



Solution Use Cases

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LICENSING USE CASES

SCENARIO #1 LICENSE ACTIVATION WITH CODE

USER TYPES: DATA COLLECTOR | DATA ANALYST

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1. User downloads the app on Mobile / Laptop
2. User launches app with Wi-Fi or Cloud connection available
3. User selects "create an account" option
4. User Enters his company and his license code to identify his license type and his company (in case of a worker license, user scans key code on brainpack for activation and also for cloud connection see scenario #19)
 - a. [If worker] App requires user to scan code on brainpack
 - b. [If worker] User scans brainpack code
 - c. [If worker] App recognizes brainpack and license key through scanned code
1. App connects to Heddoko Server backend
2. App sends license info to Server Backend
3. Heddoko server backend confirms that required license is available for this company
4. App confirms and prompts user for login information
5. User creates the account login/pwd
6. App creates the account and activates the license (gives token to app for usage)
7. App sends account information to server backend
8. User can now use the app

SCENARIO #1-1 LICENSE ACTIVATION WITHOUT CODE

USER TYPES: DATA COLLECTOR | DATA ANALYST

1. User downloads the app on Mobile / Laptop
2. User launches app with Wi-Fi or Cloud connection available
3. User selects "create an account" option
4. App connects to Heddoko Server backend
5. App prompts user for login information
6. User creates the account login/pwd
7. App creates the account
8. App sends account information to server backend
9. If account information already matches a license invite (see scenario #24), then user can use application [Skip steps 10 and 11]
10. User awaits account admin confirmation for license
11. Once admin confirms license (see Scenario #24), user can use application

SCENARIO #1-2 LICENSE GENERATION FOR ORGANIZATION

USER TYPES: HEDDOKO ADMIN

1. Heddoko Admin User logs into Heddoko admin dashboard
2. Heddoko Admin selects License Generation option
3. Heddoko Admin selects the type of License to generate: Analyst License OR Collector License
4. Heddoko Admin enters the name of the organization
5. Heddoko Admin enters the number of licenses to generate
6. Heddoko Backend Server generates the required number and types of licenses for the organization
7. Heddoko Admin dashboard requires the user to enter the Company admin email
8. Heddoko Admin dashboard associates the generated licenses to company admin email user account

SCENARIO #1-3 LICENSE ADMINISTRATION

USER TYPES: ORGANIZATION | HEDDOKO ADMIN

1. Admin User creates his account and activates his license (see scenario #1)
2. Admin User Launches web admin dashboard
3. Admin User logs in
4. Admin User sees a list of all assigned, unassigned and expired licenses available for the company
5. Admin User sees a list of all created users accounts for the company
6. Admin User sees all correlations between users and assigned licenses
7. Admin User Can assign license to user account
8. Admin User Can create a new user account
9. Admin User Can send License invite
10. Heddoko Admin can create a new Admin account for organization

TYPES OF LICENSES AVAILABLE:

- Data Collection license
- Data Analysis license

LICENSE STATUS AVAILABLE

- Unassigned
- Assigned
- Activated
- Expired

DATA USE CASES

SCENARIO #2 CONNECTING BRAINPACK TO APP

USER TYPES: DATA COLLECTOR

If pairing brainpack for first time

1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. User pairs brainpack to Mobile / Laptop in the OS settings [skip if we have a direct connection to the suit]
4. User launches app
5. User goes to pairing options and see available brainpacks ready to connect
6. User selects and connects to one brainpack
7. App gets brainpack unique ID for future references
8. If app uses background listener:
 - a. App creates background listener for data transfer without user intervention
 - b. App indicates the brainpack ID to the background listener so no user intervention is needed anymore to connect to that specific brainpack
 - c. App sends brainpack ready to receive notification

If brainpack already paired

1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. If app uses background listener:
 - a. Background listener automatically connects to the brainpack if available
 - b. Background listener starts listening to incoming data from brainpack
 - c. Background listener sends brainpack ready to receive notification
1. If app does NOT use background listener:
 - a. User launches app
 - b. App automatically connects to last paired brainpack if available
 - c. App sends brainpack ready to receive notification

SCENARIO #3 BRAINPACK DATA SYNCHING WITH APP

USER TYPES: DATA COLLECTOR

1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. Brainpack connects to App (See Scenario #2)
4. If app uses background listener:
 - a. Brainpack sends "new data" notification to the app if new data is available
 - b. Background listener starts importing data from brainpack into app DB
 - c. Once all new data is imported, data is synched with cloud if connection is available
 - d. Imported data is kept temporary on the local DB for fast usage
1. If app does NOT use background listener:
 - a. Brainpack sends "new data" notification to the app if new data is available
 - b. App shows "New Data" notification to user
 - c. User confirms importing new data (or skip directly to step d)
 - d. App starts importing data from brainpack into the app DB
 - e. Once all new data is imported, App synchs data with cloud if connection is available
 - f. Imported data is kept temporary on the local DB for fast usage

SCENARIO #4 BRAINPACK CHARGING

USER TYPES: DATA COLLECTOR

1. User connects Brainpack to micro usb
2. User plugs usb cable into wall adapter or charging usb outlet

SCENARIO #5 BRAINPACK UPDATING FW

USER TYPES: DATA COLLECTOR

1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. User launches application with a Wi-Fi or cloud connection available
4. Brainpack connects to App (See Scenario #2)
5. App gets authenticated on Cloud and gets API token
6. App verifies current brainpack FW version vs Current FW version available on cloud
7. If FW version is outdated, App prompts user for updating FW
8. User confirms update
9. App downloads new firmware
10. App sends new "Update Firmware" message to brainpack containing new firmware
11. Brainpack updates (Light indications required)
12. Brainpack sends "Update complete" once the update is done

SCENARIO #6 WEAR SUIT AND GET READY TO START

USER TYPES: DATA COLLECTOR

1. User wears base suit
2. User inserts capsules in suit
3. User connects brainpack on suit
4. User turns brainpack on
5. Brainpack indicates its ready to use (light turns blue)
6. Brainpack automatically connects to sensors when available
7. Brainpack connection light turns to green to indicate ready to start

SCENARIO #7 SUIT CALIBRATION & START TRACKING

USER TYPES: DATA COLLECTOR

1. User wears suit and get brainpack ready to start (see scenario #6)
2. User clicks on recording button
3. Brainpack light turns to blinking green to indicate the start of the calibration process
4. User applies calibration movements in sequence as indicated in the manuals
5. Each calibration movements sequence is marked by user by pressing the recording button
6. After each calibration movements sequence the brainpack marks the "sequence end"
7. Brainpack logs all calibration data and identifies calibration frames and sequences
8. Once calibration process is done, brainpack light turns to red to indicate recording started

SCENARIO #8 RECORD MOVEMENT- FULL DAY

USER TYPES: DATA COLLECTOR

1. User wears the suit, turns it on and calibrates (see scenario #6 and #7)

2. Brainpack records user movements
3. User ends recording by re-pressing the recording button on brainpack

SCENARIO #9 RECORD MOVEMENT - PER MOVE

USER TYPES: DATA COLLECTOR

1. User wears the suit, turns it on and calibrates (see scenario #7)
2. Brainpack records user movements
3. User ends recording by re-pressing the recording button on brainpack
4. User restarts recording by pressing the recording button on brainpack
5. Brainpack light turns to blinking green to indicate the start of the T-Pose
6. User strikes the T-pose for a few seconds to readjust sensors (2 seconds)
7. Brainpack light turns to red to indicate the recording started again
8. Brainpack records user movements

SCENARIO #10 PAIN REPORTING

USER TYPES: DATA COLLECTOR

Using Brainpack

1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. When user experiences pain, he/she presses on the pain button indicator on brainpack
4. Brainpack logs the time and geolocation of pain reported and associates it to specific movement tracking frames (if no sensors are connected the frame will not contain movement data but only hotspot information)

Using App

1. When user experiences pain, he/she launches the application
2. User presses on "Report Pain" button
3. App logs the time and geolocation of pain reported
4. App optionally asks user to indicate anatomical position of pain
5. User indicates the anatomical position of pain
6. App adds the anatomical position to the pain log

SCENARIO #11 CONCERN REPORTING

USER TYPES: DATA COLLECTOR

Using Brainpack

1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. When user identifies a risk concern, he/she presses on the concern button indicator on brainpack
4. Brainpack logs the time and geolocation of concern reported (if no sensors are connected the frame will not contain movement data but only hotspot information)

Using App

1. When user experiences pain, he/she launches the application
2. User presses on "Report Concern" button
3. App logs the time and geolocation of concern reported
4. App optionally asks user to insert comments on the concern
5. User inputs his comments
6. App adds the comments to the concern log

SCENARIO #12 DATA UPLOADING TO CLOUD

USER TYPES: DATA COLLECTOR | DATA ANALYST

1. User launches app with Wi-Fi / Cloud connection available
2. App gets authenticated on Cloud and gets API token
3. Brainpack syncs data with application (see scenario #3)
4. App creates background task for data transfer to cloud
5. Background task connects to transfer endpoint on server
6. Background task transfers data to cloud storage through endpoint
7. Background task closes when transfer is complete (tasks runs in background even when app is closed)

SCENARIO #13 DATA DOWNLOADING FROM CLOUD

USER TYPES: DATA COLLECTOR | DATA ANALYST

1. User launches app with Wi-Fi / Cloud connection available
2. App gets authenticated on Cloud and gets API token
3. User requests data that is not available on the local DB
4. App creates an Async task to download data from cloud
5. Async Task connects to corresponding endpoint on cloud API
6. Async Task downloads required data from Cloud
7. Async Task stores downloaded data on app local DB
8. Async Task notifies app that data is now available
9. App requests data from local DB to show it in UI

SCENARIO #15 LIVE DATA VIEWING – SINGLE

USER TYPES: DATA COLLECTOR | DATA ANALYST

1. User wears suit and get brainpack ready to start (see scenario #6)
2. User Launches App and connect to brainpack (see scenario #2)
3. User selects live data viewing in App
4. App creates a background stream listener to get live feed from brainpack
5. Background stream listener sends command to Brainpack to start live stream
6. Brainpack changes mode to Live streaming
7. Background stream listener starts receiving live stream form brainpack
8. App prompts user to get ready for calibration
9. User Confirms the beginning of calibration
10. App shows UI for calibration sequence (wizard style)
11. User applies calibration movements in sequence as indicated by the app
12. After each calibration movements sequence the brainpack sends a "sequence end" message to app
13. Once calibration is done, App shows Live UI with real time avatar moving with user

SCENARIO #16 LIVE DATA VIEWING – MULTIPLE

USER TYPES: DATA ANALYST

1. Analyst User Launches App
2. Analyst User selects multiple live viewing option (PC or Tablet ONLY - no mobile option)
3. Each suit user wears suit and gets ready to start (see scenario #6)
4. Suit Users pair their suits with Analyst User OS [skip if we have a direct connection to the suit]
5. App shows Multi Live viewing UI (maximum 4 views)

6. Each view shows the available Brainpacks to connect to
7. On each view, the Analyst user selects the brainpack he wants to show in that view
8. For each connection apply following steps
 - a. App creates a background stream listener to get live feed from brainpack
 - b. Background stream listener sends command to Brainpack to start Multi suits live stream
 - c. Brainpack changes mode to Multi suits Live streaming
 - d. Suit User applies calibration sequence (see scenario #7 -> skip step 1)
 - e. After each calibration movements sequence the brainpack sends a "sequence end" message to app
 - f. Once calibration is done brainpack sends "calibration done" message
 - g. App shows Live UI with real time avatar moving with user

SCENARIO #17 REMOTE LIVE DATA VIEWING – SINGLE

USER TYPES: DATA ANALYST

Through App

1. Suit User wears suit and gets brainpack ready to start (see scenario #6)
2. Suit User Launches App and connects to brainpack (see scenario #2)
3. Suit User selects live streaming of data option in App
4. Suit user app creates a background stream broadcaster to broadcast on the cloud the feed from brainpack
5. Background stream broadcaster sends command to Brainpack to start live stream
6. Brainpack changes mode to Live streaming
7. Background stream broadcaster starts receiving live stream form brainpack
8. Suit user App prompts user to get ready for calibration
9. Suit user Confirms the beginning of calibration
10. Suit user App shows UI for calibration sequence (wizard style)
11. User applies calibration movements in sequence as indicated by the app
12. After each calibration movements sequence the brainpack sends a "sequence end" message to Suit user app
13. Once calibration is done, Suit user App goes into broadcasting mode
14. Suit user app notifies Heddoko backend server that a live stream is available
15. Heddoko backend server acknowledges live stream and notifies all stream subscribers (see below steps)
16. Analyst user launches app
17. Analyst user selects remote viewing option in analyst app
18. Analyst app contacts Heddoko backend server for available streams (needs to be team/company specific)
19. Heddoko backend server sends available live streams
20. Analyst app indicates available streaming brainpacks online
21. Analyst user select the brainpack he wants to observe
22. Analyst App shows Live UI with real time avatar moving with suit user remotely through cloud streaming

Directly through suit

1. Suit User wears suit and gets brainpack ready to start (see scenario #6)
2. Suit User connect brainpack directly to cloud (see scenario #19)
3. Suit User press on live streaming button on brainpack
4. Brainpack changes mode to Live streaming
5. Brainpack creates a background stream broadcaster to broadcast on the cloud the feed from sensors
6. Brainpack light turns to blinking green to indicate the start of the calibration process
7. User applies calibration movements in sequence as indicated in the manuals
8. Each calibration movements sequence is marked by user by pressing the recording button

9. After each calibration movements sequence the brainpack marks the "sequence end"
10. Once calibration is done, Suit user App goes into broadcasting mode
11. Brainpack notifies Heddoko backend server that a live stream is available
12. Heddoko backend server acknowledges live stream and notifies all stream subscribers (see below steps)
13. Analyst user launches app
14. Analyst user selects remote viewing option in analyst app
15. Analyst app contacts Heddoko backend server for available streams (needs to be team/company specific)
16. Heddoko backend server sends available live streams
17. Analyst app indicates available streaming brainpacks online
18. Analyst user select the brainpack he wants to observe
19. Analyst App shows Live UI with real time avatar moving with suit user remotely through cloud streaming

SCENARIO #18 REMOTE LIVE DATA VIEWING – MULTIPLE

USER TYPES: DATA ANALYST

Through App

1. For each suit user apply steps 1 to 15 of scenario #17 (through app)
2. Analyst user launches app
3. Analyst user selects multi remote viewing option in analyst app (maximum of 4)
4. Analyst app contacts Heddoko backend server for available streams (needs to be team/company specific)
5. Heddoko backend server sends available live streams
6. Analyst app indicates available streaming brainpacks online
7. Analyst user select the brainpacks he wants to observe
8. Analyst App shows Live UI with real time avatars remotely through cloud streaming

Directly through suit

1. For each suit user apply steps 1 to 12 of scenario #17 (through suit)
2. Analyst user launches app
3. Analyst user selects remote viewing option in analyst app
4. Analyst app contacts Heddoko backend server for available streams (needs to be team/company specific)
5. Heddoko backend server sends available live streams
6. Analyst app indicates available streaming brainpacks online
7. Analyst user select the brainpack he wants to observe
8. Analyst App shows Live UI with real time avatar moving with suit user remotely through cloud streaming

SCENARIO #19 CONNECTING BRAINPACK DIRECTLY TO CLOUD

USER TYPES: DATA COLLECTOR

1. User launches app with Wi-Fi or Cloud connection available
2. [Skip if applying steps 4 to 6] User connects app to brainpack (see scenario #2)
3. User selects "connect directly to cloud" option
4. [If not applying step #2] App requires user to scan code on brainpack
5. [If not applying step #2] User scans brainpack code
6. [If not applying step #2] App recognizes brainpack through scanned code
7. App sends Wi-Fi/cloud connection instructions to brainpack
8. Brainpack connects and saves its connection to the cloud (<http://embedded-computing.com/articles/connecting-devices-to-the-internet-of-things-with-wi-fi/>)

SCENARIO #20 BRAINPACK DATA SYNCHING WITH CLOUD

USER TYPES: DATA COLLECTOR

1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. Brainpack connects to Cloud if already setup (see scenario #19)
4. Brainpack sends "new data" notification to the Heddoko backend server
5. Heddoko backend server acknowledges new data and sends " start importing" message to brainpack
6. Heddoko backend server creates import task to receive new data
7. Heddoko backend server task starts importing data from brainpack into DB

SCENARIO #21 DIRECT FEEDBACK

USER TYPES: DATA COLLECTOR

-> Implies Calibration & Mapping happens on the brainpack directly including some of the data analysis too:

- Add extra processing unit on the brain to handle that

UI/UX USE CASES (FRONT END)

SCENARIO #22 PAIN REPORTING REVIEW & SHARE

USER TYPES: DATA COLLECTOR

SCENARIO #23 CONCERN REPORTING REVIEW & SHARE

USER TYPES: DATA COLLECTOR

SCENARIO #24 ERGO SCORE REVIEW & SHARE

USER TYPES: DATA COLLECTOR

SCENARIO #25 ERGO SCORE CHALLENGE

USER TYPES: DATA COLLECTOR

SCENARIO #26 RECORDINGS REVIEW

USER TYPES: DATA ANALYST

SCENARIO #27 RECORDINGS COMPARISONS

USER TYPES: DATA ANALYST

SCENARIO #28 RISK REPORTING REVIEW

USER TYPES: DATA ANALYST

SCENARIO #29 PAIN REPORTING REVIEW

USER TYPES: DATA ANALYST

SCENARIO #30 CONCERN REPORTING REVIEW

USER TYPES: DATA ANALYST

SCENARIO #31 EXPORTING DATA

USER TYPES: DATA ANALYST