Solution Use Cases

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LICENSING USE CASES

ORGANIZATION AND ORG-ADMIN CREATION

USER TYPES: HEDDOKO ADMIN

1. Heddoko Admin logs into licensing dashboard
2. Heddoko Admin creates a new organization
3. Heddoko Admin creates a new org-admin user for the organization
4. Heddoko backend server sends an email invite to the org-admin
5. Org-Admin receives email invite and clicks on link in the email
6. Org-Admin is taken to a change password screen on the licensing dashboard
7. Org-Admin changes his default password
8. Org-Admin has now access to the licensing dashboard for his organization

LICENSE GENERATION FOR ORGANIZATION

USER TYPES: HEDDOKO ADMIN

1. Heddoko Admin logs into Heddoko licensing dashboard
2. Heddoko Admin selects the organization to generate licenses for
3. Heddoko Admin selects License Generation option
4. Heddoko Admin selects the type of License to generate: Analyst License OR Collector License
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

LICENSE ATTRIBUTION BY ORG-ADMIN

USER TYPES: ORG-ADMIN | HEDDOKO ADMIN

1. Org-Admin logs into Heddoko Licensing dashboard
2. Org-Admin creates a new user
3. Org-Admin Attributes available license to use
4. Heddoko backend server sends email invitation to new user
5. User receives email and clicks on activation link
6. User is taken to password change screen on licensing dashboard
7. User changes his password and can now use the application with attributed license

APP LOGIN AND ACTIVATION BY USER

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. App connects to Heddoko Server backend
4. User selects "login" option
5. App sends account information to server backend
6. Heddoko Backend server verifies if information matches a license
7. Heddoko Backend server sends response to app (allow or prevent from using app)

LICENSE ADMINISTRATION

USER TYPES: ORG-ADMIN | HEDDOKO ADMIN

1. Org-Admin Launches web admin dashboard
2. Org-Admin logs in
3. Org-Admin can see all assigned, unassigned and expired licenses available for the company
4. Org-Admin sees a list of all created users accounts for the company
5. Org-Admin sees all correlations between users and assigned licenses
6. Org-Admin can assign license to user account
7. Org-Admin can create a new user account
8. Org-Admin can send License invite

CONNECTION USE CASES

CONNECTING BRAINPACK TO APP

USER TYPES: DATA COLLECTOR

If using a brainpack for first time
1. User turns brainpack on
2. Brainpack indicates its ready to use (light turns blue)
3. Brainpack broadcasts its connection information over BLE.
4. User connects to brainpack through BLE on the device OS
5. User launches app
6. App connects to Heddoko Server backend
7. User goes to "pairing" options and sees the brainpack that he is connected to.
8. User selects the brainpack to connect to configure the Wi-Fi connection
9. App requests configuration of the brainpack
10. Brainpack goes into configuration mode
11. Brainpack sends unique identifier to app through BLE
12. App prompts user for Wi-Fi access info
13. User enters the WIFI SSID and passphrase
14. App sends Wi-Fi SSID, passphrase and Heddoko Backend server address to brainpack through BLE
15. Brainpack begins attempting to connect to the newly configured wireless network
16. If brainpack fails to connect, send error message to app
17. Brainpack connects to Wi-Fi
18. Brainpack broadcasts its streaming info Through UDP
19. Application detects brainpack state by listening through UDP
20. Application establishes TCP connection to brainpack for commands

If brainpack already paired (not sure this will operate as you expect…)
1. User turns brainpack on
2. Brainpack indicates its ready to use
3. Brainpack connects to last Wi-Fi used
4. User launches App
5. Application detects brainpack state by listening through UDP
6. Application establishes TCP connection to brainpack for commands

CONNECTING BRAINPACK TO WRIST WEARABLE

USER TYPES: DATA COLLECTOR
TODO

LIVE DATA VIEW USE CASES

LIVE DATA VIEWING – SINGLE

USER TYPES: DATA COLLECTOR | DATA ANALYST

1. User wears suit and gets brainpack ready to start (see scenario WEAR SUIT AND GET READY)
2. User Launches App and connects to brainpack (See Scenario CONNECTING BRAINPACK TO APP)
3. User selects live data viewing in App
4. App creates a UDP stream listener to get live feed from brainpack
5. App sends request to start streaming to brainpack through TCP
6. Brainpack changes mode to Live streaming
7. User clicks on recording button
8. Brainpack light turns to blinking green to indicate the start of the calibration process
9. User applies calibration movements in sequence as indicated in the manuals
10. Each calibration movements sequence is marked by brainpack (haptic or buzz)
11. After each calibration movements sequence the brainpack marks the "sequence end"
12. Brainpack sends to app all calibration data
13. Once calibration process is done, brainpack light turns to red to indicate recording started
14. Background stream listener starts receiving live stream form brainpack
15. App shows Live UI with real time avatar moving with user

LIVE DATA VIEWING – MULTIPLE

USER TYPES: DATA ANALYST

1. Each suit user wears suit and gets ready to start (see scenario WEAR SUIT AND GET READY)
2. Suit Users pair their brainpacks with Analyst User through BLE
3. Analyst User Launches App
4. Analyst User selects multiple live viewing option (PC or Tablet ONLY - no mobile option)
5. [IF NECESSARY] App prompts user for Wi-Fi access info
6. [IF NECESSARY] User enters the WIFI SSID and passphrase
7. App shows Multi Live viewing UI (maximum 4 views)
8. Each view shows the available Brainpacks to connect to
9. On each view, the Analyst user selects the brainpack he wants to show in that view
10. For each connection apply following steps
    a. [IF NECESSARY] App requests configuration of the brainpack
    b. [IF NECESSARY] Brainpack goes into configuration mode
    c. [IF NECESSARY] Brainpack sends unique identifier to app through BLE
    d. [IF NECESSARY] App sends Wi-Fi SSID and passphrase to brainpack through BLE
    e. Brainpack begins attempting to connect to the newly configured wireless network
    f. If brainpack fails to connect, send error message to app
    g. Brainpack connects to Wi-Fi
    h. Brainpack broadcasts its streaming info Through UDP
    i. Application establishes TCP connection to brainpack for commands
    j. App creates a background stream listener to get live feed from brainpack through UDP
    k. Background stream listener sends command to Brainpack to start Multi suits live stream
    l. Brainpack changes mode to Multi suits Live streaming
    m. User clicks on recording button
    n. Brainpack light turns to blinking green to indicate the start of the calibration process
    o. User applies calibration movements in sequence as indicated in the manuals

p. Each calibration movements sequence is marked by brainpack (haptic or buzz)
q. After each calibration movements sequence the brainpack marks the "sequence end"
r. Brainpack sends to app all calibration data
s. Once calibration process is done, brainpack light turns to red to indicate recording started
t. Background stream listener starts receiving live stream form brainpack
u. App shows Live UI with real time avatar moving with user

REMOTE LIVE DATA VIEWING – SINGLE

USER TYPES: DATA ANALYST

1. User wears suit and gets brainpack ready to start (see scenario WEAR SUIT AND GET READY)
2. User Launches App and connects to brainpack (See Scenario CONNECTING BRAINPACK TO APP)
3. User selects remote data streaming in App
4. App creates a UDP stream listener to get live feed from brainpack
5. App sends request to start streaming to brainpack through TCP
6. Brainpack changes mode to Live streaming
7. User clicks on recording button
8. Brainpack light turns to blinking green to indicate the start of the calibration process
9. User applies calibration movements in sequence as indicated in the manuals
10. Each calibration movements sequence is marked by brainpack (haptic or buzz)
11. After each calibration movements sequence the brainpack marks the "sequence end"
12. Brainpack sends to app all calibration data
13. Once calibration process is done, brainpack light turns to red to indicate recording started
14. Background stream listener starts receiving live stream form brainpack
15. Suit user app notifies Heddoko backend server that a live stream is available
16. Heddoko backend server acknowledges live stream and notifies all stream subscribers (see below steps)
17. Analyst user launches app
18. Analyst user selects remote viewing option in analyst app
19. Analyst app contacts Heddoko backend server for available streams (needs to be team/company specific)
20. Heddoko backend server sends available live streams
21. Analyst app indicates available streaming brainpacks online
22. Analyst user select the brainpack he wants to observe
23. Analyst App shows Live UI with real time avatar moving with suit user remotely through cloud streaming

REMOTE LIVE DATA VIEWING – MULTIPLE

USER TYPES: DATA ANALYST

1. For each suit user apply steps 1 to 16 of scenario REMOTE LIVE DATA VIEWING – SINGLE
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

HARDWARE USE CASES

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

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 CONNECTING BRAINPACK TO APP)
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

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

DIRECT FEEDBACK

USER TYPES: DATA COLLECTOR

Implies Calibration & Mapping happens on the brainpack directly including some of the data analysis too. Possible solutions:
1. Add extra processing unit on the brain to handle that
2. Add support on existing wrist wearable devices

SYNCHING USE CASES

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 CONNECTING BRAINPACK TO APP)
4. User launches App
5. Brainpack sends "new data" notification to the app if new data is available
6. App shows "New Data" notification to user
7. User confirms importing new data OR new data synch automatically in the background
8. App starts importing data from brainpack into the app DB
9. Once all new data is imported, App synchs data with cloud if connection is available
10. Imported data is kept temporary on the local DB for fast usage

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 BRAINPACK DATA SYNCHING WITH APP)
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)

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

RECORDING & REPORTING USE CASES

SUIT CALIBRATION & START TRACKING

USER TYPES: DATA COLLECTOR

1. User wears suit and get brainpack ready to start (see scenario WEAR SUIT AND GET READY TO START)
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 brainpack (haptic or buzz)
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

RECORD MOVEMENT- FULL DAY

USER TYPES: DATA COLLECTOR

1. User wears the suit, turns it on and calibrates
2. Brainpack records user movements
3. User ends recording by re-pressing the recording button on brainpack

RECORD MOVEMENT - PER MOVE

USER TYPES: DATA COLLECTOR

1. User wears the suit, turns it on and calibrates (see scenario SUIT CALIBRATION & START TRACKING)
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

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

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

UI/UX USE CASES (FRONT END)

PAIN REPORTING REVIEW & SHARE

USER TYPES: DATA COLLECTOR

CONCERN REPORTING REVIEW & SHARE

USER TYPES: DATA COLLECTOR

ERGO SCORE REVIEW & SHARE

USER TYPES: DATA COLLECTOR

ERGO SCORE CHALLENGE

USER TYPES: DATA COLLECTOR

RECORDINGS REVIEW

USER TYPES: DATA ANALYST

RECORDINGS COMPARISONS

USER TYPES: DATA ANALYST

RISK REPORTING REVIEW

USER TYPES: DATA ANALYST

PAIN REPORTING REVIEW

USER TYPES: DATA ANALYST

CONCERN REPORTING REVIEW

USER TYPES: DATA ANALYST

EXPORTING DATA

USER TYPES: DATA ANALYST