification settings • Export and organize health data for appointments • Manage data sharing across multiple provider platforms • Coordinate privacy settings and access permissions • Maintain organized digital health records

What are the mental and physical steps involved in each task?	**Mental**: Understand privacy implications, organize complex health data, manage multiple account relationships **Physical**: Navigate multiple apps/websites, manage file downloads, coordinate platform access
Who performs the task?	**Audience**: Caregiver (daughter of a 70-year-old patient). **Experience**: Experienced digital user, healthcare coordination skills **Role**: Responsible for upkeep of the monitoring device to support the patient's health. **Authority**: Authorized family caregiver with health management permissions
When and under what conditions is the task performed?	**Requirements**: Multiple device access, various platform credentials, organized file system **Limitations**: Coordinating across different platform interfaces **Environment**: Home office, dedicated time for health management
What are the potential distractions to accomplishing the goal?	**Alternative path**: May focus on one platform and neglect others **Exception path**: Platform integration failures require manual data transfer **Boundaries**: Must maintain appropriate privacy while enabling care coordination

What does the user need to know about the task?	**Duration**: 45-60 minutes for comprehensive management **Complexity**: High (multi-platform coordination + privacy management) **Frequency**: Weekly organization, monthly comprehensive review
What is the sequence of tasks or steps?	1. Set up caregiver access in patient's ECG app 2. Configure emergency notification settings 3. Export recent data from app in PDF format 4. Log into multiple healthcare provider portals 5. Verify data synchronization across platforms 6. Organize digital files for upcoming appointments 7. Update emergency contact information across all platforms
What is the expected result?	Coordinated digital health ecosystem with organized data access and appropriate family notification systems