FARHOLD

Version 5.7.0 | October 12, 2026

A wrapping-hex strategy game of survey, industry, research, and rival houses.

Online command

2-7 human seats, 0-5 starting computer opponents, seven houses total. One human plus a computer can practice. Turns resolve when every surviving human is ready.

Industrial operations

Compare hulls, forecast shipyard queues, review rush costs, track research progress, and focus squadrons through Fleet watch.

Solo command

The original game remains available from index.html with its command briefing, rival intelligence, battle theater, minimap, and pre-turn order undo/redo.

This release

Built for specification distribution 1.6.4, using manifest schema 1.6. Production multiplayer hosting, portal account integration, and installed tile tests are pending. The separate server must be deployed before online play works.

Inside

Part I: Online play, recovery, chat, privacy, and setup. Part II: Full Farhold rules, ship tables, and solo controls.

PART I / ONLINE PLAY

Start a match

1. Open Farhold through the Tronsoft portal and choose Multiplayer. Online play needs the companion room service; if it is unavailable, the lobby explains the problem and solo play remains available.

2. Create a room with 2-7 human seats and 0-5 computer players. Reserved human seats plus computers cannot exceed seven. The host chooses Open reach (36 stars), Deep field (48), or Great expanse (80), difficulty, and 60, 100, or 150 turns.

3. Share the invitation using Share invite, Text invite, or Copy link. The complete URL includes only the room code, never an access credential. Choose and confirm recipients in your messaging application. Share can offer Messenger when installed; Copy link is the fallback.

4. Other players open the invitation through the portal and join. The host presses Start match. At least two houses are required; one human plus a computer is solo practice. Unfilled human seats disappear at start. No new human participants can enter an active match; existing participants can reconnect.

Your first turns

1. Read your home world in Worlds. Set production percentages; the other shares rebalance to total 100. Works builds industry, Habitat improves climate, Yards builds ships, Science feeds research, and Levy fills the reserve.

2. In Fleets, select the starting probe, choose a destination, and issue a course. Batteries stay at home. A seedship automatically settles an unclaimed world with climate at least 15 when it arrives; it consumes the seedship and lands 10 million people.

3. Queue hulls in Worlds. Build points and population costs follow the solo tables. A rush purchase adds the remaining build points at 1.5 reserve credits per point, rounded up; completion occurs during turn resolution. Ship queues hold at most 30 hulls.

4. Research allocates science among Drive, Gunnery, Hulls, Habitat, Works, and Scanners. Buying research spends two reserve credits for each research point. Hulls retain the technology with which they were built.

5. Detach mobile ships from a stationed fleet when needed. Set Land legions or Bombard deliberately before issuing a course. Opposing fleets at a star fight automatically.

6. Review your orders, then press Ready for turn. Before the last human submits, Withdraw Ready unlocks your orders. You may hold, replace courses, or remove queued hulls; online purchases and detachments do not have the solo undo stack.

Shipyard planner, research and fleet watch

Inspect one of your worlds to open its Shipyard planner. Hull to build compares each ship's role, build-point cost, boarding population, firepower, structure and speed using your current technology. The proposed completion estimate includes the existing queue. Queue hull adds one ship. Ships receive the technology available when they are built; research can change their final statistics.

The Queue timeline estimates each hull's completion using current yard output, stored build points and boarding costs. It respects the existing limit of twelve completions per resolution. Estimates hold output and population fixed: population growth, changing allocations, research and combat can change the actual date. Needs population and

Needs yard output identify blockers; later hulls wait for earlier hulls. Remove deletes that queue entry. Unused yard output is banked.

Review rush shows the exact reserve cost for funding the first hull, the reserve balance after payment and any population blocker. Cancel rush leaves the reserve unchanged. Confirm rush buys the missing build points through the existing rules; it does not commission a ship immediately or bypass the population requirement. Unaffordable and already funded purchases stay disabled. Online commands are still verified by the room server and are locked while Ready.

Research outlook in the left sidebar shows all six branches: current progress, points per turn, completion estimates and the next level's effect. Purchased points waiting for resolution are included. A paused branch has no estimated completion unless its pending points are enough; a maximum-level branch shows its completed effect. The solo Research panel and the online Research forecast use the same estimates.

Fleet watch in the left sidebar lists only your squadrons, prioritizing damage, mobile fleets without courses and next-turn arrivals. It shows hull integrity, mission status and travel time. Select a row to center the map on that fleet and open its commands. Holding fleets may be deliberate guards. Both sidebar sections retain their open state while the game refreshes.

Course planner and empire outlook

Open Course planner in the right Controls sidebar. Choose a mobile fleet, then search star names or filter All destinations, Unsurveyed stars, Colony candidates, Your worlds, or Known rival worlds. The nearest eight matching destinations appear first, ordered by travel time across the wrapping map. Narrow the search to find more distant stars.

Plan shows a dashed route on the map and a review card without issuing an order. Inspect destination centers the map and opens world details. Check Land legions and Bombard enemy world deliberately, then press Issue planned course to commit. Planning a new course replaces an existing course and starts the route from the fleet's current hex. Batteries stay in their orbit. Closing the planner clears the map preview; opening it restores the selected preview until the turn changes.

Unsurveyed stars disclose no hidden conditions. Colony candidates use the last surveyed ownership and climate, which may have changed; a seedship is still required to settle. The review warns about known rival worlds, visible defenders, low climate and missing seedships. It is a planning aid, not a prediction of victory.

Empire outlook in the left Information sidebar totals output, science and reserve gain for your worlds, and estimates the next hull and research completion at current allocation. World priorities opens a list of empty or blocked shipyards; select a world to inspect it. An empty queue banks build points rather than wasting them. A population-blocked hull needs its boarding cost plus four million residents remaining. Figures are estimates: subsequent orders, changing population, research and combat can affect later turns. Holding fleets may be intentional guards.

Review before Ready

Ready for turn opens a review of mobile fleets without courses, expected arrivals, production forecasts and blocked shipyards. Keep planning closes it without submitting. Confirm Ready submits your current orders. The last active human submission resolves the turn immediately. Withdraw Ready unlocks your orders while other humans are still planning. The course planner cannot issue orders while Ready, disconnected, resigned, eliminated or after the match ends. If another command changes the room revision, review the refreshed state and retry. A new turn clears the old course preview.

Turn timing and deterministic resolution

All surviving, non-resigned human houses must submit Ready. There is no five-minute timer or other deadline. The final submission resolves the turn on the server exactly once: computer planning, economy, construction, research, population growth, repairs, movement, survey, orbital combat, landings and colonization, fleet merging, survey, intelligence, and scoring. All players then receive their own next-turn view.

Human planning changes apply to their own house as each command is accepted, in server arrival order. A room revision rejects stale concurrent writes; refresh and review before retrying. Retrying the same request identifier never repeats a purchase or order. During resolution, houses use ascending house ID, worlds use ascending world ID, and fleets retain their stored order. The original seeded rules generator resolves combat; its seed and stream position remain private on the server. Exact final score ties go to the lowest surviving house ID.

Combat and victory

Fleet speed is the slowest mobile hull's speed. Courses use the shortest wrapping hex route. Mobile hulls can retreat in combat according to the original rules. Legions attempt a landing only when Land legions is enabled; Bombard enables attacks against hostile population and industry. A captured world retains 55% of its population and 45% of its industry. Details, technology costs, ship strengths, and full economy rules are in the solo tutorial.

Win by being the last surviving house, by maintaining supremacy for four consecutive resolutions, or by having the highest score at the chosen turn limit. Supremacy requires at least 1.6 times the runner-up score and a share of total surviving score of 0.38 x 3 ÷ max(2, surviving houses). Score equals population x 0.5 + industry x 0.8 + climate x 0.15 across owned worlds, plus 8 per research level, fleet build value x 0.04, and reserve x 0.02. A house with neither worlds nor ships is eliminated. The final result shows each house's final score. Start another match through Switch room.

Computer players

Computers use the original Farhold AI and do not consume human seats. The default is one computer; the maximum is five with two reserved human seats. Zero computers is supported with at least two humans. Computers plan only from their own surveys and obey the same construction, movement, and combat rules. Documented difficulty modifiers apply: Cadet produces 84% of human output, Veteran 112%, and Ace 136%; aggression and planning also vary. Computers run once per submitted turn, including solo practice. They cannot replace an unfilled seat after start.

Disconnecting does not convert a player to AI. Resign house, followed by confirmation, permanently surrenders all owned worlds and destroys the house's fleets. It does not add a computer participant. Resigned players retain chat and their last surveys. Victory is checked immediately; if no active humans remain to submit turns, further simulation stops.

Private information

Everyone can see star positions and names, room display names, human/computer type, readiness, presence, and public elimination status. A player receives full details for their own house, its worlds, and fleets. Other worlds show only last surveyed climate, yield, population, industry, and owner. Visible enemy fleets disclose their current position and observable hull/weapon composition, but no destination, route, or combat orders. Unseen fleets, enemy treasury, research, production queues, home-world markers, map knowledge, and random seeds are never transmitted. The host receives no extra intelligence. Online play omits the solo rival-history panel because its route-derived hints require further privacy work.

Reconnect, leave, and persistence

The portal supplies a short-lived, signed access ticket after checking the current account and subscription rules. Tickets are held only in browser memory. A stable portal account identifier restores the same room seat, including on another device. The browser stores only the last room code; clearing browser storage does not delete the server world. Reopen last room or use the invitation code to return.

The service persists accepted commands before acknowledging them. A disconnected human keeps their seat and unsubmitted turn indefinitely. If they submitted Ready before disconnecting, the others can complete that one turn; later turns wait again. No clock, scheduled travel, or computer processing runs while the room is waiting. The host has no force-turn privilege. Switch room leaves a waiting lobby and transfers host to the next member; in an active match it closes your view without surrendering. Use explicit resignation to surrender permanently. Reconnect requires access to the same portal account; a lost account must be recovered through the portal.

Presence is Online when an authorized request has been seen within 20 seconds; clients poll roughly every 3.5 seconds. Service failures, expired access, and HTML error pages produce readable messages. The client retries an interrupted mutation with the same identifier and refreshes after revision conflicts. Commands already acknowledged remain safe; unsubmitted form edits may need to be re-entered.

Room chat and conduct

Chat is visible only to authorized members of that room. Messages display the sender's public display name and local-time timestamp, and are rendered as plain text. Limit: 500 characters and five messages per sender per ten seconds. The newest 100 messages are stored with the room and survive reconnection and service restart; older messages are removed. Do not share passwords or personal information. No harassment, threats, or abusive content. Report misuse through the Tronsoft contact page with the room code and message time. The service operator can investigate and archive a room through its private stored record. The game does not send reports automatically.

Controls and accessibility

The left Information sidebar contains house totals, roster, chat and the command report. The map fills the center. The right Controls sidebar contains map controls, readiness and world, fleet and research orders. Desktop sidebars scroll independently. Phones stack the map, orders, and room information vertically. Drag the map to pan; use +, -, Fit, and Home. With the canvas focused, arrow keys pan and plus/minus zoom. World and Fleet dropdowns provide keyboard alternatives to map clicking. Tab visits controls; each uses a visible focus indicator. Chat has labels and a new-message announcement. The canvas itself is not a fully screen-reader-accessible map.

Release and hosting status

This is a conversion build for specification distribution 1.6.4 (manifest schema 1.6), pending production acceptance. The client ZIP contains no executable backend. Install the separately supplied farhold-room-server-v5.5.0.zip on a Node-capable host, connect its same-origin HTTPS route and the site's verified portal access adapter, and set config/multiplayer.json. A PHP-only shared hosting account cannot run the Node service without a separate runtime.

The metadata requests a Multiplayer tile linking to multiplayer.html. Only the portal installer can update the actual tile and preserve its access/subscription checks. Required production URL, portal tile, upgrade/rollback, and independent-device acceptance tests remain unverified. tests/acceptance-evidence.json records this explicitly and blocks publication until those checks pass. Solo play and format-3 local saves remain available; saves from versions 1.x and 2.x remain incompatible.

PART II / RULES AND SOLO CONTROLS

Online play: use the multiplayer lobby and read the online rules . This page describes solo controls.

You are one house among two and seven - seven can take the field, if the plate carries lights enough for them. You begin with one settled world and one probe. Everything else in the reach is an unread point on a photographic plate ruled in hexes: 20 columns by 14 rows on the open reach, one light to a hex and never two lights closer than 2 hexes.

The turn, in order

1. Give orders: set each world's ledger, lay hulls down on the slip, split the research, set courses.

2. Press End turn (or the Enter key). Every house moves at once - nobody waits their go.

3. Output is produced and spent on the heads you chose; hulls complete; research advances; people grow.

4. Fleets move, arrive, and survey what they find.

5. Whatever meets at a star fights. Landings and colonies follow, then the ledger is totted up.

The five heads of the ledger

Each world makes one stream of output - the people who can actually work the industry, times the yield of the ground, lifted by your Works mark. Idle industry with nobody to run it produces nothing.

head	what it buys
Works	builds industry
Habitat	raises climate
Yards	lays down hulls
Science	feeds research
Levy	to the reserve

An opening home world makes about 52.9 points a turn on the ledger it starts with (works 30%, terra 20%, yards 25%, sci 20%, levy 5%), and grows by about 6.21 million people, with room for 202.

The plate wraps

The reach is a torus. Sail off the right-hand edge and you come round on the left; off the top and you come round at the bottom. Courses are laid the short way of their own accord, which is often over a seam rather than through the middle: on the open reach the two opposite corners are 1 hex apart, and no two hexes anywhere on it are more than 17 apart. There is no back door, no dead end and no safe corner to build up in unmolested.

Plates are ruled 20 columns by 14 rows on the open reach, and you can rule one to order from the opening sheet: 10 to 40 columns, 8 to 30 rows, and as many lights as the plate will hold. Six plates are ruled for you already:

reach	hexes	lights	what it plays like
Pocket	12 x 8	14	a knife fight, over quickly

reach	hexes	lights	what it plays like
Close cluster	16 x 12	24	crowded; the guns tell
Open reach	20 x 14	36	the standard reach
The Shoal	34 x 10	42	a wide shallow band, neighbours to left and right
Deep field	26 x 18	48	room to settle before the fighting
Great expanse	34 x 24	80	a long game with somewhere to grow

A plate will not seat more houses than it carries lights for - 3 lights a house at least - so asking for seven on the pocket seats fewer, and the game says so. Row counts are always even - a hex plate can only wrap top to bottom when they are, so an odd number is rounded up.

The command workspace

The left Information sidebar contains your empire totals, alerts, minimap, map key, selected contact, battle actions, Reach, Intelligence and log. The right Controls sidebar contains End turn, New survey, map and view controls, and World, Fleets and Research orders. Information and order tabs stay open independently. Both sidebars scroll separately on desktop, with the star map between them. On tablets the map sits above the two panels; on phones the map, controls and information stack vertically.

Shipyard planner, research and fleet watch

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Reading the plate

Every light is printed in the colour of its class, which is read off the climate:

class	climate	what it means
Verdant	78 and up	life takes hold on its own
Temperate	56 and up	comfortable enough to fill
Arid	34 and up	workable, slowly
Scoured	16 and up	thin ground, worth terraforming
Cinder	anything below	nothing lives there yet

The key to the plate - the houses and the five classes - sits at the head of the left-hand column, above the information panes, where it does not cover the reach.

The halo around a light grows with the yield of its ground. A ring in a house's own colour means somebody holds it, and the wash around a held world is that house's reach. Rest the pointer on a squadron and a card reads out whose it is, what is aboard, its weight of fire, its speed and where it is bound; rest it on a light instead and you get the class, the climate, the yield and whatever your last survey said.

Centring the plate

Double-click a light or a squadron, press c with one chosen, or use the centre chip, and it comes to the middle of the glass. Because the reach wraps there is no light that cannot sit in the centre: the plate simply comes round the other way, so a world on the far edge can be worked on with its whole neighbourhood around it. h centres on your own home world, 0 pulls back to the whole plate, and the title block names whatever the glass is centred on.

A click: reading a world, or setting a course

Two chips on the plate say what a click on a light does, and the m key swaps them:

- Read the world - a click opens that light’s ledger and nothing moves. This is how the plate opens.

- Set a course - a click sends the squadron you have selected to that light, and the flash quotes the turns to arrival.

Holding shift does the other job for a single click, so neither setting ever traps you. The squadron pane carries the same switch.

Movement

There are five ways to send a squadron somewhere, and none of them needs more than one gesture:

- Drag it from its mark onto a light.

- Right-click a light with the squadron chosen.

- Choose set a course and click a light.

- Open a world and press send beside a squadron in its list - they are listed nearest first with the turns each would take.

- Press f , or click the idle count in the masthead, to step through the squadrons awaiting orders, each brought to the middle of the glass in turn.

While a squadron is in hand the plate shades the hexes it can be standing on at the end of this turn, and more faintly at the end of the next; resting the pointer on a light draws the course it would take, hex by hex, with the distance and the turns, before anything is committed. The masthead counts the squadrons still awaiting orders and prints it in red while any are.

Select one of your squadrons on the plate - or from the Fleets list - and, with set a course chosen, click a star. The course is laid out hex by hex and the dashed line carries a tick showing the turns to arrival. A squadron covers its speed in hexes each turn, flies at the speed of its slowest hull, and every hull flies at the Drive mark it was built with: 1.8 hexes a turn at mark 0 and 6.6 at mark 12. Widest run across the open reach is 7 hexes, which is 4 turns for an unmarked drive and 2 for a full one. Hold shift while clicking to look at a star without ordering the squadron there. Detach part of a squadron from the Fleets pane when you want a screen and a strike force going different ways.

Arrows pan, + and - zoom, 0 fits the whole plate, c centres on what is chosen, h centres on home, m swaps reading a world for setting a course, Esc clears the selection.

Hulls

class	points	people	gun	structure
Probe	12	-	-	3
Seedship	46	8M	-	7
Corvette	20	-	3	4
Cruiser	55	-	9	11
Dreadnought	130	-	22	28
Legion	30	5M	-	6
Battery	34	-	7	13

A hull is stamped with your gunnery and structure marks the moment it is laid down, and keeps them for life. Building cheap and early leaves you with cheap and early ships. A battery cannot move and will not run from a fight.

Research

branch	what it does	mark 0	mark 12
Drive	Fleet speed in spans a turn.	1.8 spans a turn	6.6 spans a turn
Gunnery	Weight of fire, stamped on a hull when it is laid down.	fire x1	fire x4
Hulls	Structure, stamped on a hull when it is laid down.	structure x1	structure x4
Habitat	The climate ceiling your engineers can reach.	climate to 40	climate to 100
Works	Output squeezed from the same industry.	output x1	output x2.44
Scanners	Range at which the sky reads clearly.	2.5 spans read clear	9.1 spans read clear

The first mark costs 45 points and the last 3482. Science from every world pools, then splits the way you set it.

Ground

A seedship plants a colony on any unowned world with a climate of 15 or better, landing 10M people. Taking a world someone else holds needs the orbit cleared of their ships first, then legions landed: they must beat a garrison of 3 plus fifteen hundredths of the population. A world taken keeps 55% of its people and 45% of its industry, so conquest is never as good as it looks from orbit.

The fighting

Whatever meets at a light fights, and the Actions pane reports it: both sides, the roll of hulls each brought, what each lost, how many exchanges it took and who held the orbit. A landing gives the troops against the garrison and what it cost the people; a bombardment gives the dead and the works lost. Click a report and the plate comes round to the place.

The plate marks where the fighting was for three turns, fading as it goes: a burst for a fleet action, a wedge for a landing, a broken ring for a bombardment. You are shown only what your own house fought or can still read from where it stands.

Winning

Three ways, checked in this order:

- Conquest - no rival house has a world or a hull left.

- Supremacy - you hold at least 1.6 times the second house and, with three surviving houses, 38% of the whole reach for 4 turns running. The required share scales as 0.38 x 3 ÷ max(2, surviving houses).

- The ledger - at the last turn, the highest total of people, industry, climate, marks, hulls and reserve.

Losing

You are extinguished when you hold no world and no hull. Short of that you lose by being second on the ledger when the survey closes, or by watching another house declare supremacy. A house that gives no orders at all finishes well under a third of the reach and has never won a measured game.

Restarting

To give up on a game and set another sky, press New survey in the masthead or the n key: the opening sheet comes back and you can choose another reach, another number of houses, another skill or another seed. The game you were playing is only written over when the new survey actually begins, so Resume takes you back to it right up to that moment, and the sheet says which turn it would lose; Esc backs out without starting anything.

The game saves itself to your browser after every turn, under one key named for the package. Reload the page and press Resume to pick the same game up. Setting the same seed number reproduces the same sky and the same machine play exactly.

Map controls

The map stays where you put it when you select or cycle squadrons. Use centre or c only when you want the chosen light or squadron brought to the middle. The visible - , Fit , and + controls duplicate keyboard and wheel zoom. Threat range shades the one-turn reach of hostile mobile fleets that your house can currently see; overlapping hostile reach is drawn progressively darker, while hidden fleets remain hidden.