Krang's Universe Game System Specifications

How to Win

Methods of overall victory: Military, economic, cultural, genetic, diplomatic, technological
Victory conditions may be specified in the scenario

Universe Generation

Stars and Star Fields

Star Field Shapes: Rectangular Prism, Hollowed Sphere, Hollowed Cylinder, Conical
Star Colors/Temperatures: Dead, Red, Yellow, Green, White, Blue, Purple (in order of increasing intensity)
Star Sizes: Micro Dwarf, Dwarf, Main Sequence, Giant, Supergiant (in order of increasing size)
Regional Richness Schemes: Rich, Standard, Poor
Total Stars Per Universe: 1 – 300
"Habitable zone" orbital distance is a function of star energy and star size.
Star gravity strength determined by size.

Planets

Planets Per Star: 0 – 24
Inhospitable Planet Types: Utterly Frozen, Frozen Ocean, Desolate/Cratered, Extinct, Runaway Greenhouse, Volcanic, Toxic, Inferno, Irradiated (in order of increasing surface energy)
Habitable Planet Types: Glacial, Tundra, Conifer Forest, Swamp, Cold Plains, Terran, Oceanic, Rugged, Jungle, Desert, Seismic (in order of increasing surface energy)
Gas Giant Planet Types: Frozen Clouds, Methane Giant, Cold Banded, Complex Banded, Roiling Turbulence, Sea of Storms (in order of increasing atmospheric energy)
Moderate tendency for planetary energy levels to agree with parent star energy levels, related to both star color and planet orbital distance.
Planetary gravity strength and escape velocity determined by planet size.

Scenario Options

Empires Per Universe: 2 – (total stars in universe)
Random/Even, Random/Regionalized, or Specified distribution of resources
Adjustable frequency of "ancient civilization" spawns
Adjustable frequency / elimination of minor alien or non-spacefaring alien civilization spawns
Adjustable level of universal resource richness, globally or individually by resource
Adjustable victory conditions

Empires and Populations

Basic Colony Types: Civilian (full planetary inhabitation), Mining Colony, Military Outpost.
Planetary labor output is a function of population size, per capita productivity (by alien species), planetary factory technology and civilian satisfaction ratings (a happier populace is a more productive populace).
It is possible and even somewhat common in Krang's Universe to have multiple competing empires in a single game based on the same alien species. Multi-species cooperatives can be realized through diplomacy and treaties.

Alien Races

Total Playable Alien Species: 40+
Player may design unique alien racial ability profiles in-game.
Variable Physical Properties of Alien Races: preferred habitable environment, reproduction rate, generalized physical strength, is/not ambulatory, is/not corporeal, can/not fly, can/not breathe water, can/not breathe air (Terran-type atmosphere), radiation susceptibility, pathogen susceptibility, digital virus/hacking susceptibility (for biomechanical alien races), variety of sensory and extrasensory abilities, and more TBD
Relevant Statistics Regulating Alien Emperor/Leader Behavior: generalized self-esteem, anger management skills, domestic (political, socioeconomic) stress levels, personal effectiveness history, and more TBD; These statistics are largely species-based, with variances for specific leader personalities.

Shipbuilding and Design

Physical Hull Shape

Ship hulls may be player-sculpted in 3 dimensions via a system of deforming standardized model shapes for desired effects.
Deformable Model Types: Cylinder, Sphere, Cube, Flat
Switchable smooth/flat shading regions in hull shape
User-definable colors applied from the player's choice of many patterns and schemes.
Player-specified texture mapped to ships for age or

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paint effects, allows player import of custom-made textures.
Multi-hull ships may mix and match model types, connecting them directly or via structural trusses (see **motherships**, below)

Power and Fuel

Main engine thrust output calculated by fuel potential energy, burn rate, and burn efficiency.
Fuel potential energy varies depending on fuel type and technology researched/applied to the ship.
Interstellar range is a function of the ship's fuel capacity and engine burn rate.
Rotational thrust is a function of technology researched/applied to the ship.
All thrust output is divided by ship mass for final performance calculations, so saving mass via miniaturization and lightweight materials tech is crucial to battle and travel effectiveness.

Overall Ship Sizes

Mass and component limits are imposed by spaceship size, more specifically available hull volume. Multi-hull ships calculate volume independently for each hull (see **motherships**, below)
Larger ships will tend to “waste” less mass on hull construction and leave a greater percentage for contents than smaller ships, but will be more expensive to build and easier to target in real-time battles.

Motherships

Motherships become available upon developing a certain level of shipbuilding technology.
A mothership is a large-scale ship which may have multiple hulls in a modular design.
Motherships offer several advantages, including the ability to function having lost one or more hulls in battle.
Motherships can act as “spacecraft carriers” and temporary supply centers, bringing a large arsenal of ships and ordnance to far-flung star systems.

Military

Space Fleet Command Options

Sortie/Mission types: Combat patrol (protecting specific planet or orbital region), invasion landing (troop transport with a hot landing zone), close invasion support, intercept, surface bombardment, search and destroy, attack specific ship/formation, blockade/siege, others TBD.
Some mission types will require a parking orbit around a specified planet (invasion landing, blockage/siege, others TBD), which may be quite difficult to attain in an active battle situation.
Krang's Universe will include an assisted scripting environment in which the player may set automatic behaviors for his fleets to respond to specific situations, in order to relieve some of the burden of commanding real-time large-scale space battles.
For ease of use many preset behavior patterns will be available for selection to use as starting points if the player does not wish to create his own from scratch.

Weapon Types

Energy weapons (lasers, directed radiation, other directed energies)
Particle/projectile weapons (mass drivers and accelerators; large, small, and planetary caliber artillery; others)
Explosive/concussive weapons (conventional and chemical explosives, atomic explosives, antimatter explosives)
Disruption weapons (sub-space and space-time disruptors)
Chemical weapons (nerve agents, others)
Biological weapons (Viruses, mutagens)
Technological weapons (EMPs, computer viruses)

Asymmetrical Warfare

Espionage, sabotage, double agents, treason, desertion, military betrayal (see **Diplomacy** below)
Economic warfare via the intentional crashing of resource values, trade domination, detrimental third-party treaties, and much more TBD.
Genetic and social warfare via illegal, pressured, or subsidized immigration and/or civil infiltration.
Destruction of governmental or other unhardened civil targets

Resources and Production

Resource Types and Availability

Metals (for construction and electronic development), energy sources / fuels, minerals and crystals (involved in directed energies, among other uses), gases, animals / livestock, plants, trade goods (“intergalactic space coffee”, “self-potating potatoes”, etc)

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Sentient minor / primitive species, seeded throughout the universe as “not yet spacefaring” civilizations, may be viewed as “resources” in that they may be subjugated or enslaved by powerful empires.
Resources and technology may be combined in many ways to create new, engineered resources with unique or powerful characteristics. This takes many different forms, from metal alloys to bioengineered plant life, livestock, and subjugated species.
Availability of resources varies naturally, additionally scenario options allow the player to significantly alter the distribution of resources throughout any generated game universe (see major section on **Universe Generation**)

Production Costs (Materials + Labor)

Production and resource system based primarily on bandwidth of resource generation, as opposed to stockpiling of resources. This removes unnecessary complications of warehousing resources and transporting them around the player empire.
Labor availability is based on the effectiveness and number of workers at the star system where the project takes place.
Important distinction: Resource availability is not dependent on building site – all empire resources are available at all places at all times. Labor, however, is dependent on project location. Labor may be shared among planets orbiting a common star, but may not be shared among multiple star systems due to travel logistics.

Tech Research & Development

Theoretical Advancement

Grand-scale theoretical advancement is tracked through the following levels:
0 – Unaware
1 – Basic Awareness
2 – Applied Awareness
3 – Observable
4 – Early Manipulation
5 – Manipulation
6 – Observational Mastery
7 – Manipulation Mastery
8 – Planetary-Scale Mastery
9 – Full Mastery (Hypothetical/Theoretical)
in the following categories:

Materials Tech (ship hulls, buildings, deep space station, planetary habitation rings, etc)
Propulsion (power output and burn efficiency, maximizing potential of current fuels, developing new types of fuels, improved orientation thrusters on spaceships)
Directed/Contained Energy (lasers, directed radiation, force fields, etc)
Chemistry (conventional weaponry, environment cleanliness, medicine, endless others)
Physical Sciences (terraforming, large-scale construction techniques, mass accelerator weapons, planetary artillery)
Quantum Engineering (atomic & antimatter weaponry, quantum computers, long-range communications)
Biomechanics (organic computer memory, improved health and population growth)
Nanotechnology (miniaturization, improved civilian health, improved espionage)
Subspace (long-range communications, scanners, wormholes, disruptor weapons)
Artificial Intelligence (production automation, in-battle targeting efficiency, computer virus development)

Deep Categorical Interrelationships

Example: Subspace-category research leads to a breakthrough in which ship hulls can be made more resistant to disruption attacks. This improves materials tech, which leads to a breakthrough allowing deep space station construction, which dramatically expands empire range and influence in that sector of the universe. In this way, subspace research directly leads to expanded military and diplomatic standing.
One more example: Quantum-category research leads to a breakthrough related to sub-atomic particles, which directly increases the effectiveness of mass/particle accelerator weapons.
There are endless examples of such symbiosis among tech developments.

Diplomacy

Basic Diplomatic Exchanges and Options

Non-aggression pacts, peace treaties, mutual defense pacts, private trade agreements (both recurring and one-time), declarations of war, undeclared military attacks resulting in war declarations and subsequent bitter tactics,

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multinational agreements similar to NATO, the UN, or others.

Spies and Intelligence Ops

Reconnaissance, sabotage, assassination, social engineering, leaking/stealing/revealing state secrets, mass propaganda

A.I. System Design

Fundamental Design Concepts

Krang's Universe will feature a modular AI system for computer-controlled empires. The system is designed to provide internal conflict among competing interests in order to generate strategic and tactical output that is relevant and unique to the situation at hand. Unlike many other 4X titles, Krang's Universe will never give unfair resource advantages to computer empires when the "difficulty" setting is raised. The system is initially designed to be as difficult to defeat as possible, subsequently being reduced in effectiveness for the easier game difficulties.

Organization of AI Elements

Similar to some modern Earth governments, the AI system consists of "departments" (or modules) which are each focused on a specific realm of the game system (military, industry, diplomacy, domestic/social). These departments are informed by localized modules which analyze tactical situations and recommend action for individual star systems or regions. At the head of the system is a single module, the "emperor", which makes the final large-scale strategic decisions and passes them back down the chain. The lower modules then accept the strategies and implement them tactically in whichever way is deemed best at the local level.

In this way, the system remains balanced, robust, and effective. Sweeping strategic decisions are made with the recommendations of tactical advisors while also considering the implications of those decisions on other aspects of gameplay. When strategic decisions are finally made, the local AI modules are free to implement them in the best way for the tactical situation at hand.

Personalities in the AI System

The modular design of the AI system lends itself very naturally to imposing "personality traits" on the top strategic module. Representing individual leaders and potentially leadership changes throughout the course of a game, varying these personality traits may have dramatic effects on both strategic decision-making and diplomatic exchanges, both with the player and among the other AI empires.

Unlockables and Upgradeables

Krang's Universe is a dynamic game system which will provide fresh challenges in every play-through. To reinforce the depth of experiences offered by the game, long-term play will unlock new features, options, and alien species.

Trophies will be awarded to players for various in-game accomplishments, from (for example) attaining various victory types, simply finishing a game with over 100 stars (win or lose), assassinating Krang himself, etc.

There will also be a player "codex" in Krang's Universe which features the various aliens, spaceships, primitive species and other in-game constructs the player has encountered. The codex will allow players to give priority to randomly-generated content which they prefer, for more frequent appearances in future games. Due to the random nature of many game constructs, each player's codex will be very different. Players may share codex entries with friends, allowing desired random content to appear in friends' games as well.