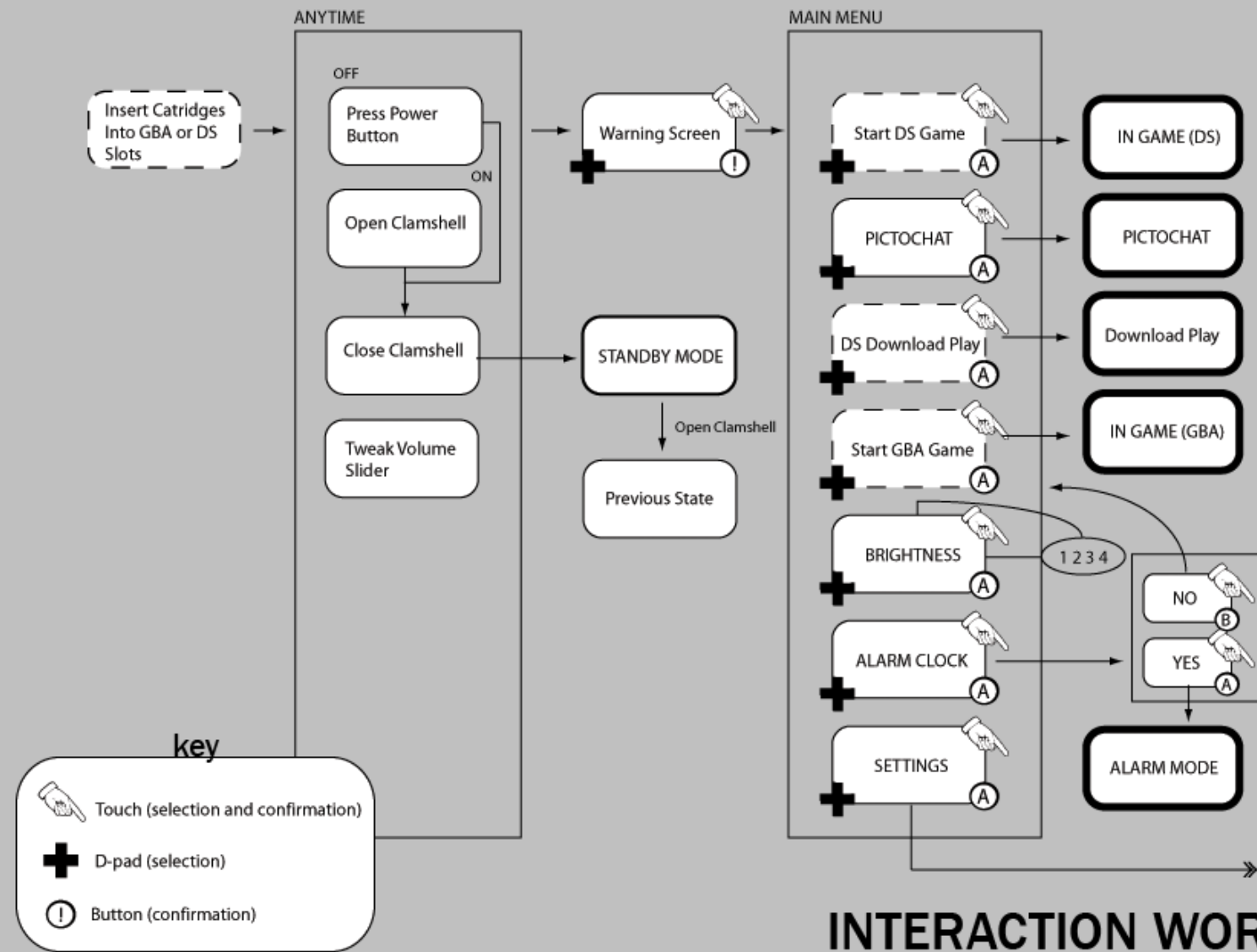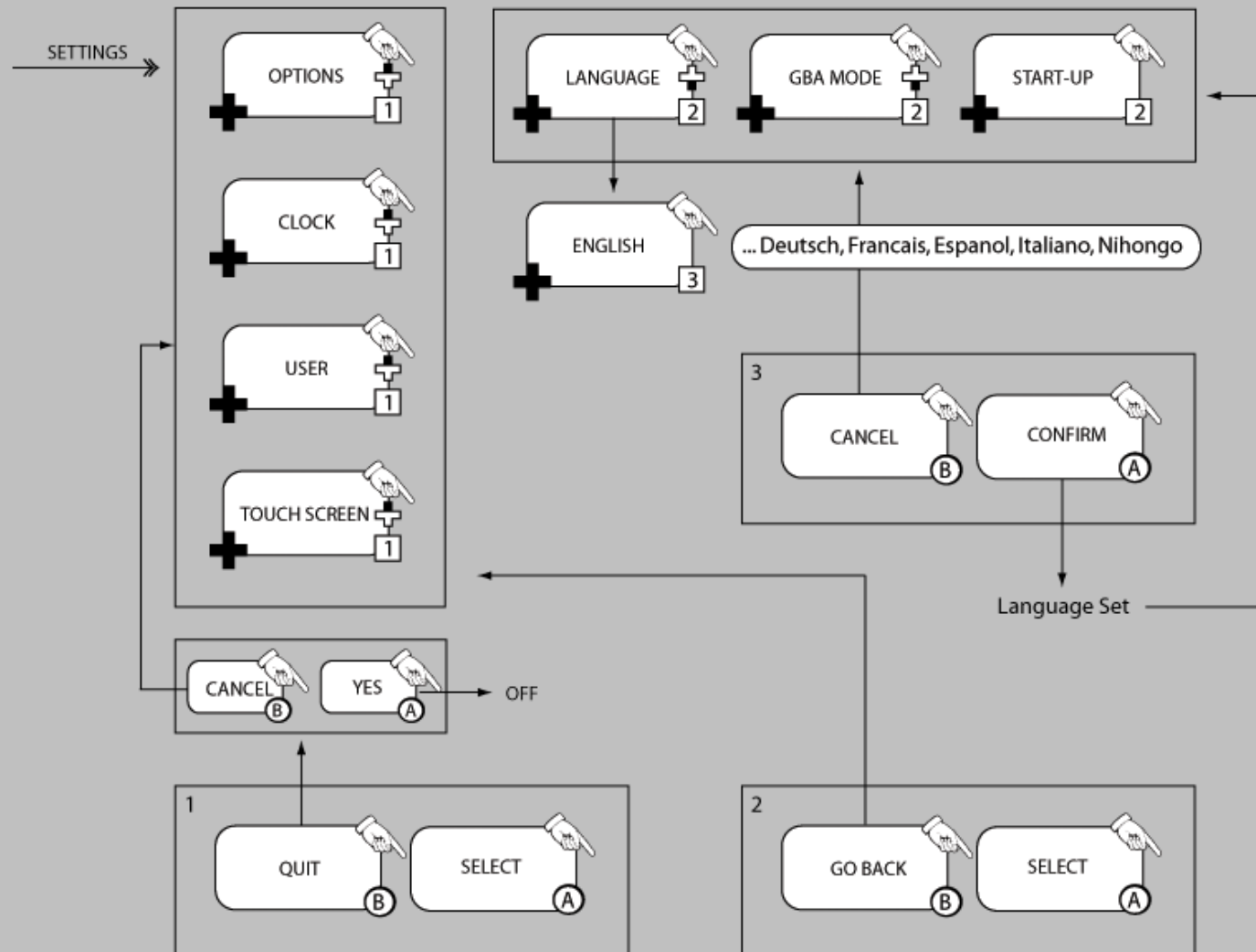# NINTENDO DS™
INTERACTION AUDIT

Gregory Peng
April 11, 2007

NINTENDO **DS**™

PHASE ONE

INTERACTION WORKFLOW
USER ASSESSMENT
SCREEN AUDIT

NINTENDO DS™

ANYTIME

MAIN MENU

Insert Catridges Into GBA or DS Slots

OFF
Press Power Button

ON
Open Clamshell

Close Clamshell

Tweak Volume Slider

Warning Screen ✋ !

STANDBY MODE

Open Clamshell

Previous State

Start DS Game ✋ ➕ Ⓐ → IN GAME (DS)

PICTOCHAT ✋ ➕ Ⓐ → PICTOCHAT

DS Download Play ✋ ➕ Ⓐ → Download Play

Start GBA Game ✋ ➕ Ⓐ → IN GAME (GBA)

BRIGHTNESS ✋ ➕ Ⓐ 1 2 3 4

ALARM CLOCK ✋ ➕ Ⓐ

SETTINGS ✋ ➕ Ⓐ

NO ✋ Ⓑ

YES ✋ Ⓐ

ALARM MODE

key

✋ Touch (selection and confirmation)

➕ D-pad (selection)

! Button (confirmation)

INTERACTION WORKFLOW

NINTENDO DS™

SETTINGS →

OPTIONS | 1

CLOCK | 1

USER | 1

TOUCH SCREEN | 1

LANGUAGE | 2

GBA MODE | 2

START-UP | 2

ENGLISH | 3

... Deutsch, Francais, Espanol, Italiano, Nihongo

3

CANCEL B

CONFIRM A

Language Set

CANCEL B

YES A → OFF

1

QUIT B

SELECT A

2

GO BACK B

SELECT A

INTERACTION WORKFLOW

NINTENDO DS™

PROS: AESTHETICS

Clean and polished interface

Excellent choice in colors

Audio feedback crisp, unintrusive

Text small but very readable

PROS: HARDWARE

Ultra bright screen, fine resolution

Responsive touch-screen

Small form factor

Backwards compatibility with previous generation

CONS: NAVIGATION

Once menu screens are entered, they cannot be exited without restarting the machine

Icons are cryptic at best

Keyboard input changes standard button locations

CONS: HARDWARE

Cart sticks out for backwards compatible software

Flimsy plastic stylus
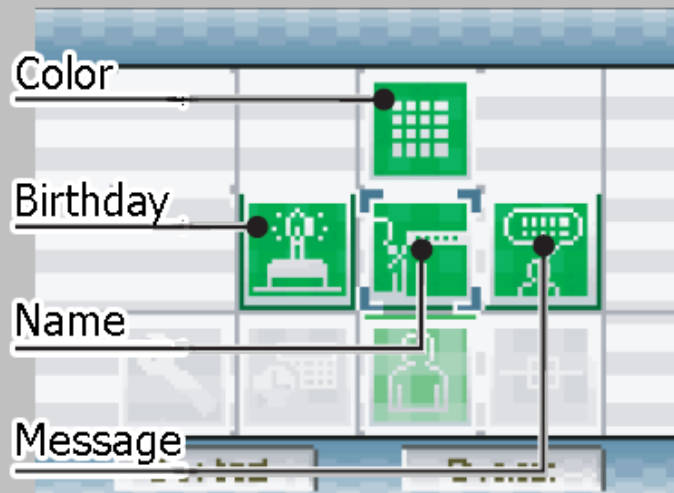
Does not register new software after startup

USER ASSESSMENT

NINTENDO DS™

UNNECESSARY DISCLAIMER
Japanese mandated health warning wastes time on startup.

AWKWARD NAVIGATION
No way to return to main menu from option menu due to forced automatic shutdown.

SCREEN AUDIT

NINTENDO DS™

Color

Birthday

Name

Message

ABSTRACT ICONS
Icons are ambiguous, hard for users to predict functionality - must cycle through each option to find out what it does.

INSUFFICIENT FEEDBACK
Changing brightness is guess and check, no indication of current brightness or max levels.

There is no DS Card inserted.

PICTOCHAT

DS Download Play

There is no Game Pak inserted.

GBA

DS CARD

SCREEN AUDIT

NINTENDO DS™

LAYOUT INCONSISTENCY

Cancel/Confirm buttons not in standard location during keyboard mode.

BACKWARDS COMPATIBILITY

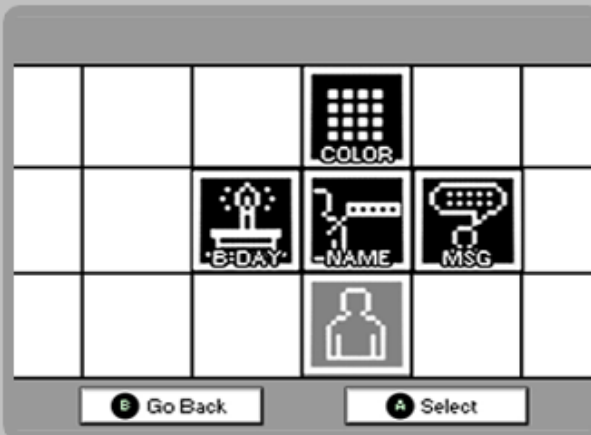Game Boy Advance cartridges stick out of the bottom; looks awkward.

SCREEN AUDIT

NINTENDO DS™

PHASE TWO

INTERACTION RECONFIG
GUI WIREFRAMES
WORKFLOW UPGRADE

NINTENDO DS™

PROBLEM
Abstract Icons

SOLUTION
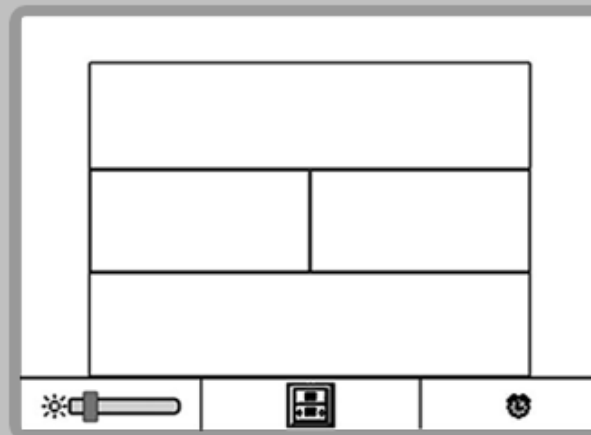Add labels to icons to give users better idea of purpose.

PROBLEM
Unintuitive brightness control

SOLUTION
Change control to a slide bar, which naturally works well with stylus interaction.
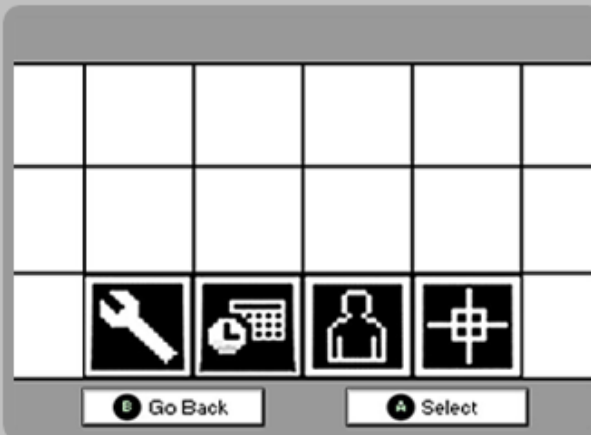
COLOR

B·DAY -NAME MSG

Ⓑ Go Back   Ⓐ Select

INTERACTION RECONFIGURATION

NINTENDO DS™

PROBLEM
Once entered, a menu cannot be exited.

SOLUTION
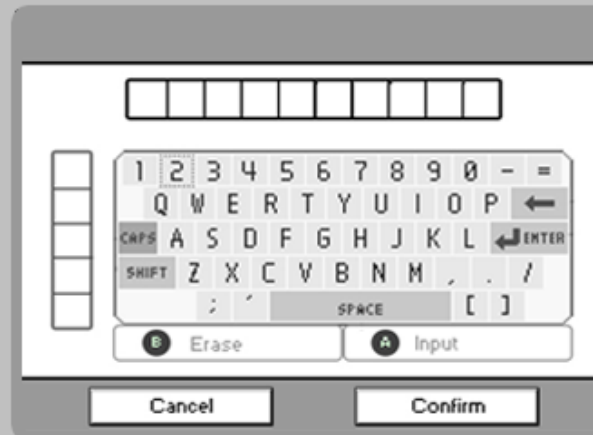Let users go back to the main menu.

PROBLEM
Cancel/Confirm buttons move around.

SOLUTION
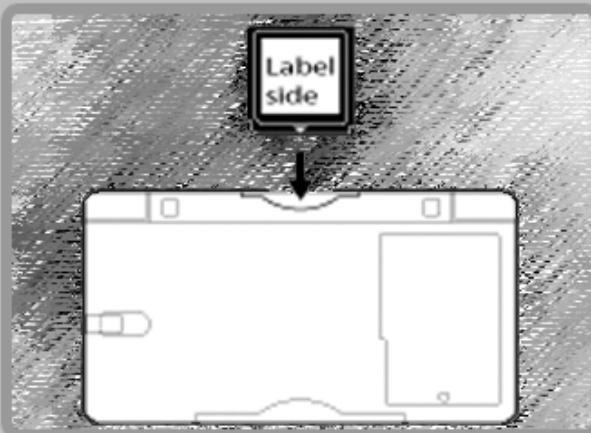Always keep them in the same fixed location.

B Go Back   A Select

1 2 3 4 5 6 7 8 9 0 − =
Q W E R T Y U I O P ←
CAPS A S D F G H J K L ↵ENTER
SHIFT Z X C V B N M , . /
: ´ SPACE [ ]

B Erase   A Input

Cancel   Confirm

INTERACTION RECONFIGURATION

NINTENDO DS™

PROBLEM
Games not recognized post-startup.

SOLUTION
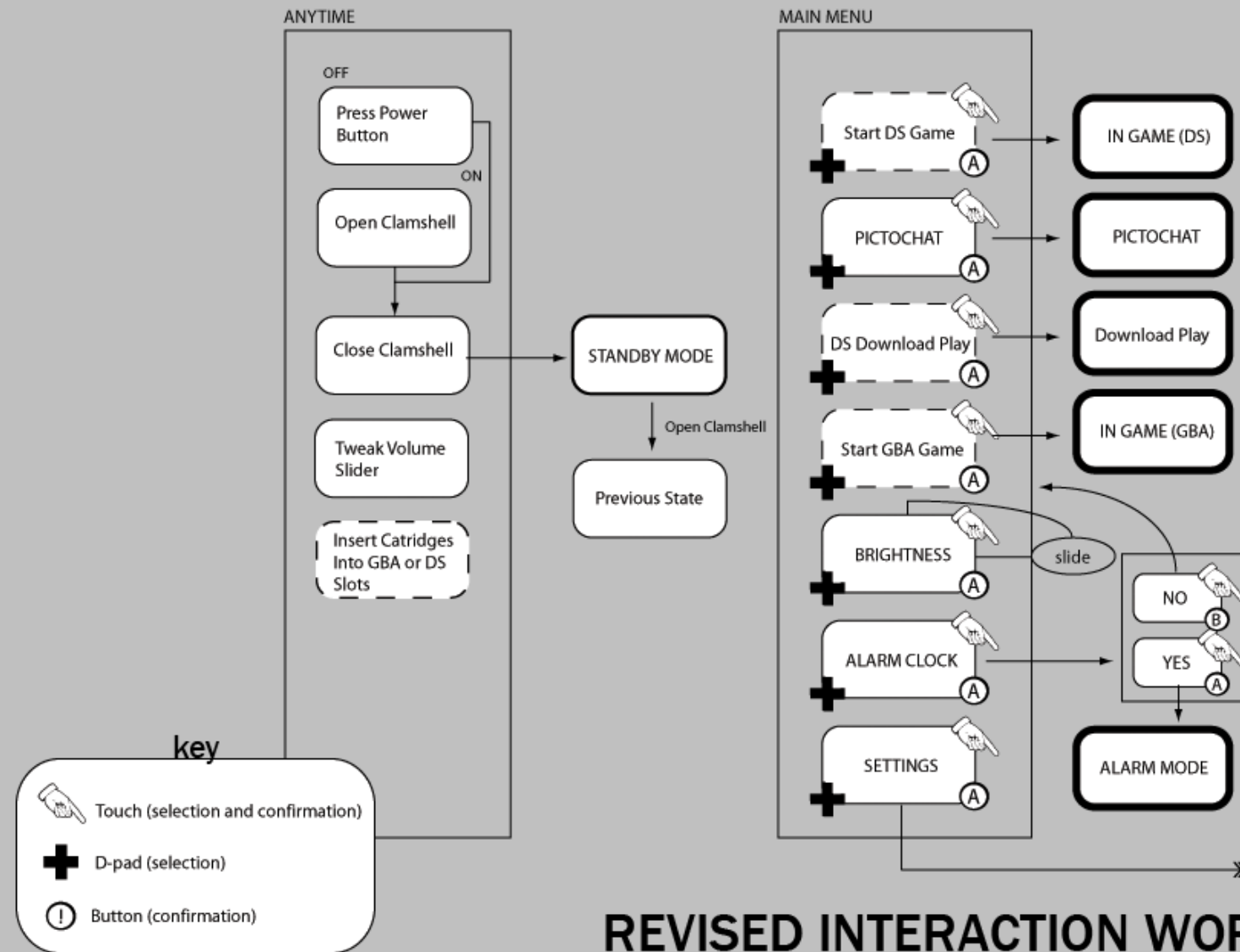Add recognition for media inserted after startup.
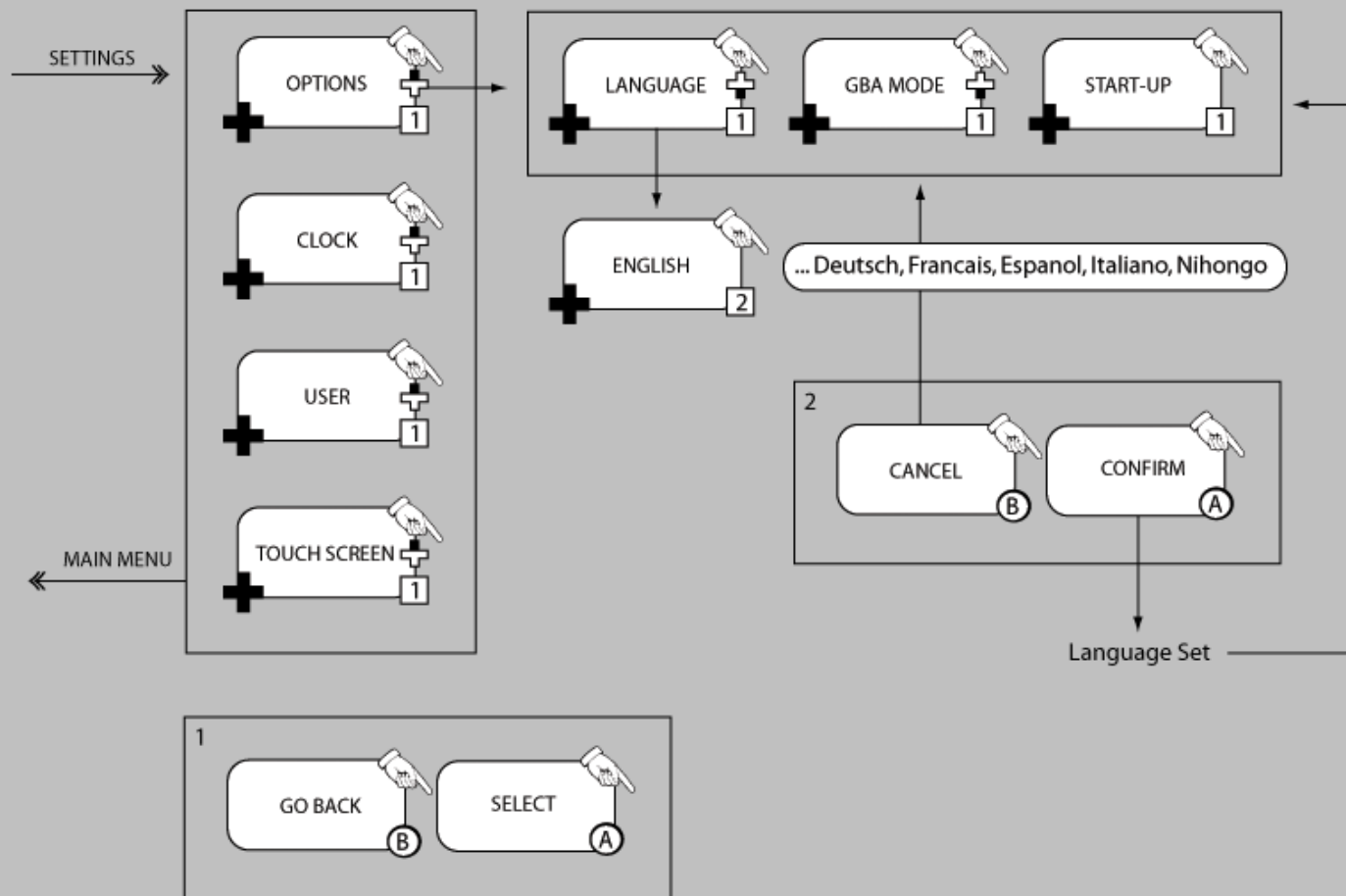
PROBLEM
GBA cartridge sticks out.

SOLUTION
Deepen GBA slot.
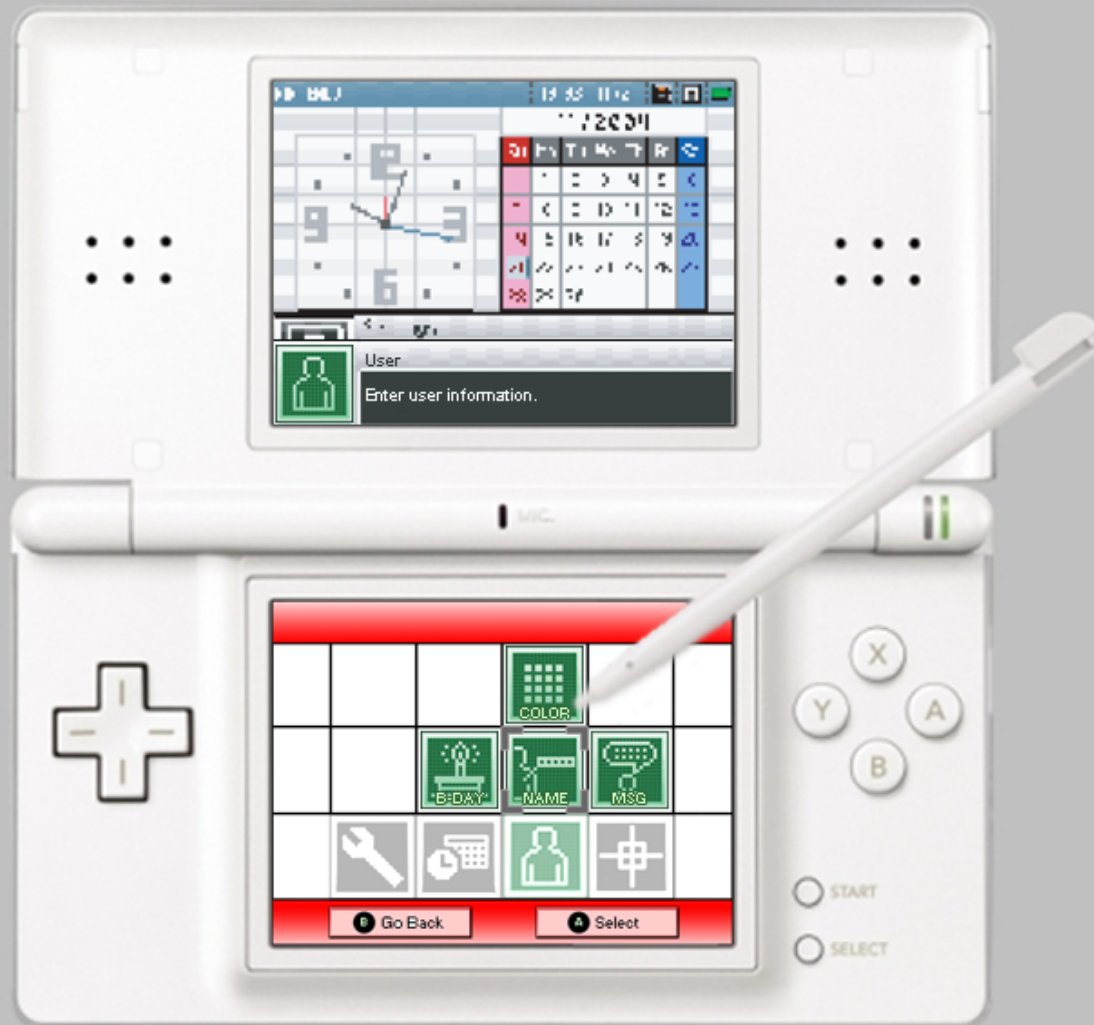

Label side

INTERACTION RECONFIGURATION

NINTENDO DS™

ANYTIME

OFF

Press Power Button

ON

Open Clamshell

Close Clamshell → STANDBY MODE

↓ Open Clamshell

Previous State

Tweak Volume Slider

Insert Catridges Into GBA or DS Slots

key

👆 Touch (selection and confirmation)

➕ D-pad (selection)

(!) Button (confirmation)

MAIN MENU

Start DS Game (A) → IN GAME (DS)

PICTOCHAT (A) → PICTOCHAT

DS Download Play (A) → Download Play

Start GBA Game (A) → IN GAME (GBA)

BRIGHTNESS (A) — slide

ALARM CLOCK (A) → YES

NO (B)

YES (A)

↓

ALARM MODE

SETTINGS (A)

REVISED INTERACTION WORKFLOW

NINTENDO DS™

SETTINGS →

OPTIONS | 1

CLOCK | 1

USER | 1

MAIN MENU ←

TOUCH SCREEN | 1

LANGUAGE | 1

GBA MODE | 1

START-UP | 1

ENGLISH | 2

... Deutsch, Francais, Espanol, Italiano, Nihongo

2

CANCEL | B

CONFIRM | A

Language Set

1

GO BACK | B

SELECT | A

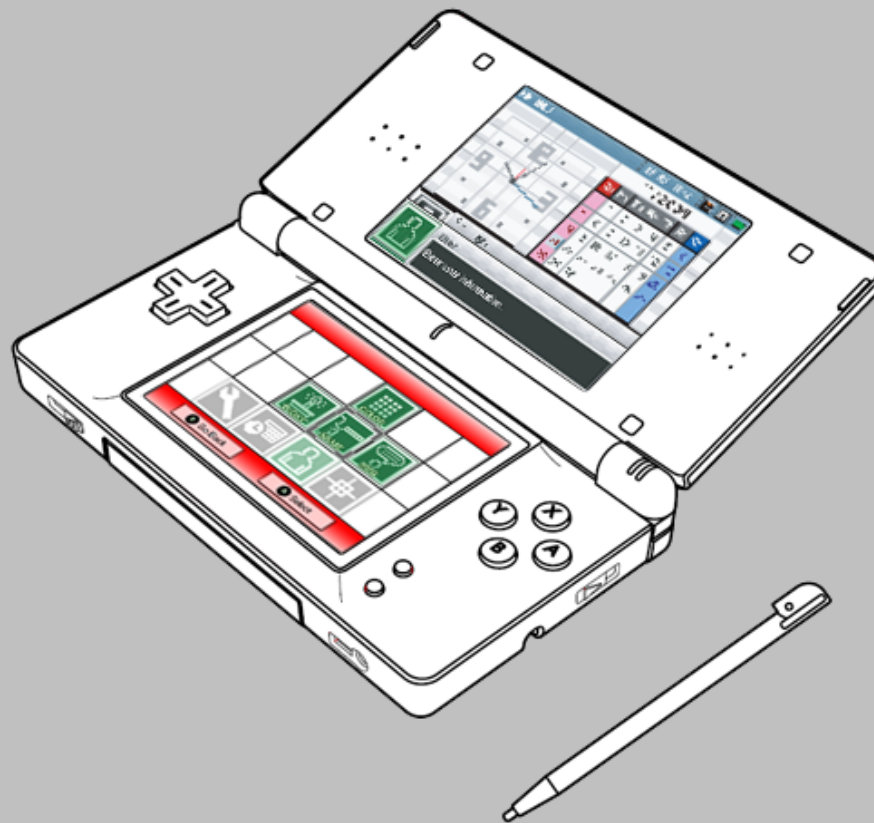# REVISED INTERACTION WORKFLOW

NINTENDO **DS**™

PHASE THREE

BITMAP EXPLORATIONS

NINTENDO DS

BITMAP EXPLORATIONS

NINTENDO DS™

BITMAP EXPLORATIONS