Software L10n QA from the Tester's Perspective

ATA55

Carola F. Berger

Outline

- Overview over the Internationalization and Localization Process for Software Apps
- The QA Testing Process
- Problem Types
- Software Problem Reports
- The QA Testing Process – A Practical Example
- Summary
- References and Further Reading

Software L10n Process Flow

Preparation

- i18n (engineering)
- Style guides/glossaries (linguistic)

Software L10n Process Flow

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Internationalization (i18n):

- Make software localizable without design changes
- Take into account different character sets
- Take into account different locales (= set of parameters such as number formats, currency, date/time formats…)
- Adapt layout to different directionality

Style guides/glossaries:

- Ensure consistency in terminology
- Identify potential challenges for localization

Software L10n Process Flow

Preparation

- i18n (engineering)
- Style guides/glossaries (linguistic)

Translation (linguistic)

- Translation of strings
- Review

Software L10n Process Flow

Preparation
- i18n (engineering)
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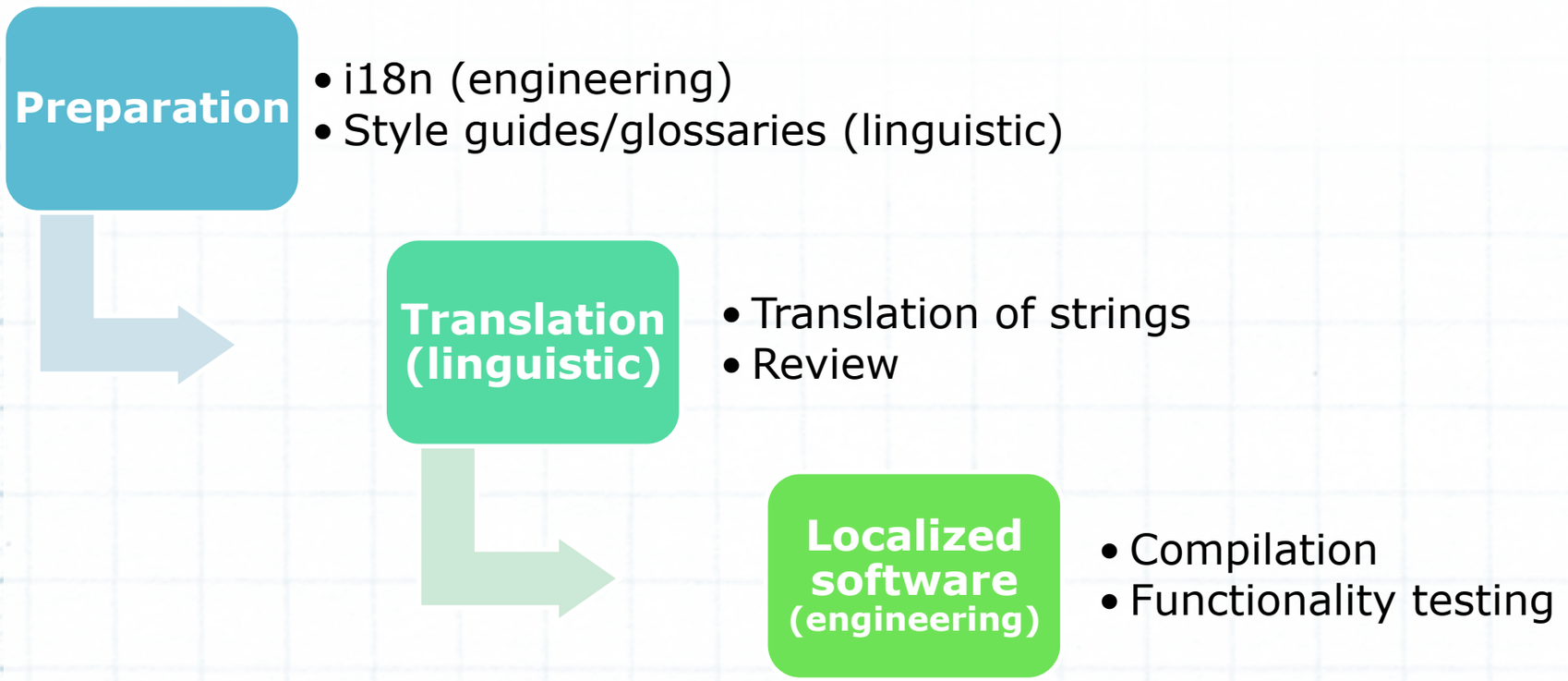
Translation (linguistic)
- Translation of strings
- Review

Translation and review:
- Usually without full context
- Format varies
- Review can catch grammatical and spelling errors, but not errors due to missing context (nouns vs. Verbs)

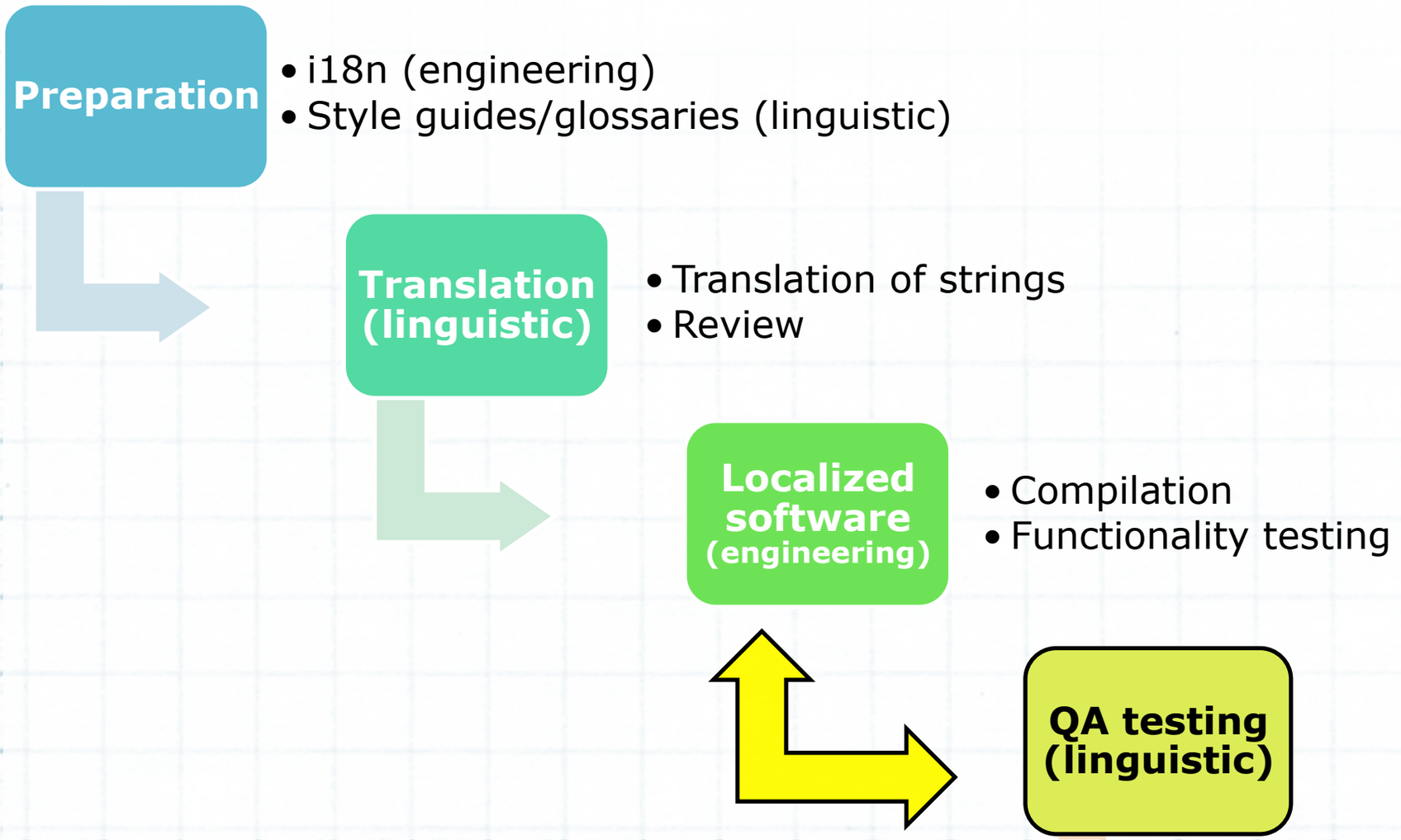
Software L10n Process Flow



Also development of test plan/script

Adapted from (Bodeux, Whitty 2014)

Software L10n Process Flow



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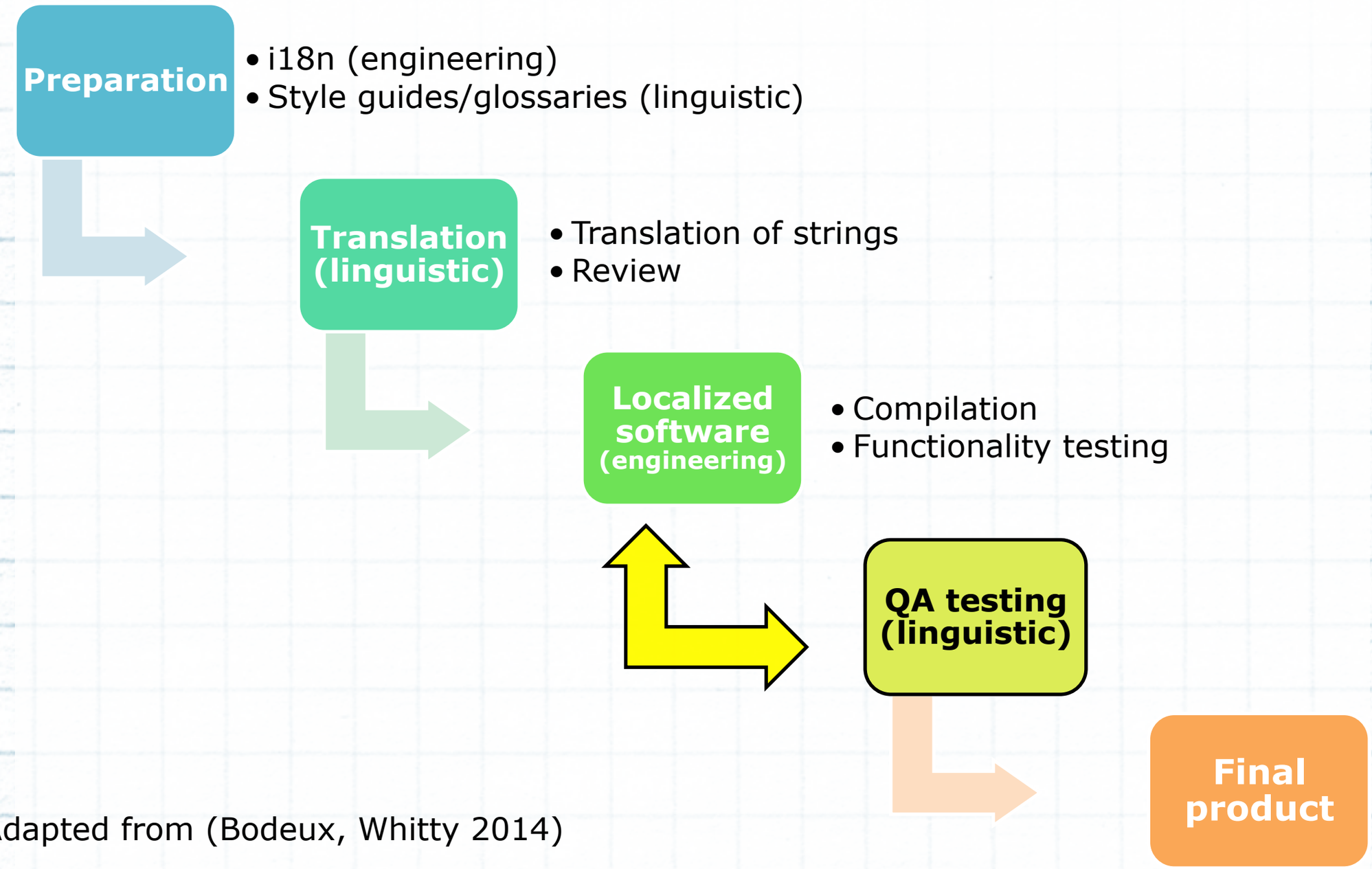
Globalization = i18n + L10n



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QA Process Flow

Familiarize yourself with product, test script (or write test script)

Set up OS (language, locale)

Follow test script; document all bugs

File bug report(s)

Wait for new build of product

Problem Types

- Linguistic problems
- Layout problems
- Functionality problems
- Installation/delivery problems

Photo by ThreeHeadedMonkey (http://www.flickr.com/photos/threeheadedmonkey/3856171871/)

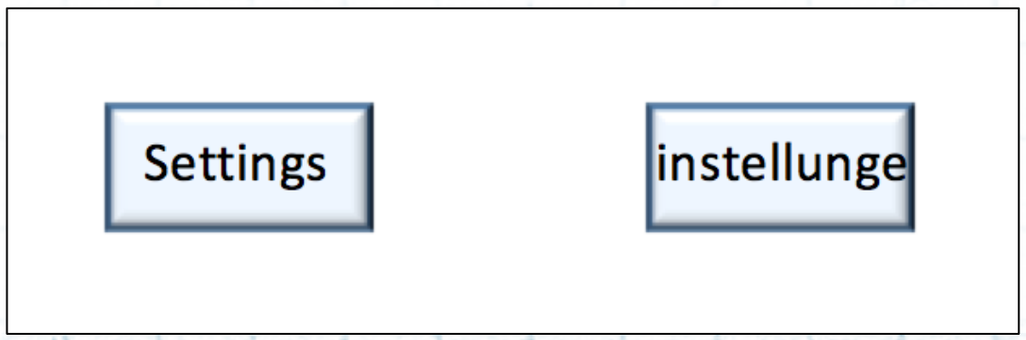
See e.g (Globalme/Golota 2013), (Esselink 1998)

Linguistic Problems

- Grammatical, spelling, and punctuation errors
- Translation errors due to context
- Linguistic consistency
- Missing translations
- Cultural aspects

Layout and Formatting Issues

- Truncations, text expansion in the entire interface including error messages, pop-up windows, text boxes, etc.
- Wrong alignment – especially in left-to-right versus right-to-left languages
- Character corruption issues, wrongly displayed (non-ASCII or accented) characters
- Line breaks
- Number, date/time, currency formats, addresses, zip-codes, phone numbers
- Symbols and icons



Layout and Formatting Issues

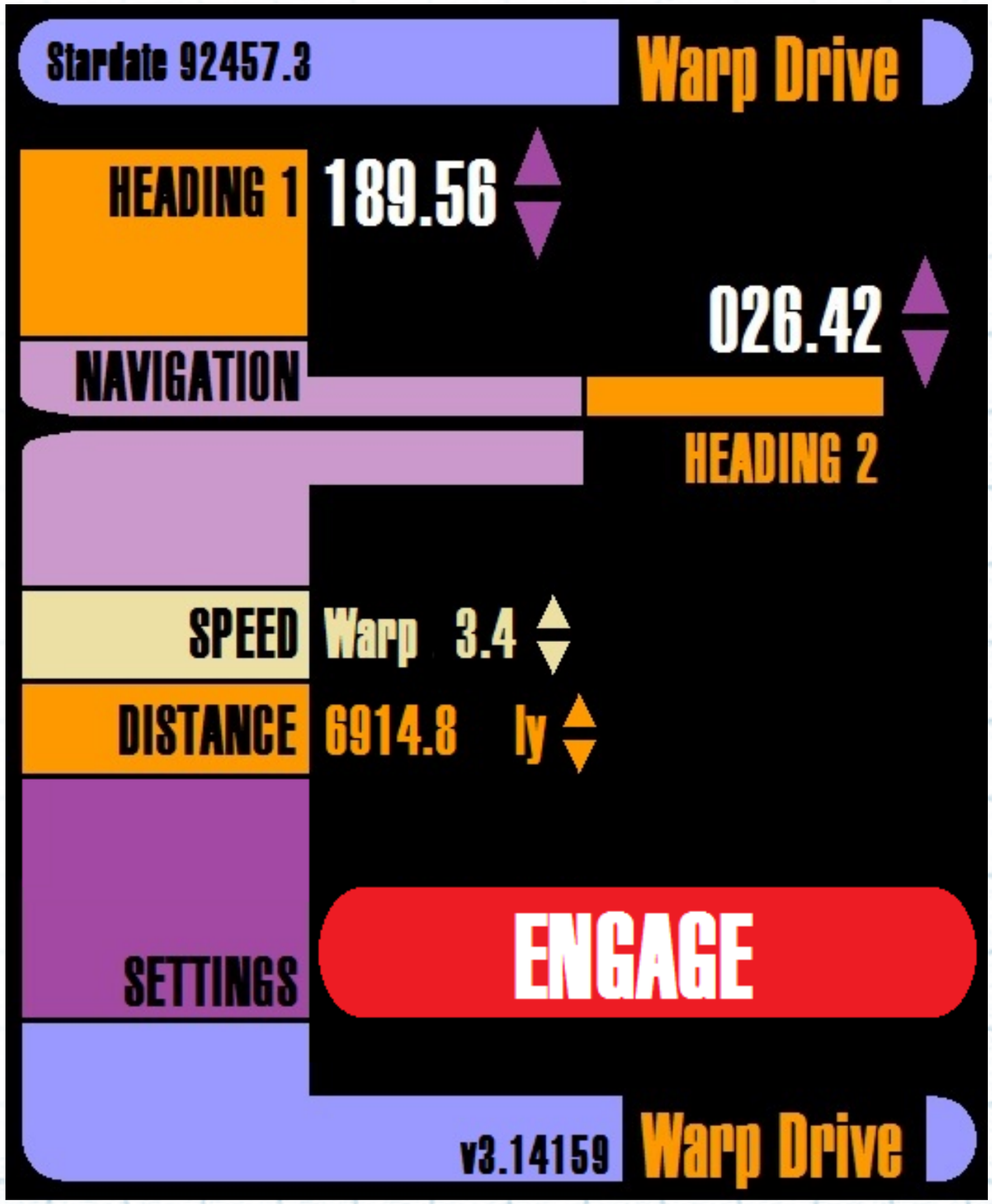
- Floor grinder rental

Functional Problems

- Link, button, menu functionality
- Input/output validation
- Number, date/time, currency formats, addresses, postal codes, phone numbers, paper sizes
- Problems with character display, sorting, or input
- Keyboards and shortcuts
- Interaction with OS functions such as copy/paste and locale and language settings in the OS
- Installation/delivery problems

A Practical (Fictional) Example

- Localization of a fictional starship app for controlling a warp drive
- Source language and locale:
  Earth English
- Target language and locale:
  Klingon (𐡀𐡌𐡓𐡀𐡔𐡕𐡀)

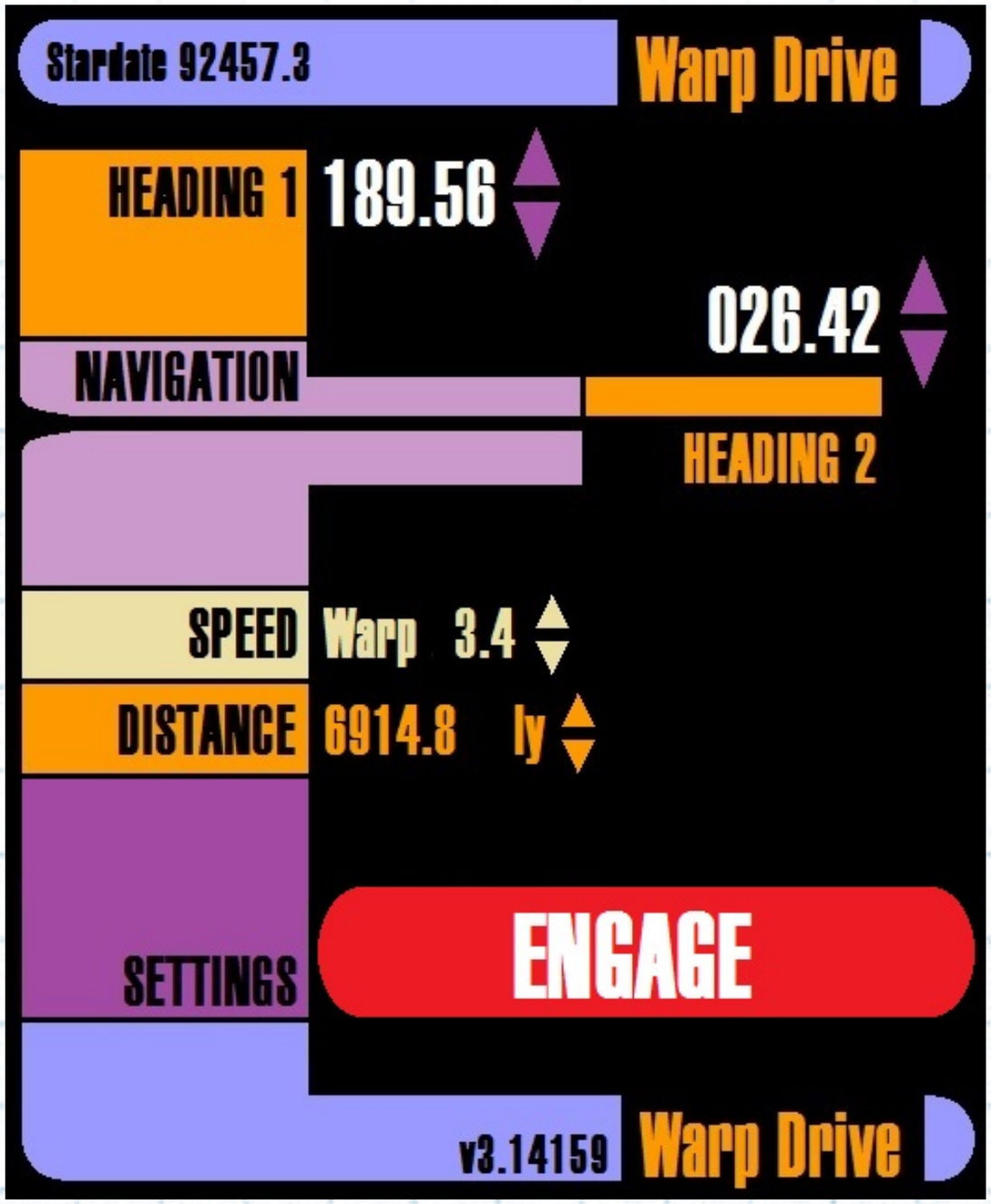


References:
Doohan, J. & Okrand, M. (1979, 1985). Creators of the Klingon language. See http://en.wikipedia.org/wiki/Klingon_language and references therein.

Okrand, M. (1992). *The Klingon Language Dictionary*. New York City: Pocket Books.

Schoen, L. M. (1992). Founder of *The Klingon Language Institute*. http://www.kli.org

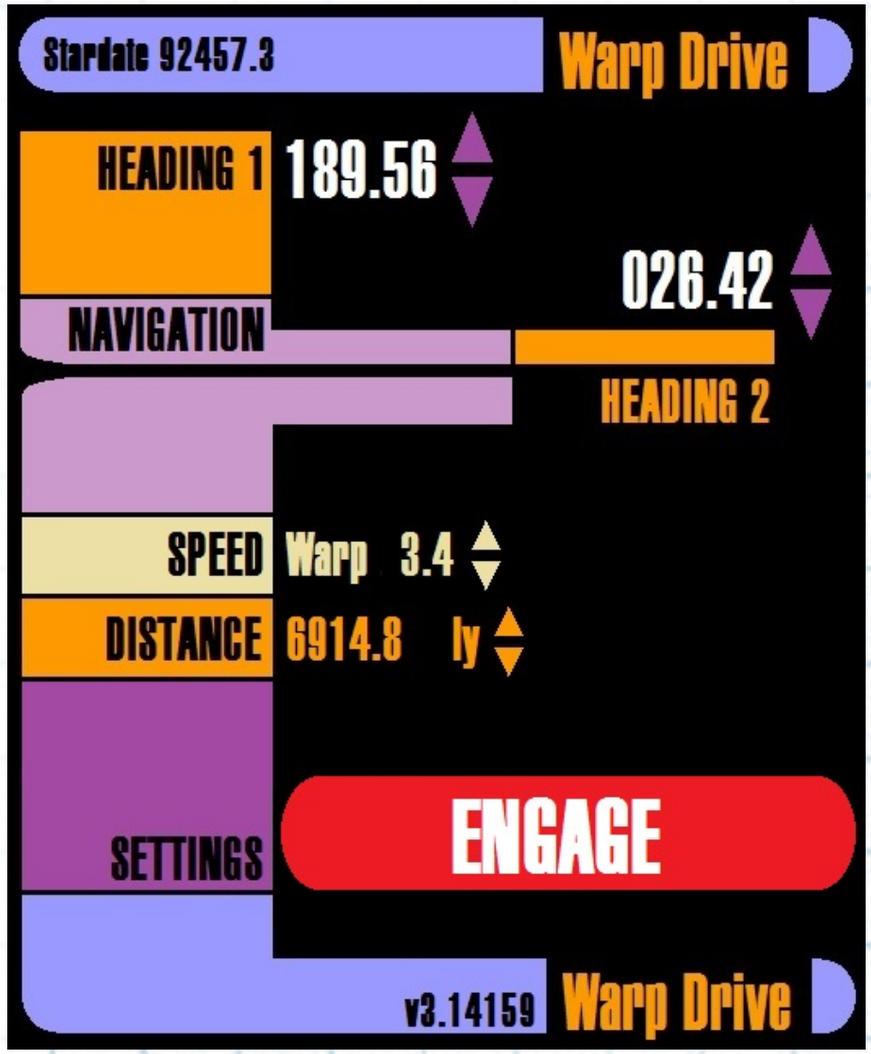
Example — Step 1: Familiarization



Example — Step 1: Test Script

Test of main interface:

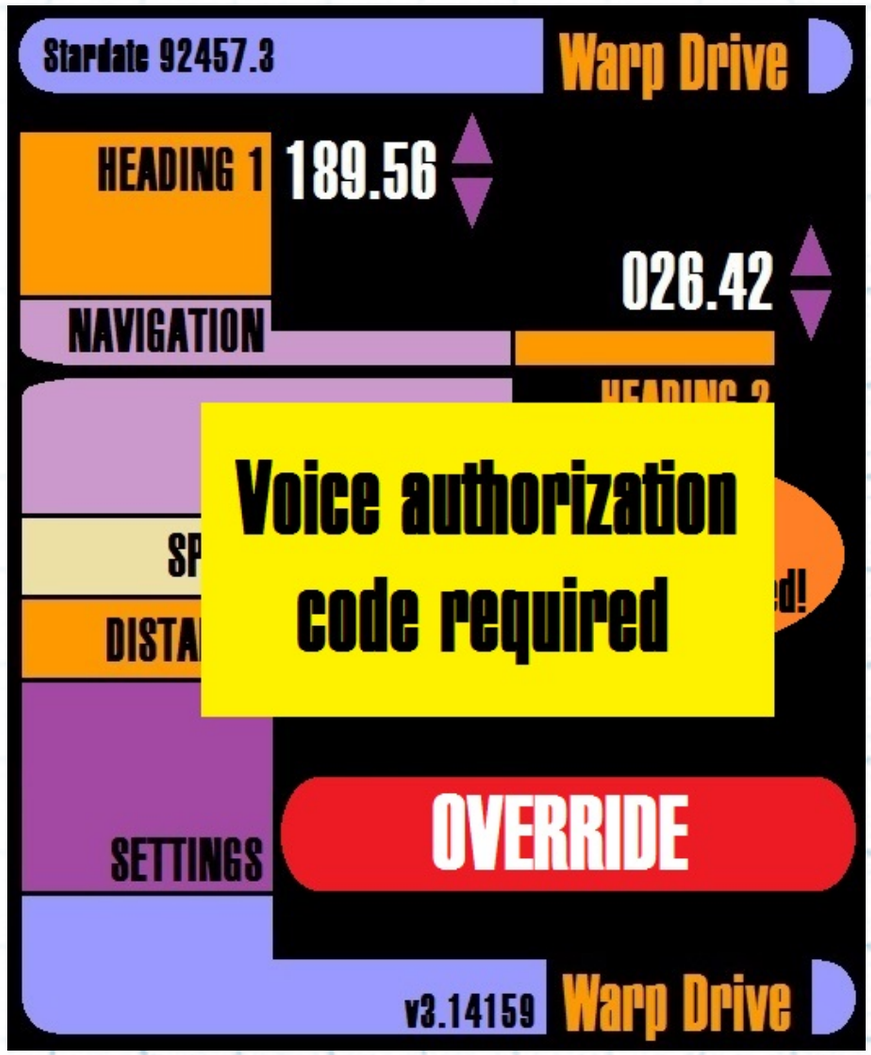
1. Change headings 1, 2; check functionality of buttons, allowed range (0-360)
2. Change distance; check functionality of buttons
3. Check functionality of “Engage” button (simulated by main computer)
4. Change warp speed; check functionality of buttons => above max warp speed (set in settings, default 9.3) a warning message appears and the Engage button changes to “Override”



Example – Step 1: Test Script

Test of "Override":

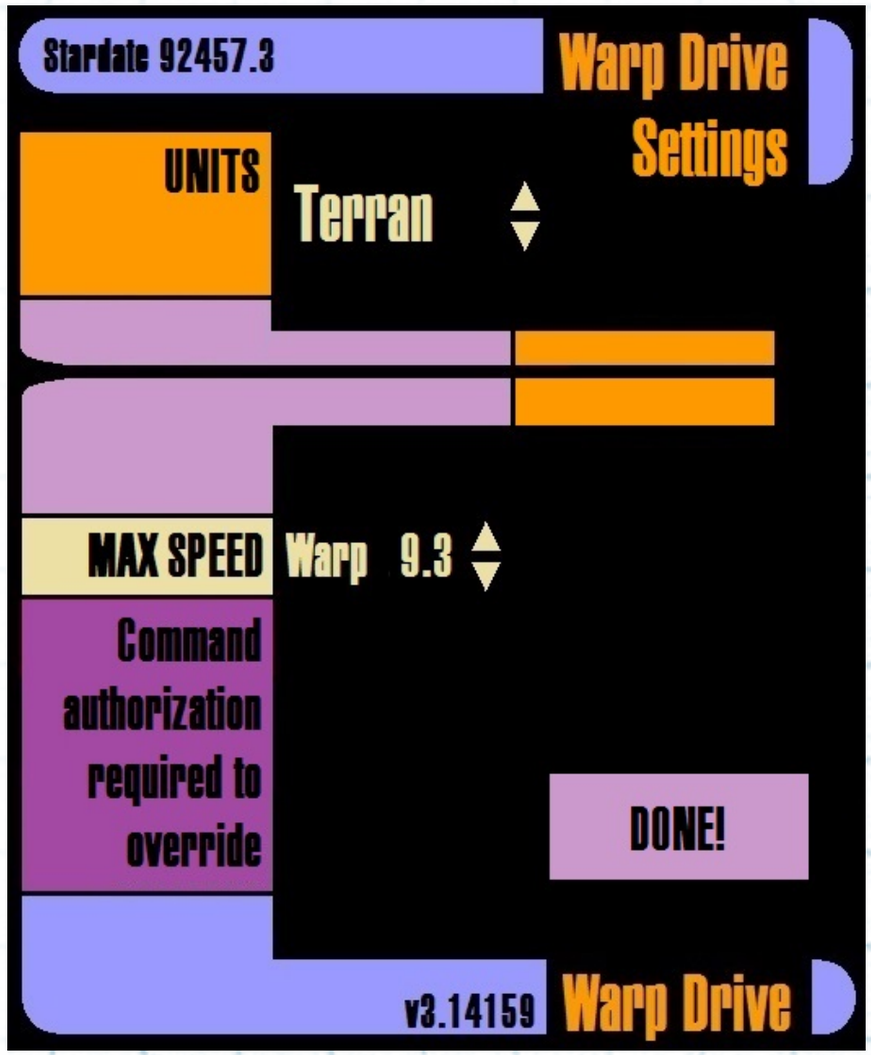
5. Check appearance of pop-up
6. Attempt voice authorization with "random" false code, check pop-up message
7. Voice authorization with correct code (test account: The Borg 123); check pop-up message
8. Check functionality of override: engage higher warp speed - simulated



Example – Step 1: Test Script

Test of "Settings" page:

9. Enter settings page from main page by tapping on button
10. Change units (currently non-functional – skip step)
11. Change max speed – voice authorization required
12. Check functionality of voice authorization with wrong authorization code
13. Check functionality of voice authorization with correct code – see step 7.



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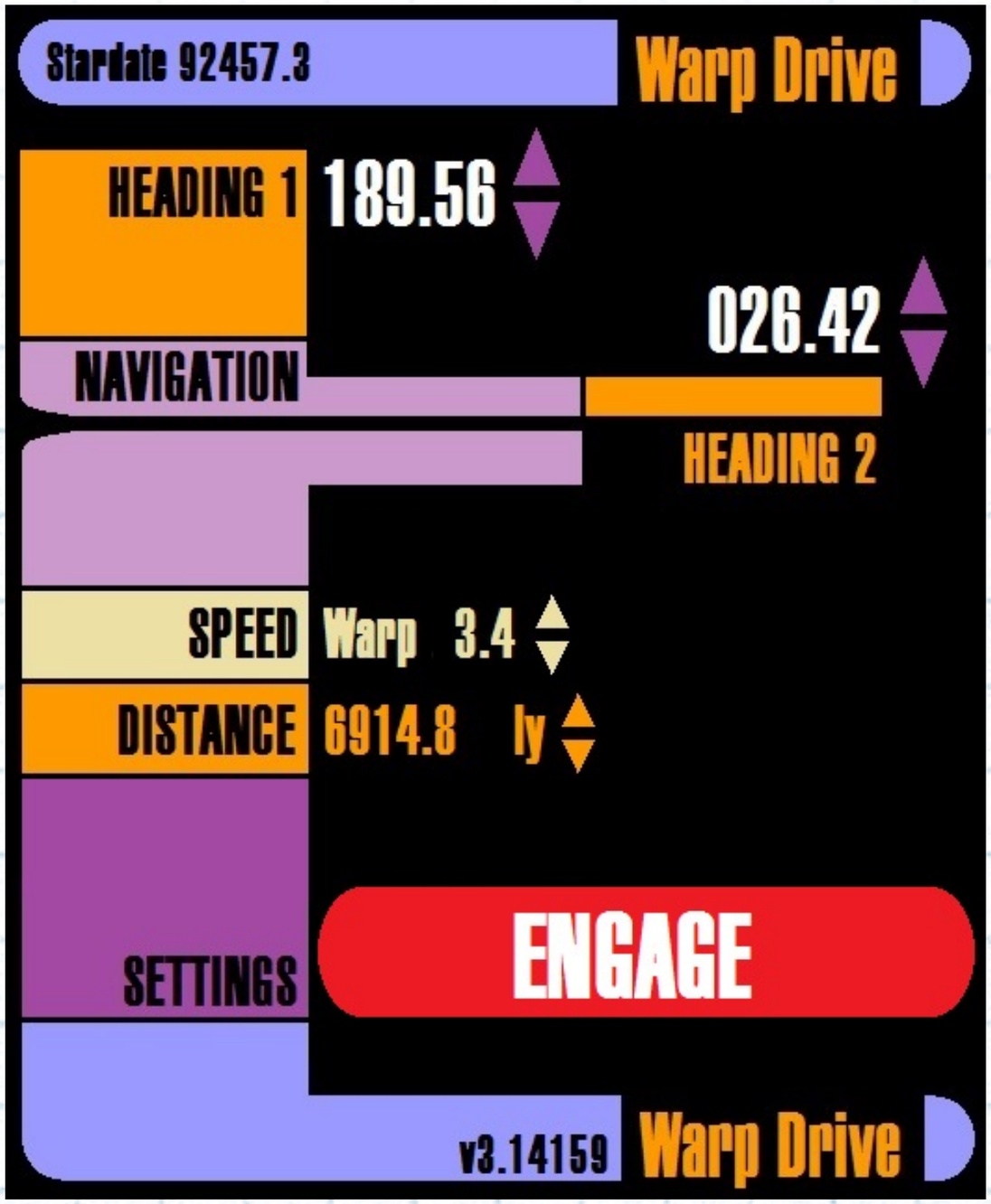

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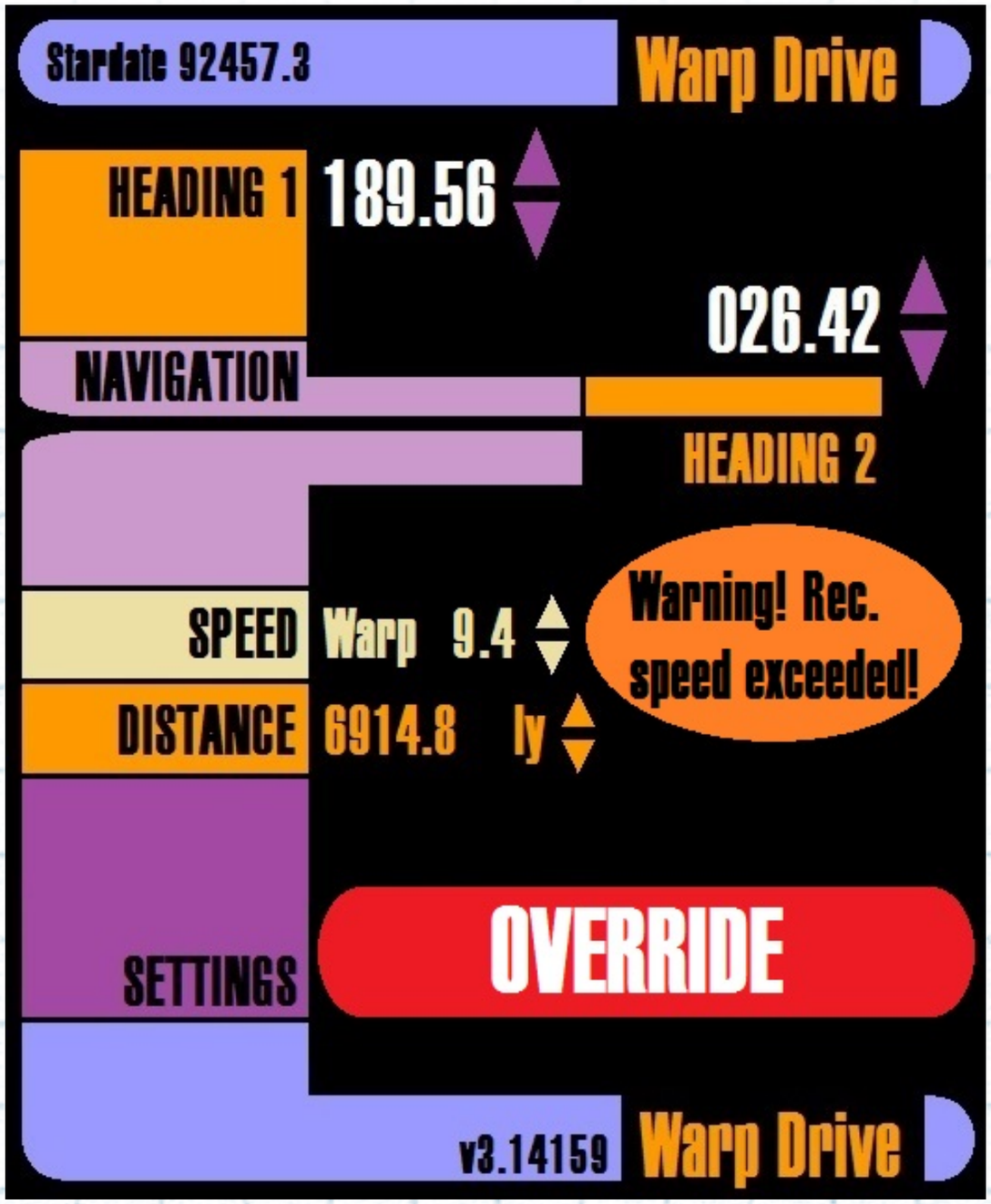

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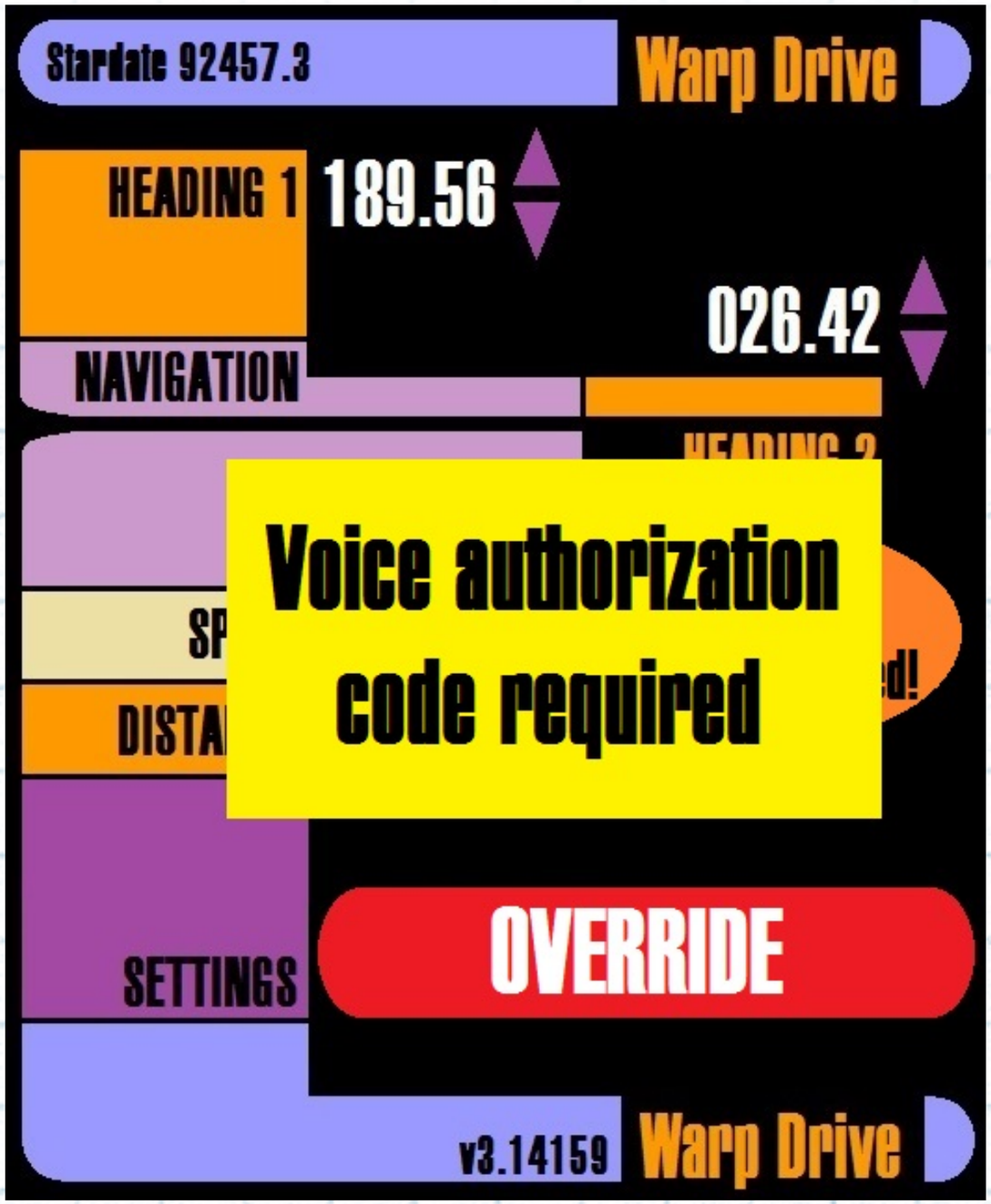

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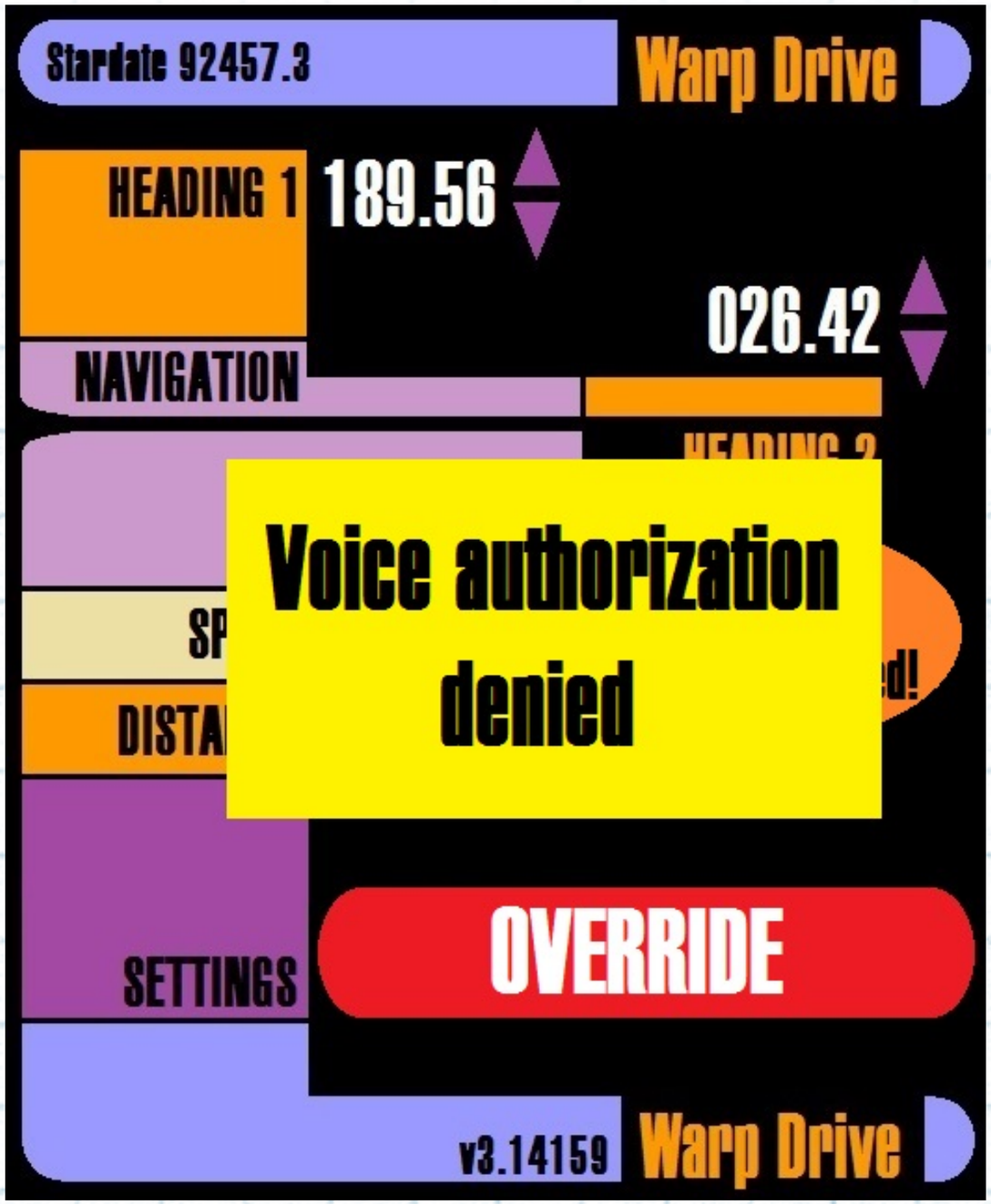

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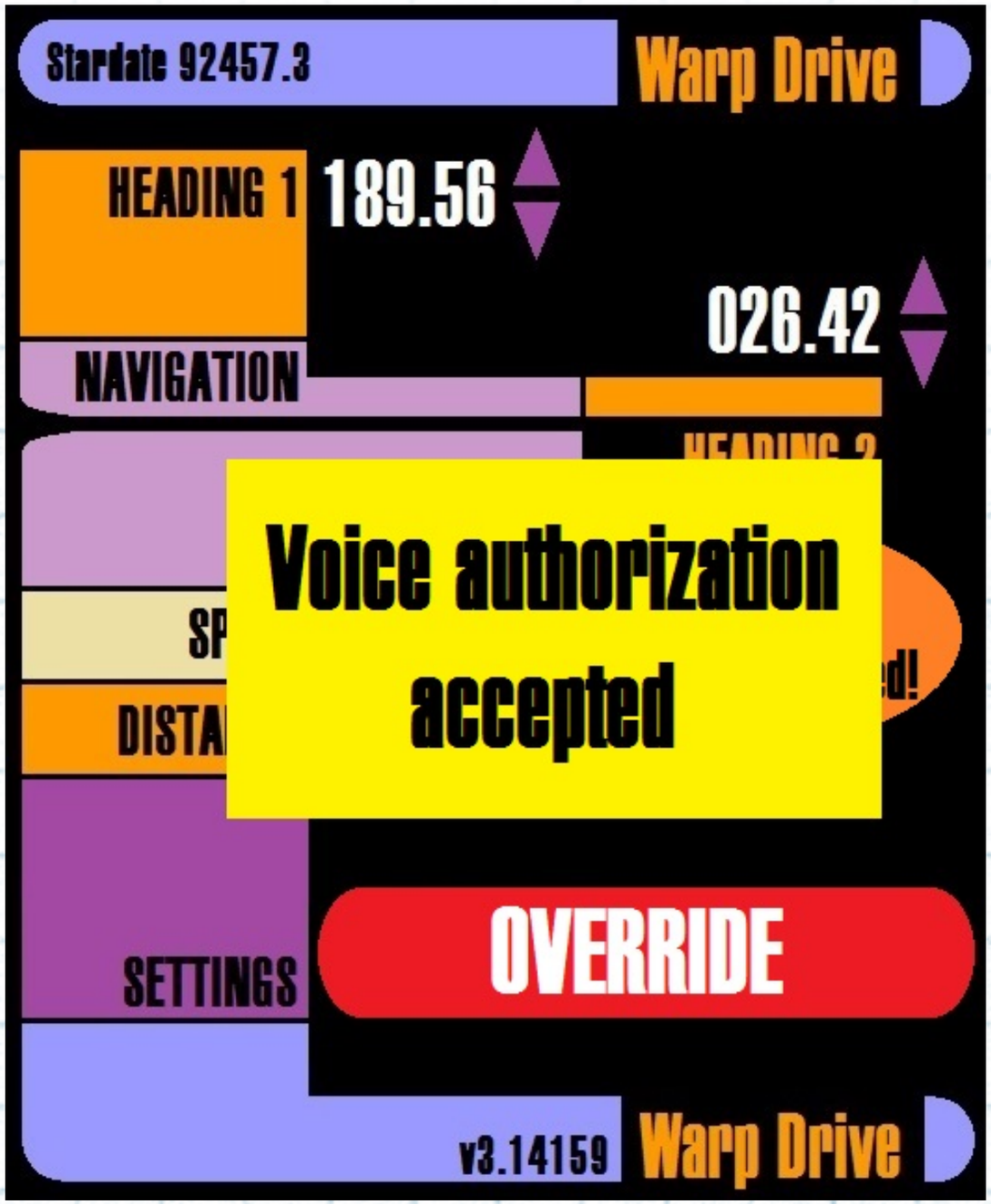

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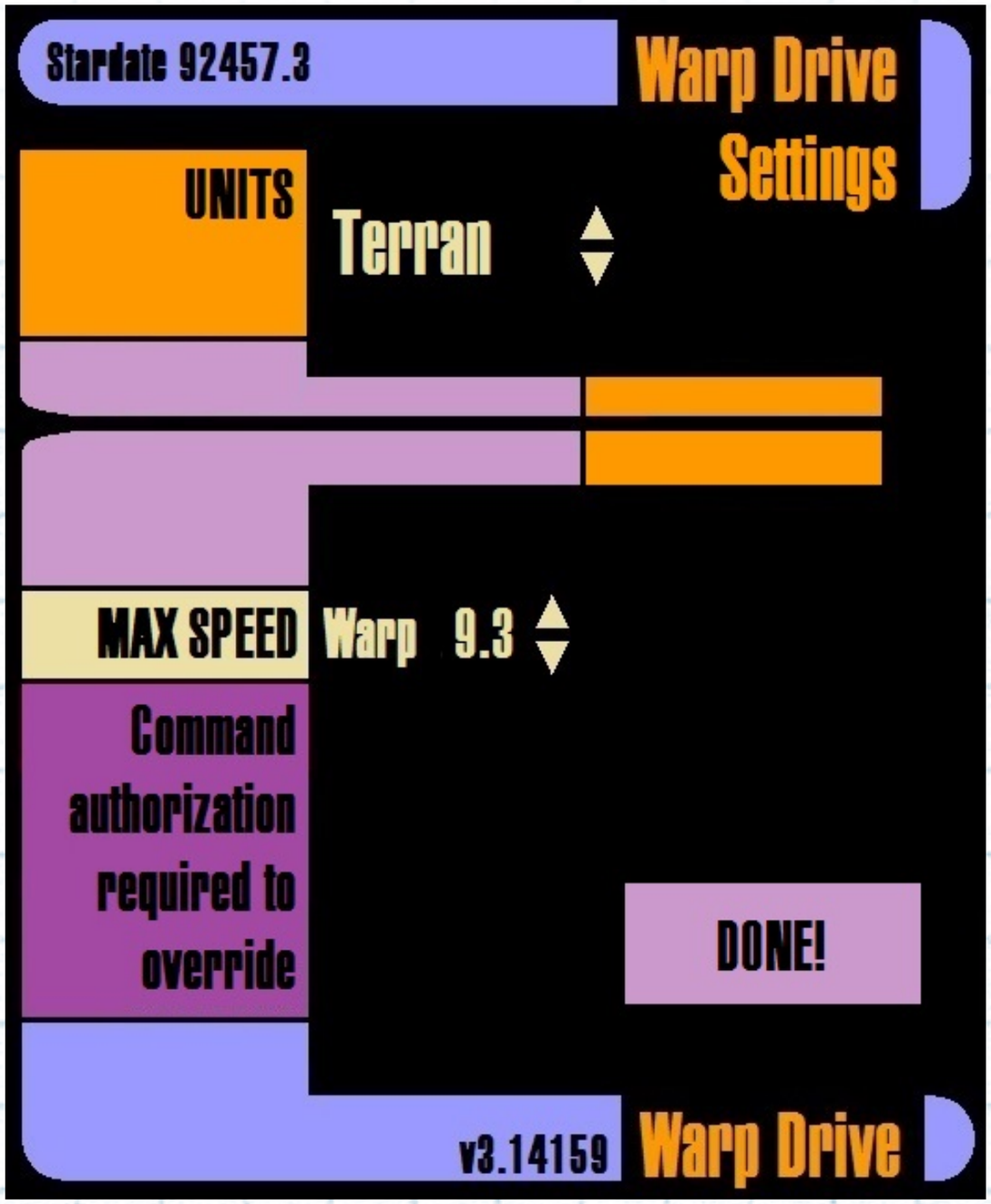

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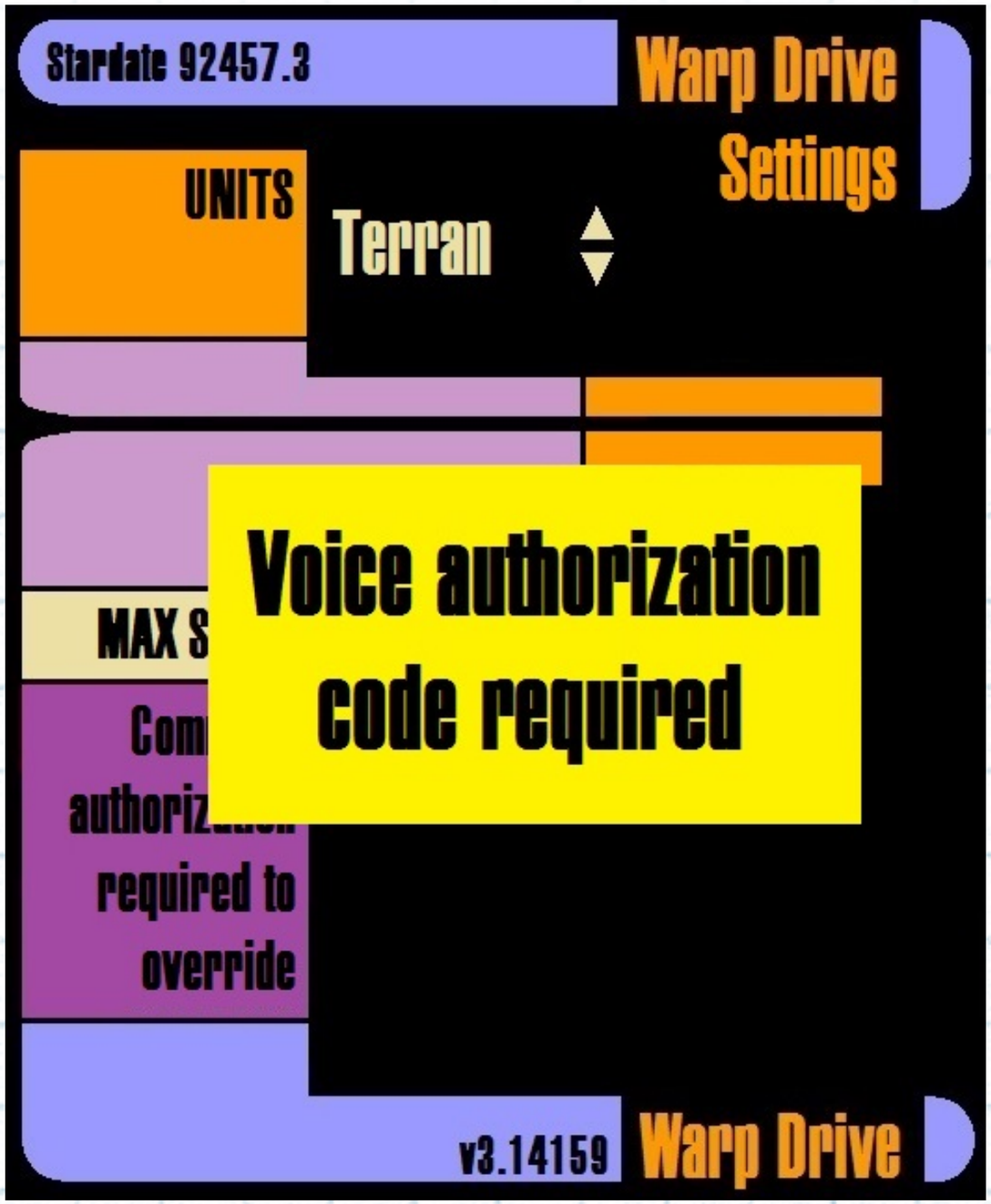

Example — Step 2: Set Up OS

1. Set OS language to Klingon (tlhIngan Hol)
   (left to right, Klingon font)

2. Set locale/region to Kronos (qonoS)

3. Set number formats etc. to Klingon (tlhIngan Hol)
   (decimal system, Klingon units, e.g.
   1 Kellicam (ghellIqam) = 2 km = 1.24 miles)

4. Remind yourself how to take screenshots etc. on
   the testing device

5. Set up test accounts (if applicable)

Ex. – Step 3: Go Through Test Script

Test of main interface:

1. Change headings 1, 2; check functionality of buttons, allowed range (0-360)
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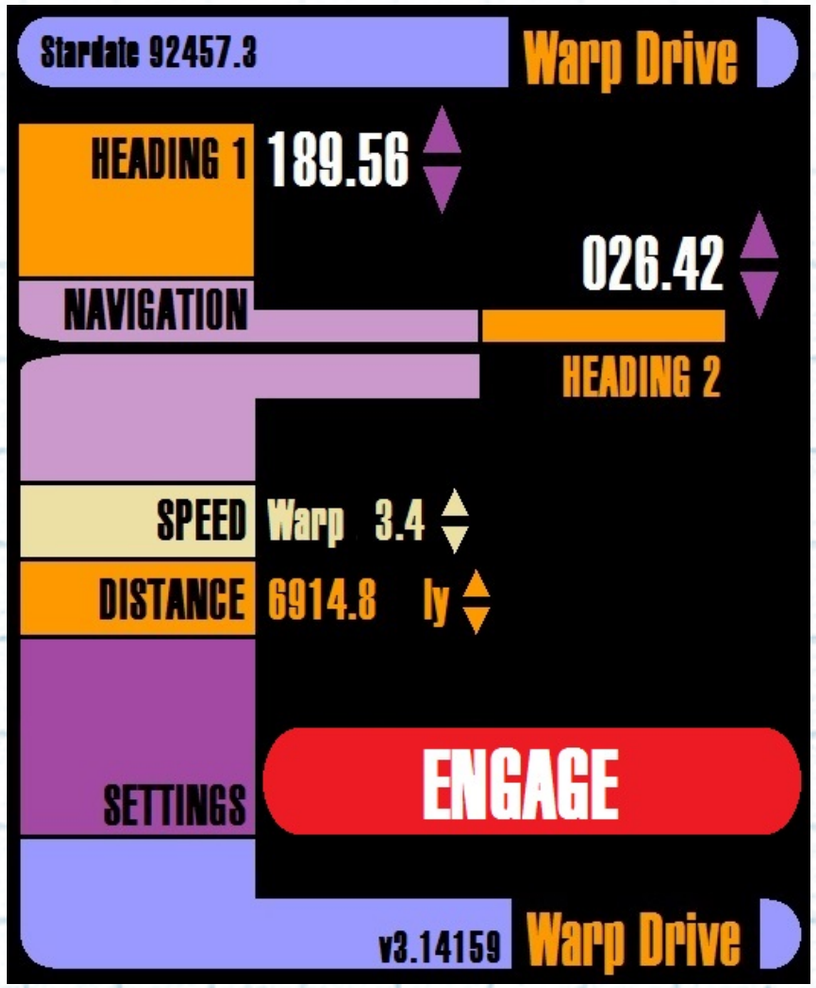

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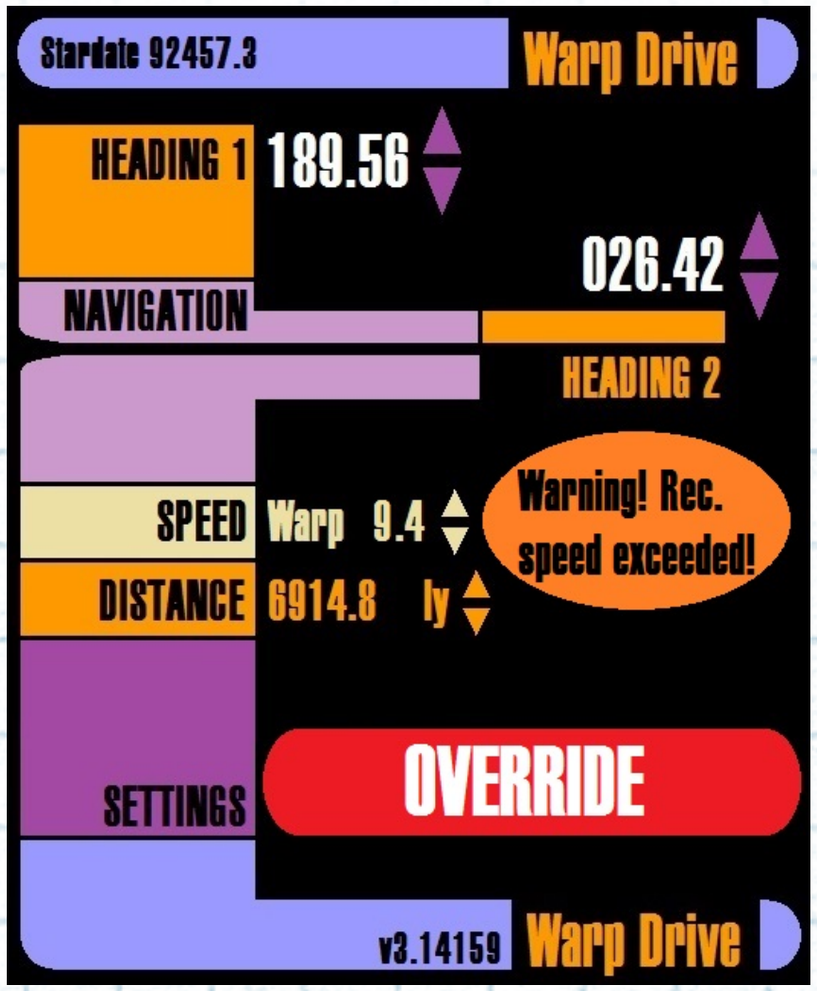

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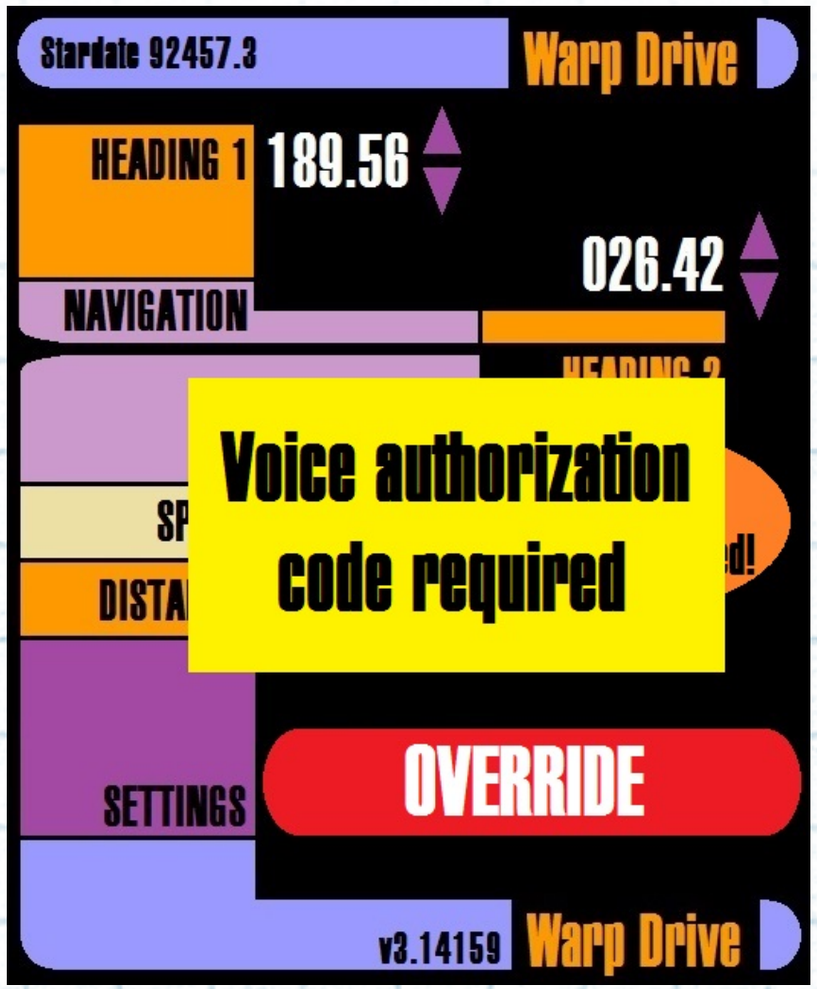

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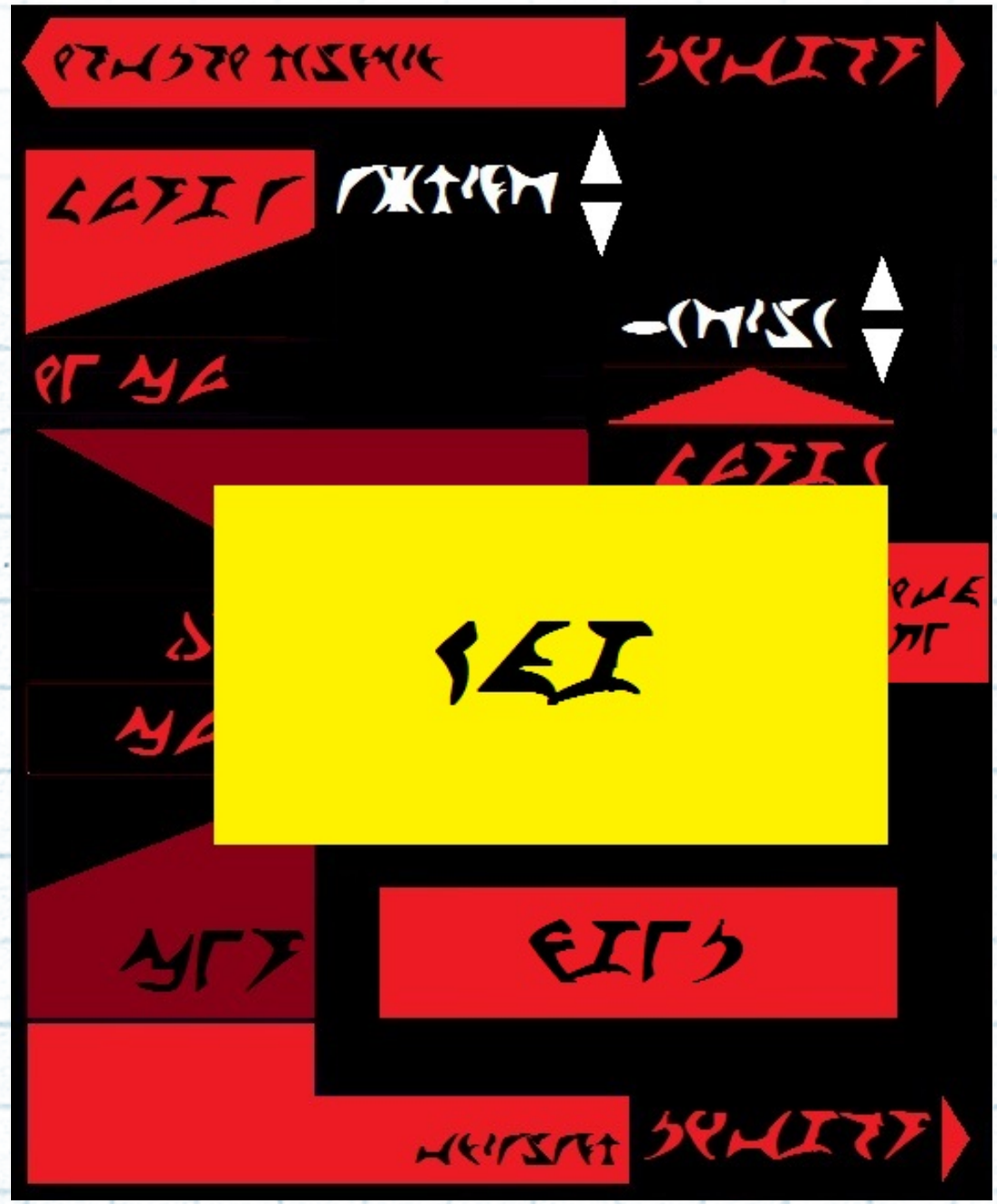

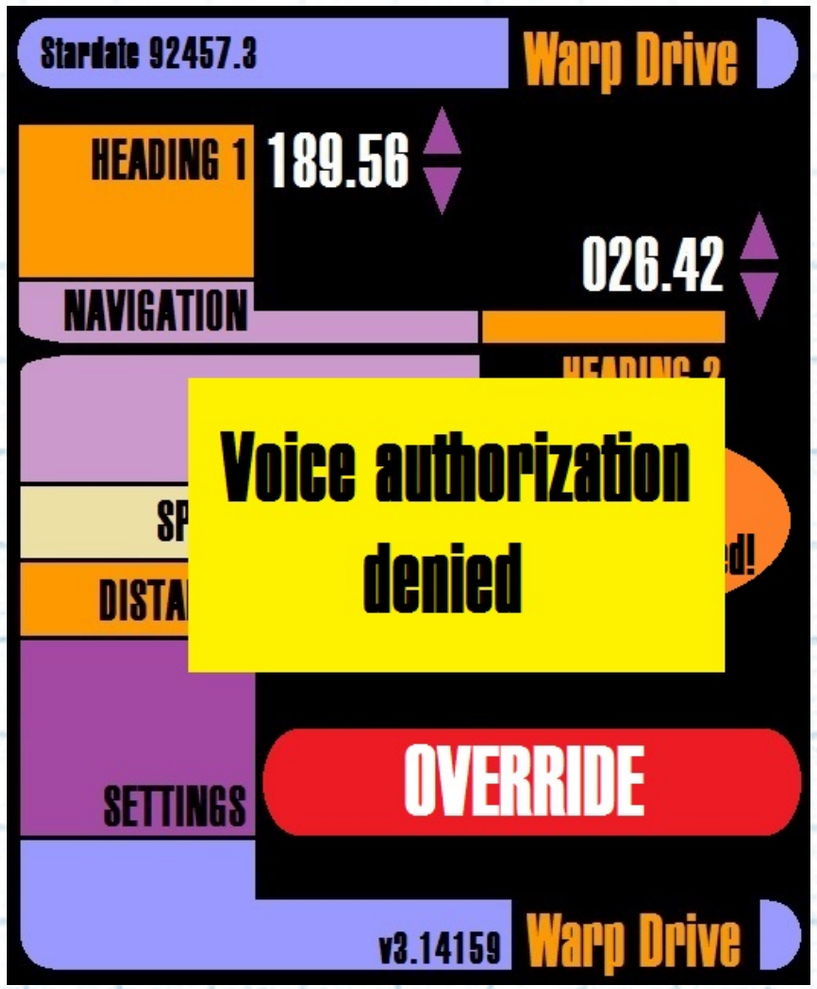

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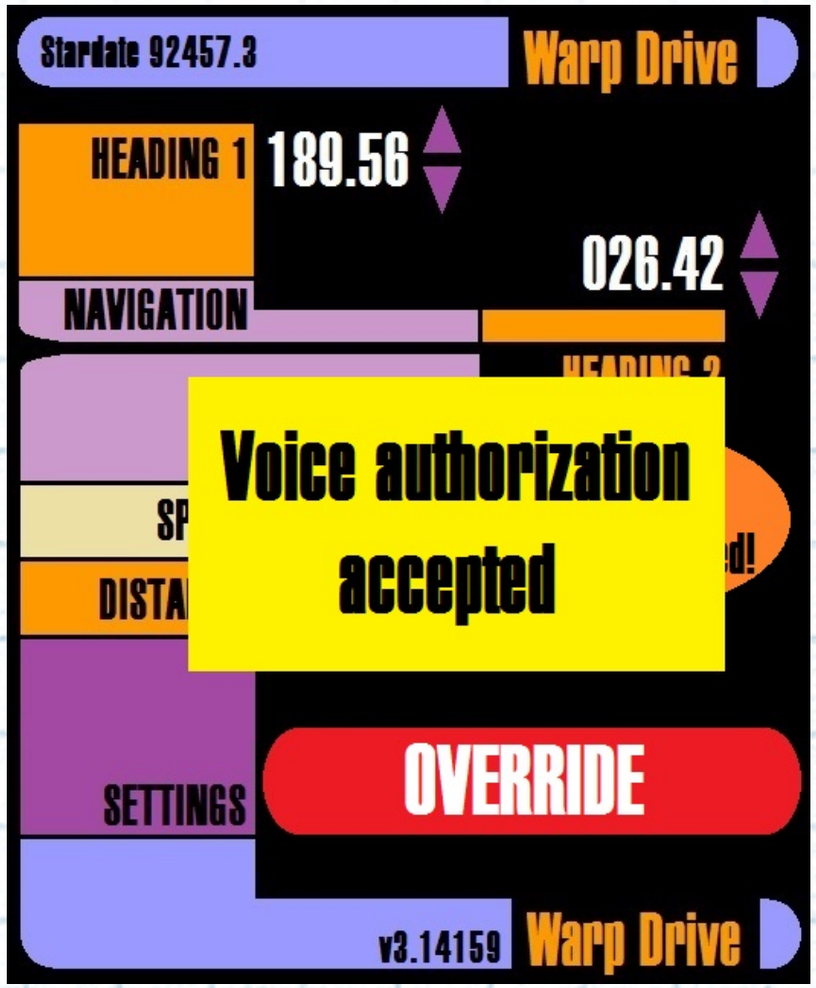

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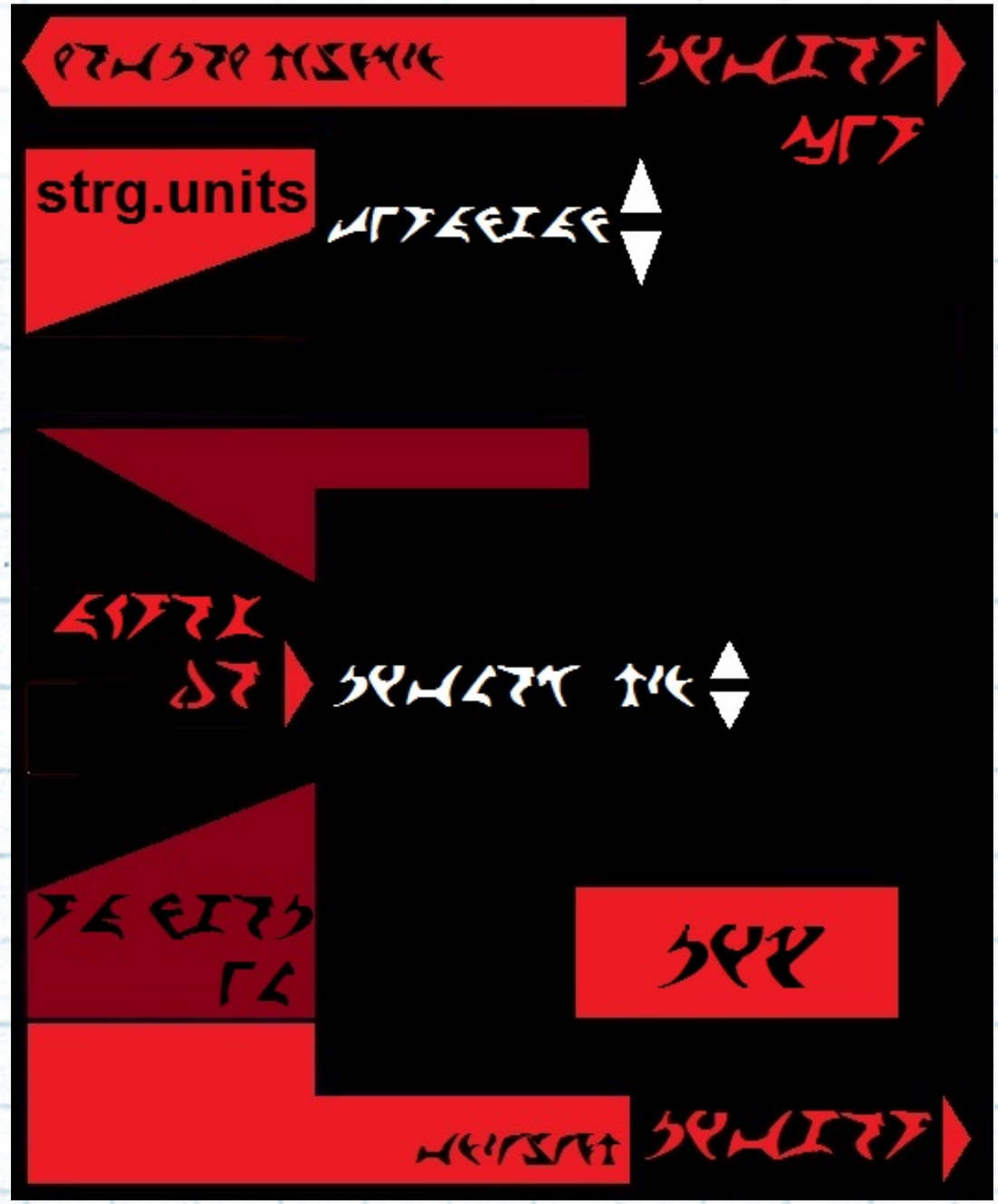

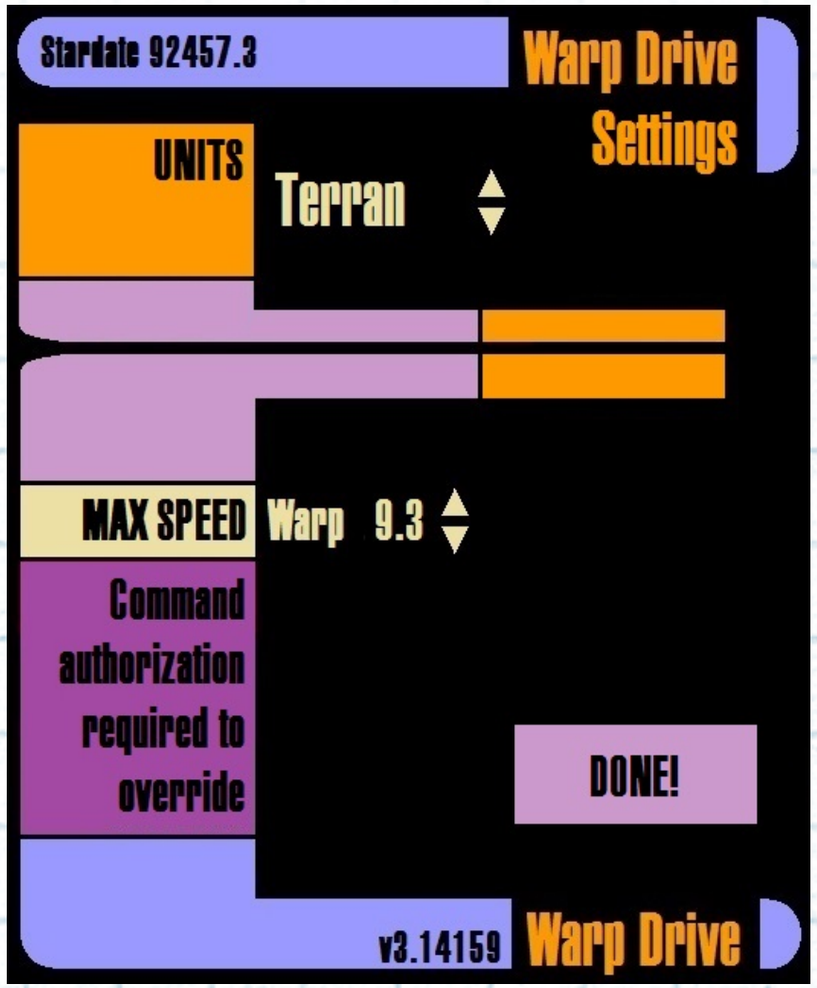

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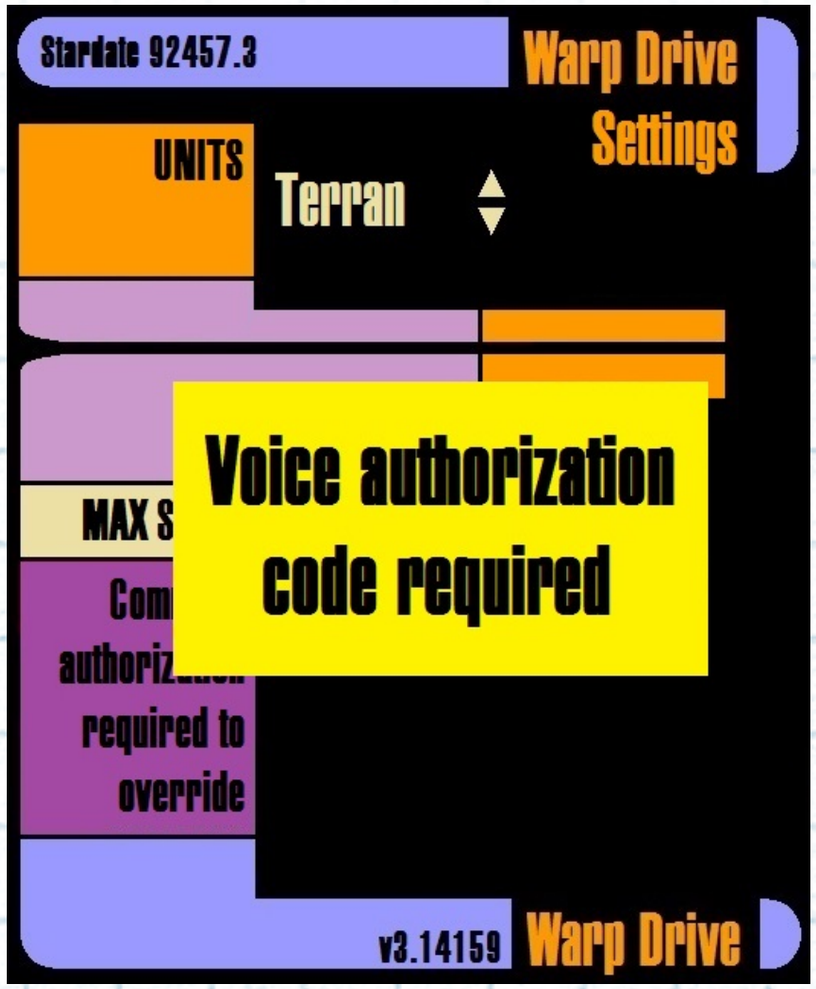


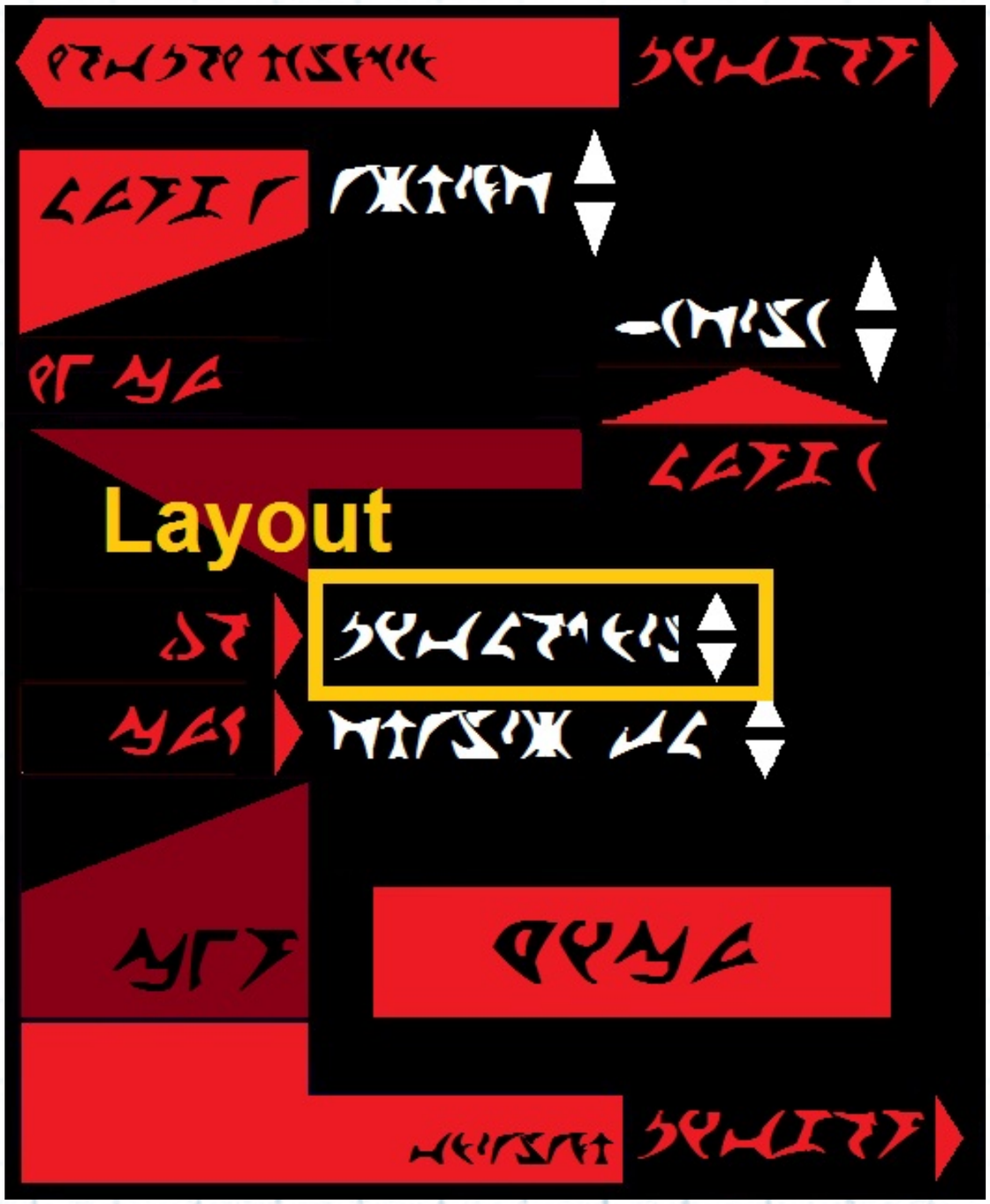
Ex. — Step 4: Bug Report - Bad

Bug report: Bug Nr. 1234

Language: Klingon

Stardate: 92457.3

Issue: Layout for speed



Ex. — Step 4: Bug Report - Bad

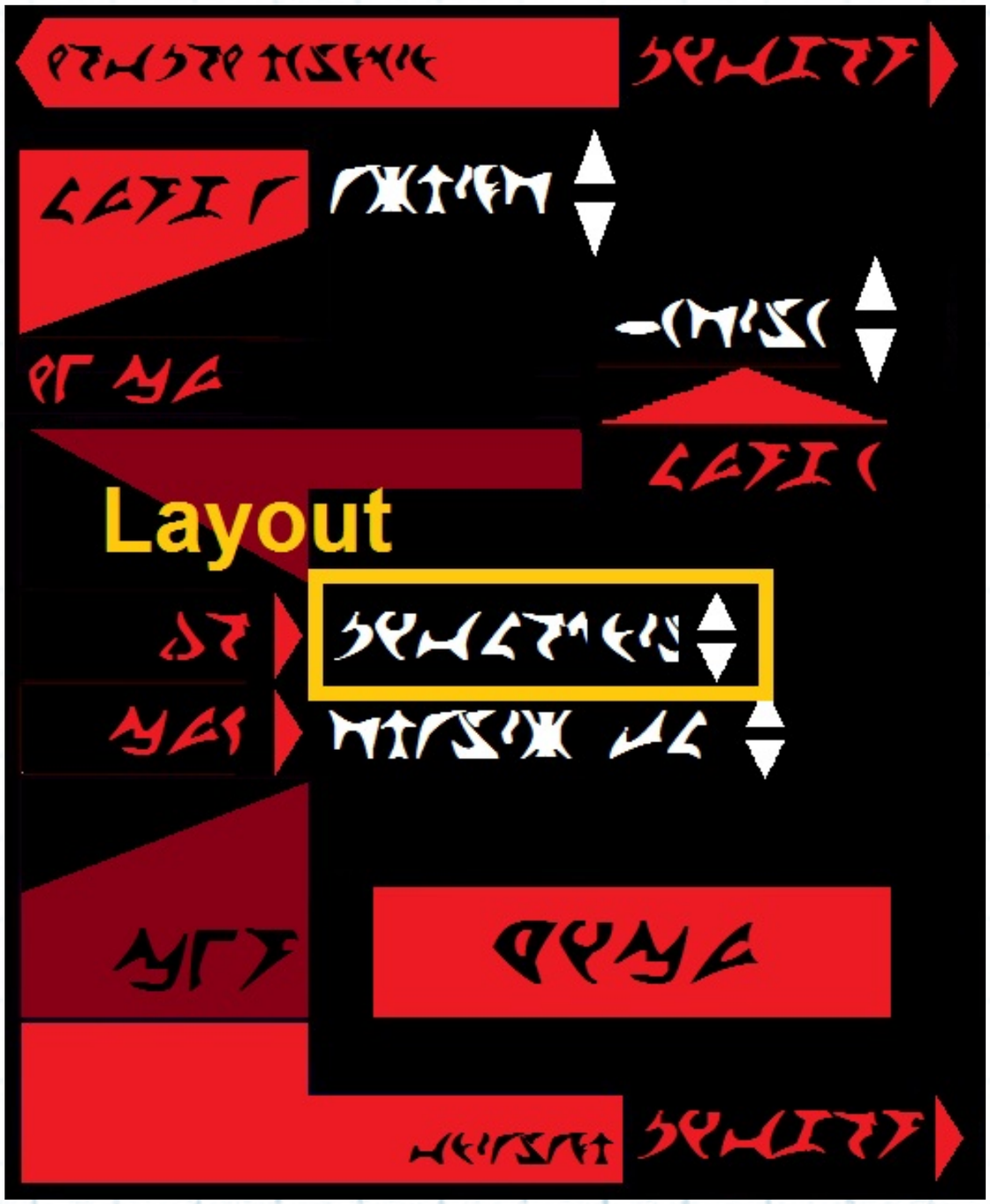
Bug report: Bug Nr. 1234

Language: Klingon

Stardate: 92457.3

Issue: Layout for speed

Not very helpful!!!



Bug Reports

- ✓ Number or ID of the problem
- ✓ Software version, platform, OS version, firmware etc.
- ✓ Date, (internal) build version
- ✓ Language and locale, format settings etc.
- ✓ Precise description of where bug occurred (screen title, etc.)
- ✓ Precise steps to reproduce the problem
- ✓ Precise description of the problem
- ✓ Suggested solution

Ex. — Step 4: Bug Report - Good

Bug report: Bug Nr. 1235

Language: Klingon

Stardate: 92457.3

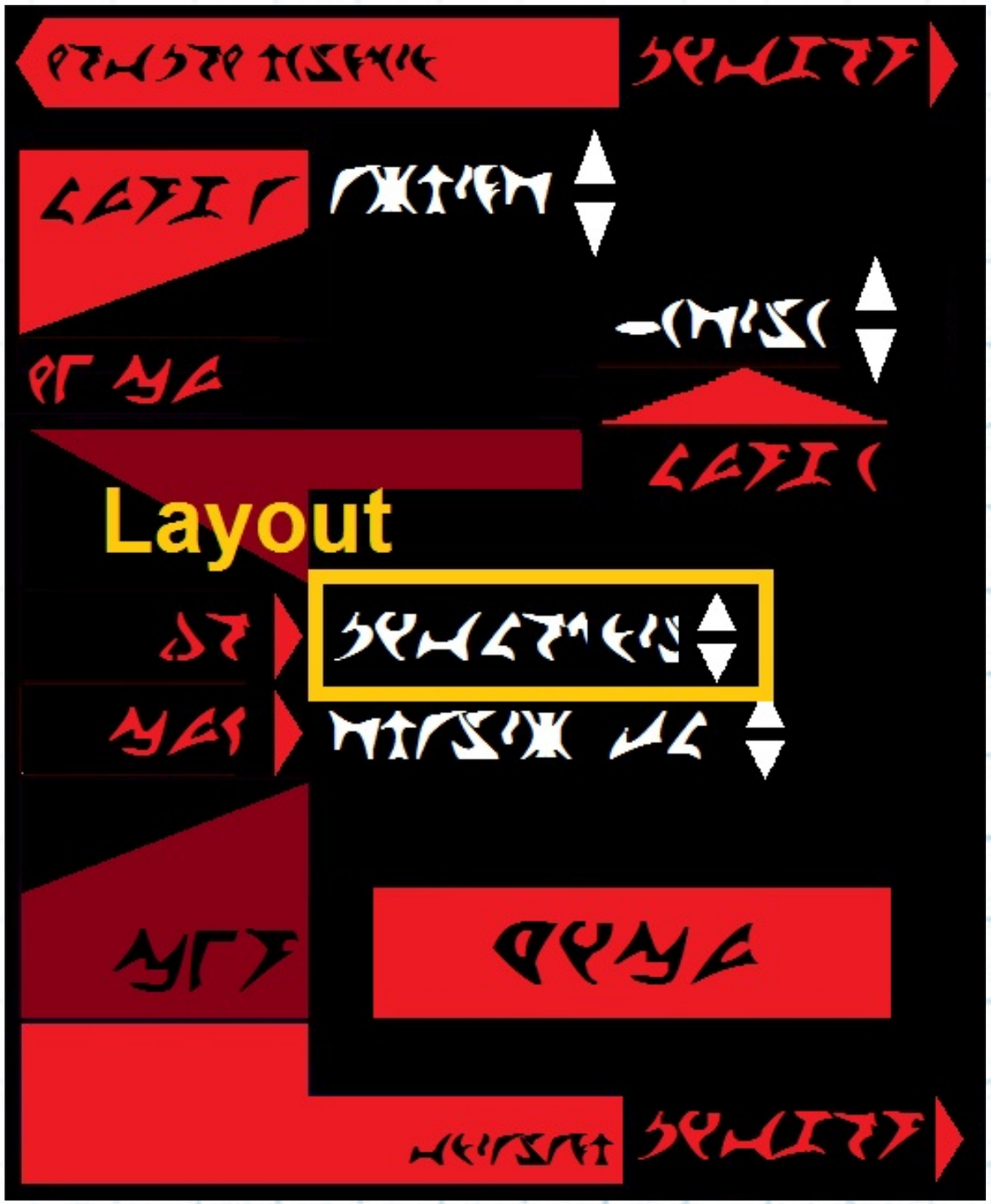
Warp Drive v3.14159

OS: Terran WarpOS v1.0.0.1

Brief description: Layout for speed overlaps

Description:

1. Set language/locale to Klingon, Kronos
2. Go to main warp drive screen
3. Observe that the words “warp factor” (warp factor) and the numbers for the warp factor (e.g. 3.4 (3.4)) and the arrows overlap. See screenshot.



Ex. – Step 4: Bug Report - OK

Bug report: Bug Nr. 1234

Language: Klingon

Stardate: 92457.3

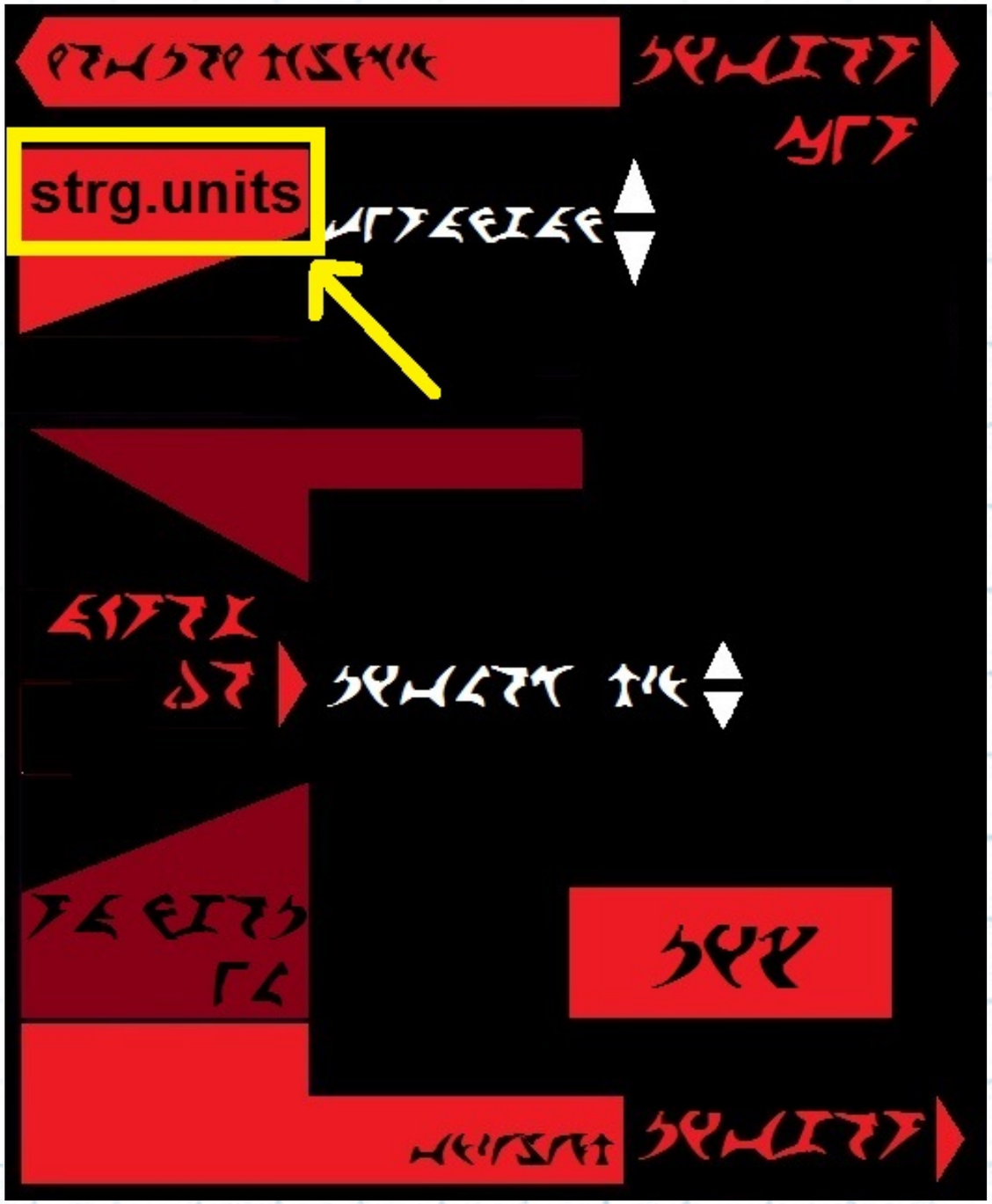
Warp Drive v3.14159

OS: Terran WarpOS v1.0.0.1

Brief description: Translation missing, identifier displayed instead of translated string

Description:

1. Set language/locale to Klingon, Kronos
2. Go to main warp drive screen
3. Go to settings screen – tap on settings (𝒮𝒢𝒯)
4. Observe that the word Units has not been translated – instead, the ID strg.units is displayed.



Ex. – Step 4: Bug Reports - Better

Bug report: Bug Nr. 1234

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Stardate: 92457.3

Warp Drive v3.14159

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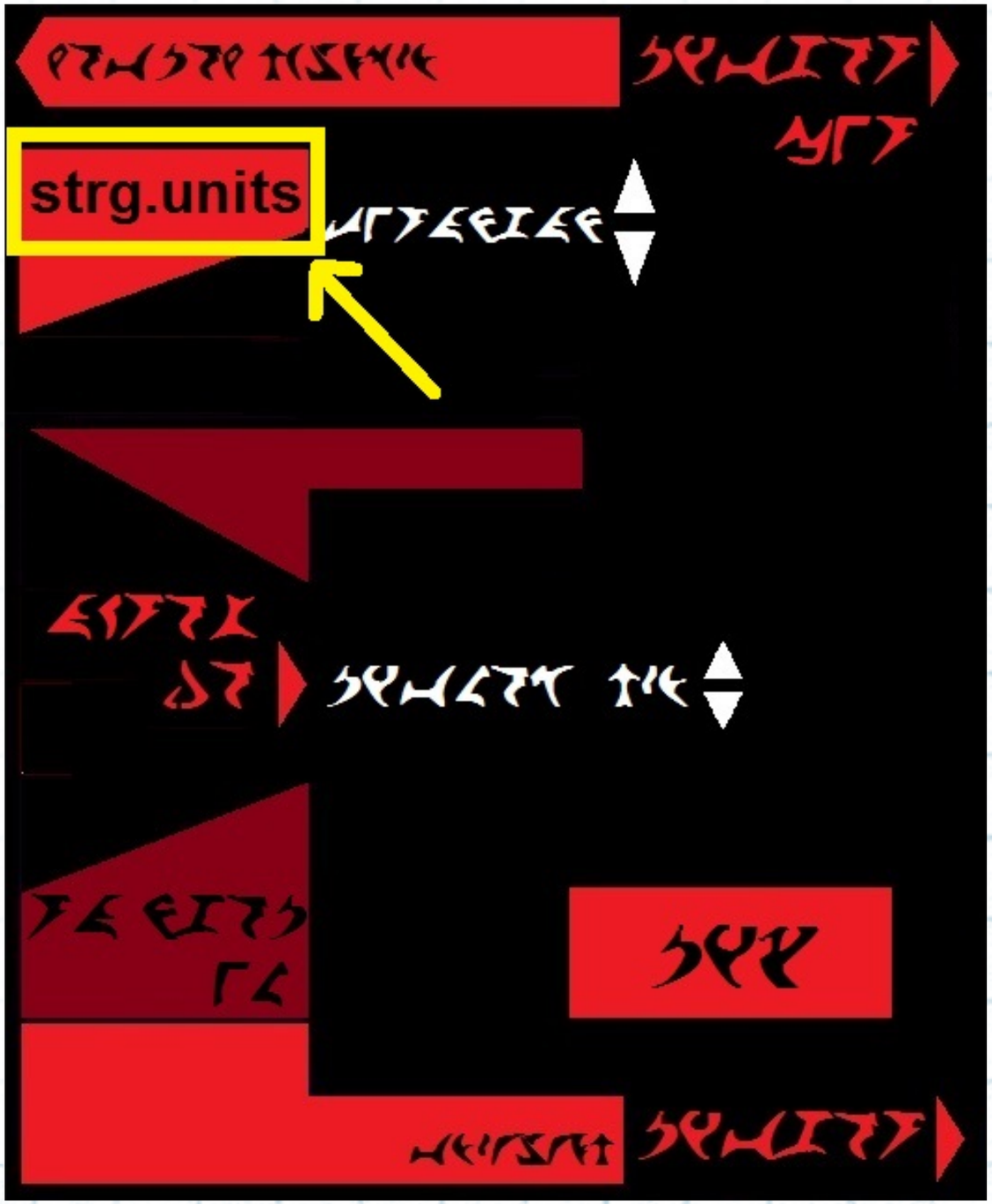
Suggestion: 𝒯𝒜𝒩



SUMMARY

Familiarize yourself with product, test script (or write test script)

Set up OS (language, locale)

Follow test script; document all bugs

File bug report(s)

Wait for new build of product

Thank You!

References & Further Reading

- Berger, C. F. (2014). *Software Localization (L10n) Quality Assurance from the Tester's Perspective*. Proceedings of ATA55. http://www.cfbtranslations.com/ > About > Publications.

- Bodeux, E. & Whitty, T. (2013). *Two Sides of a Coin: Software Localization from Both the Translator's and Project Manager's Perspectives*. Presentation at ATA54, T-6.

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