Little Big Buffalo Hunt

The Virtual Investment Game of American Bison Conservation

© Copyright 2021 Toons Technology™

Dedicated to the memory of Molly Goodnight, Charles Jesse "Buffalo" Jones, Samuel Walking Coyote, Michel Pablo and Charles Allard, James 'Scotty' Philip, William Hornaday, George Bird Grinnell and Theodore Roosevelt, among others who fought to preserve the last few American bison in the late 19th century; Jones (pictured left) by famously roping them with his lariat.

American bison - also known popularly as buffalo - once roamed two-thirds to three-quarters of the North American continent. Estimates of their numbers place them at least 30 million and possibly much higher. Yet by 1899, when serious conservation measures began to coalesce, that number had sunk to less than 300 in the United States, with another 550 in Canada.

Over the last century, conservation efforts, both public and private, have seen bison numbers rise to as many as half a million in the USA in 2020. They can be found roaming their former grasslands on both Native American reservations and conservation group lands, as well as on private farms and ranches scattered from the Appalachians to Pacific Northwest.

The objective of the proposed Little Big Buffalo Hunt mobile computer game is to share the experiences of the likes to Walking Coyote and "Buffalo" Jones in capturing and breeding free-roaming *virtual bison* using location-based mapping and augmented reality technology.

Beyond capturing bison, the advent of blockchain technology and non-fungible tokens (NFTs) adds the extra dimension and incentive of possible financial reward in successfully raising and trading virtual bison. This paper seeks to explain the mechanics, rules and objectives of the game, as well as the allied **digital exhibition** (see page 13).

The proposed NFT and ICOs would be built on the Cardano blockchain.

Game Objective

The mission of the Little Big Buffalo Hunt is to convey a sense of the excitement and danger that was the buffalo hunt of the late 19th century, though not with Sharps or Henry rifles, but with lariat alone; not to kill for hump or hide, but to preserve a once-fast vanishing icon of America as culturally and historically significant as the Bald Eagle.

The game also seeks to encourage, as President Teddy Roosevelt, the nation's first conservation President would have appreciated, getting Americans out-of-doors: walking, running, enjoying the thrill of the chase. Find a herd or single animal, get close enough to rope it and hold it; then raise it or trade it.

REMINDER: WE ARE TALKING ABOUT "VIRTUAL" OBJECTS, NOT REAL ONES

If you opt to raise your bison, you'll need land on which it can graze, the minimum being five acres for each adult cow or bull. You can let your animal graze freely on federal lands, but you risk losing them to poachers, predators, and disease: federal grazing lands are considered marginal at best: they typically are what was left over from the Homestead Act, land nobody wanted because it was considered too remote and unproductive.

Alternatively, you can lease virtual grazing rights using crypto coinage from private land owners, including Native American reservations, national grasslands, conservation group lands, private farms and ranches[1]. For these there are grazing fees payable in cryptocurrency on a per animal per month (UAM) basis. The better the land, the higher the fees.

Periodically, tracts of grassland range may become available for virtual purchase, also in cryptocurrency. Of course, the virtual deed to the property does not entitle the owner to actual physical use, possession, or sale of all or part of the designated real property. But with improvements, such as water sources, improved grass cultivation, fencing, etc.

---

[1] **Upland** uses similar "virtual" real estate ownership based on existing properties. See page 15.

the virtual value of the property can be increased. Such improvements can benefit the "heath factor" algorithm of the game, leading to steadier animal growth and better calving rates.
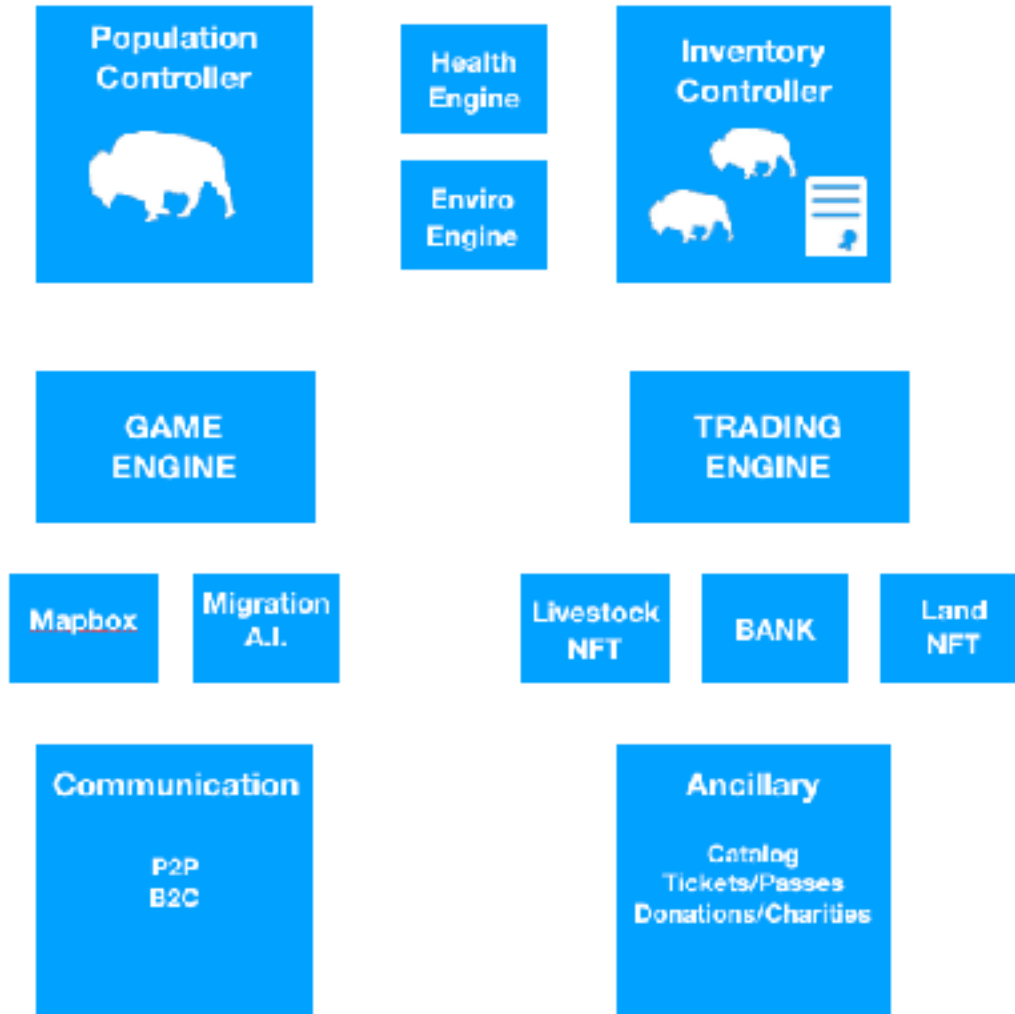
Managing your virtual animals with herd growth and sales in mind offers the opportunity to generate cryptocurrency profits through periodic sales or trades to individuals and at virtual stock barn auctions, as in real life. The USDA monthly reports on bison livestock sales, which can serve as bench marks for virtual sales pricing[2].

---

[2] https://www.ams.usda.gov/mnreports/ams_2827.pdf

Bison Game Infrastructure

© Copyright 2021 Toons Technology

Population Controller

Health Engine

Enviro Engine

Inventory Controller

GAME ENGINE

TRADING ENGINE

Mapbox

Migration A.I.

Livestock NFT

BANK

Land NFT

Communication

P2P
B2C

Ancillary

Catalog
Tickets/Passes
Donations/Charities

Game Mechanics

The goal of the Little Big Buffalo Hunt is the conservation through population growth of virtual American bison (*Bison bison*). Toons Technology™, the game originator, shall set the initial number of bison, including their sex and age, to a limited number (yet to be determined) of animals: no fewer than 1000 and no more than 10,000. The animals will

be divided into smaller, geographically dispersed "herds." The ultimate number of tradable animals shall not exceed 60 million.

As a location-based mobile game, Buffalo Hunt is divided into three major levels or sectors: the AR "Hunt", Holdings, and Market. **Hunt** makes use of Mapbox-type services to place digital bison within publicly accessible areas within the traditional, pre-Columbian range of the bison in which they can seasonally "migrate" (see Appendix 1). Augmented Reality places the digital bison within the real world environment. The challenge is to capture one or more of the bison using a digital lariat[3] that must be tossed around the animal's horns: a task that is difficult to master given the speed and relative strength of the creature, however one that is made somewhat easier with the use of a trained buffalo horse, available for a digital fee, of course.

The **Holdings** level includes your inventory of captured or acquired animals, as well as where they are being grazed with the quality of the land scaled from "marginal" to "excellent." This scaling effects the "health algorithm" governing the rate of growth of each animal, including the fertility of cows, as well as its exposure to predation, poachers and disease: factors controlled by real world inputs.

Market level is where animals or other associated assets can be bought and sold or traded either on a peer-to-peer basis or within the context of a virtual public auction. Transfer of digital ownership of bison calves, yearlings, cows and bulls are made on this level, as well as grazing rights permits, land leases and sales acquired, contracted, or sold. The health of each animal available to buy, sell or trade is visible.

The "health algorithm" mirrors the biology and ecology of living bison. Factors impacting the calculation include weight gain/loss, nutritional value, climate and meteorological conditions, maturity rates, random predation and poacher losses, as well as physiological accidents: broken bones from prairie dog town holes.

The higher the health "score," the greater the value of the animal, which in turn makes them more attractive as a salable virtual commodity. Using the most current sales

---

[3] Lariat controlled by finger swipe in phone or tablet screen and by hand gestures in AR glasses.

numbers[4], a heifer calf averaged $658 in late 2019, while a 2 yr bred heifer sold for average of $1614, a 245% increase. The "profit" can be in the new calves born each year. They have zero acquisition costs: basically free, other than grazing and related costs. To breed more calves requires a bull. Successful breeding also depends on health and range factors with rates varying from mid-to-high 60 percent to closer to 80%. These would be taken into account in the algorithm.

NOTE: Additional discussions on living bison sales prices and carrying costs[5]

The life span of a breeding bison heifer (cow) is considered 20 years, which will impact the value of the animal and its investment life. After 20 years, the game removes the animal from tradable inventory. (It can live in perpetuity as a virtual "pet").

Prototypical low-poly digital bison

---

[4] https://bisoncentral.com/wp-content/uploads/2020/02/Sales2.13.20.pdf

[5] https://www.bisoncentre.com/resources/resource-library/bison-marketing-economics/absentee-ownership/bison-start-and-investing-information/

https://www.ag.ndsu.edu/archive/carringt/bison/economics.htm

Bison NFT

Non-fungible tokens or NFTs are cryptocurrency smart contracts minted into blockchains. Unlike other cryptocurrency like Bitcoin and Eth, they are not interchangeable, i.e. fungible. However, they are exchangeable, or more specifically, tradable: unique ownership can be assigned to them and value negotiated.

Little Big Buffalo Hunt proposes integrating them into game play by assigning unique ownership of each bison, initially to investors and then more generally to game players, who can then treat them just as they would ownership of real bison, breeding them, trading them - a mature bulls for several yearling heifers, for example - selling them individually or at auction.

We anticipate that over time, the value of each "virtual" NFT-secured bison will increase in value, offering players the opportunity to increase their personal wealth either in cryptocurrency or in what's called fiat money, i.e. US dollars. However, as in real life, their value can fluctuate, as well as depreciate.
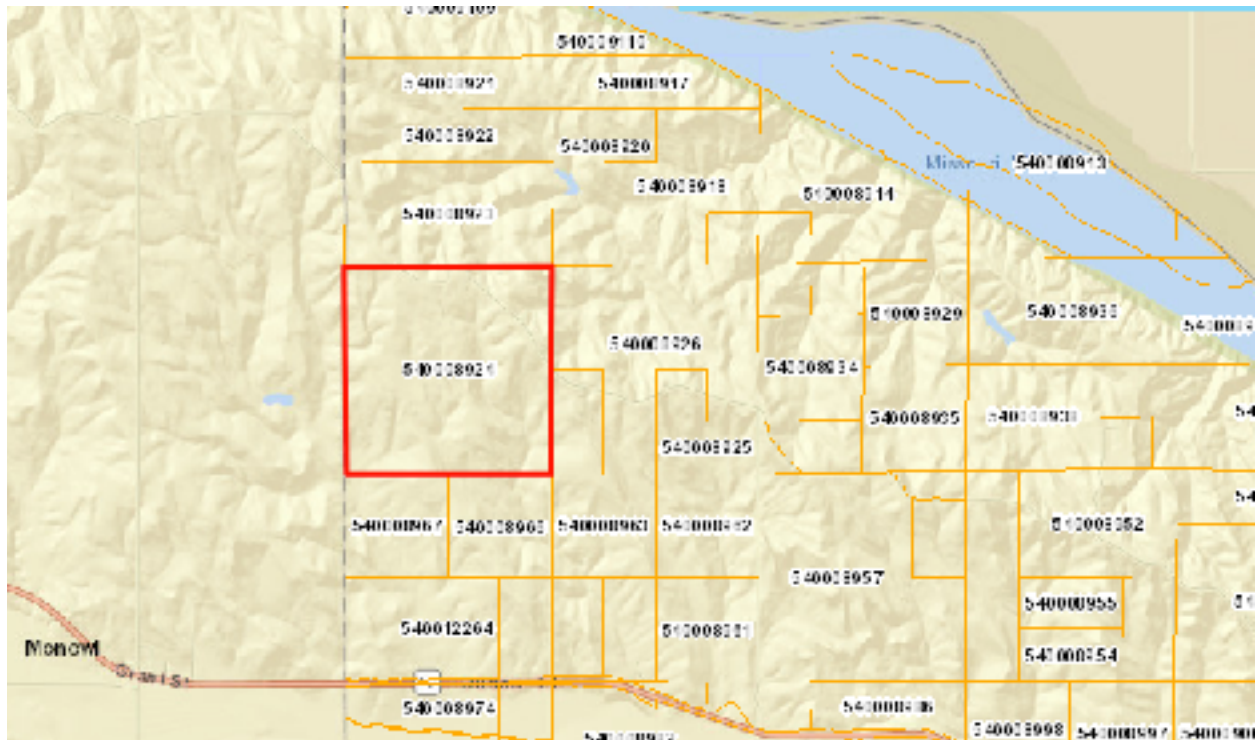
Cryptocurrency remains a relatively arcane aspect of modern life, but one that is gradually gaining acceptance by financial institutions, governments, and business globally. NFTs are even a more recent phenomenon within the DeFi (decentralized finance) community and cryptocurrency cognoscenti. At the moment - within the last few months - digital art is being sold via online exchanges — including music — with ownership protected by NFTs. Some pieces are going to four and five figure sums[6]. One such auction netted the artist 3.5 million dollars in a matter of minutes (clearly an outlier to use Malcolm Gladwell's term). Celebrities investing in NFT-secured digital art include Mark Cuban, Elon Musk and his partner Grimes.

The game originator and/or its assignee would manage the trading platform on a commission basis as well as receive an annual royalty in perpetuity on all bison digitally created going forward.

---

[6] https://www.bloomberg.com/news/articles/2021-03-08/bitcoin-btc-mania-boosts-crypto-art-such-as-a-lebron-video-are-nfts-worth-it
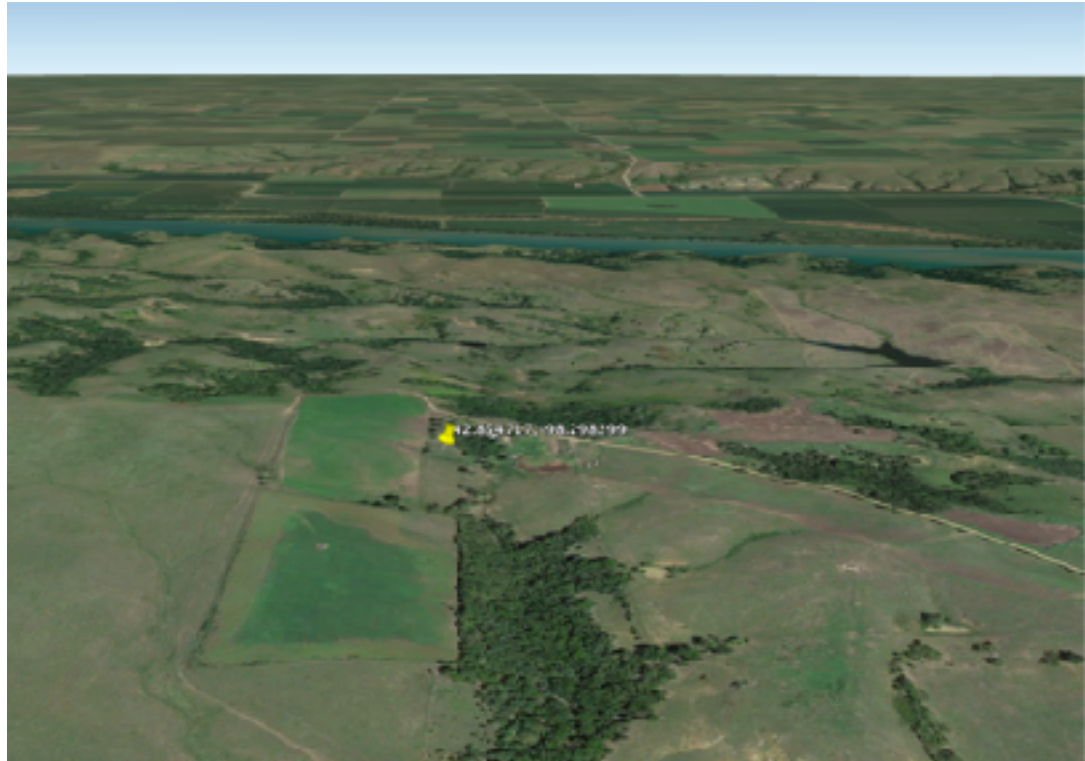
FIVR ICO

In addition to the Bison NFT, the game would introduce an **ICO** (Initial Coin Offering) tentatively called a **FIVR** coin, reflecting the fact that a minimum of 5 acres (2 hectares) of grassland prairie is required to support a single adult bison. Access to the necessary land would be acquired in several different ways: free grazing rights on designated federal lands, leased grazing rights on private lands (native reservations, conservation ranges, ranch and farm lands). Similar to the game Upland, these tracts would be tied to existing rural property within the pre-Columbian range of the bison (See Appendix I).

The Knox County, Nebraska assessor's map above shows the property lines and assigned parcel ID numbers for land between the Missouri and Niobrara rivers. Extensive owner information, property description, tax history and more is accessible online via gworks.com website. Also archived are the Latitude and Longitude of the property, which when combined with satellite data such as Earth Google, can provide an aerial perspective of the property such those surrounding the highlighted section #54008924 on page 9. This would once have been choice bison grazing land.

The game originator does not initially plan to actively engage for real property owners, but it will be stressed that any digital "rights" to graze virtual bison does not convey any legal rights to the physical land itself.

At some point, however, "visiting rights" to the land might be conveyed with the consent of the real property owner so a virtual bison herd owner(s) might inspect their animals on the land in augmented reality and in the process develop a relationship with the landowner and or community.

Bison ranchers need to either sell or periodically slaughter select animals in order to afford to grow their herds and care for them. We want to find ways to work cooperatively with them to make it easier for NFT owners and game players to acquire wholesome bison product through the game.

The FIVR token would eventually be interchangeable with the BISON, but its primary purpose is to define the value of access to the designated land. A royalty or percentage of the value of any FIVR trades impacting their property would be conveyed to the real property owner who enables said "visiting rights" to the coin holder.

Further development and refinement is needed for this ICO, but it opens the potential for application in real property conveyance, in addition to the gaming component.

MOBILE GAME DEVELOPMENT & REVENUE : CASE STUDIES

In terms of revenue generation for Mobile AR games the clear leader is Pokémon Go[7] . Released in 2016, "The game had over 147 million monthly active users by May 2018, over a billion global downloads by early 2019, and grossed more than $6 billion in revenue as of 2020."

Game	Launch	Downloads	Feb Installs	Monthly/Rev
Pokémon Go	2016	800M	2M	$45M
Ingress Prime	2013	20M	< 5K	$80K
Minecraft Earth	2019	2.5M	300K	<$5K
Harry Potter: Wizards Unite	2019	3M	50K	$100K
Jurassic World Alive	2018	17M	2M	$42M
Zombies, Run	2012	3M	30K	$30K
Randonautics	2020	11M	90K	<$5K
The Walking Dead: Our World	2018	1.7M	50K	$300K

Other currently popular GPS-based mobile games include the following. Numbers are current for February 2021. As the above graphic suggests, the number of downloads

---

[7] https://en.wikipedia.org/wiki/Pok%C3%A9mon_Go
https://www.businessofapps.com/data/pokemon-go-statistics/

or monthly installs does not necessarily serve as an indicator to financial success, as the above February 2020 stats, courtesy of <u>SensorTower.com</u>, indicate[8].

One of the first platform RPG games to utilize the Ethereum blockchain is **Decentraland**[9]. First launched in 2017, it raised $20 million dollars on its ICO (MANA). Purported;y it has some 12,000 users, but it is not without its issues from complaints about its graphics to land ownership costs. [10]

The first *mobile* game to incorporate an ICO (UPX) is **Upland**[11]. Launched late in 2020, it experienced 10,000 download in February 2021 and revenues for the month of $80,000. It is a property trading game based on real property locations, originally featuring real estate in San Francisco and now New York City. Sensor Tower describe it this way:

"Built at the intersection of the real and virtual world, Upland gives you the power to buy, sell and trade virtual properties based on real-world addresses, just like the one you live at today… but in the virtual world.

The digital properties you collect in Upland don't have any association or rights to the correlating properties in the real world, however, the addresses do mirror real-life locations. Upland's economy is powered by an in-game currency called UPX (pronounced "UP-EX").

Once you own a property in Upland, you can start to collect UPX earnings on it every 3 hours."

---

[8] https://www.newsweek.com/7-reasons-wizards-unites-launch-was-flop-why-you-shouldnt-give-it-yet-1446983

[9] Decentraland white paper PDF: <u>https://decentraland.org/whitepaper.pdf</u>

[10] https://www.reddit.com/r/decentraland/comments/jr2d25/does_decentraland_have_a_future/

[11] <u>https://www.upland.me/</u>
   https://medium.com/upland/upland-101-how-to-play-b299a2bfd497

Bitcoin[12] reviewed it last month, summarizing, "*Upland continues to experience significant wins. With a highly active community, more than 10,000 daily active users, and over 40,000 monthly active users, Upland is continuing to grow significantly.*" Interestingly, they logo is a Llama.

Little Big Buffalo Hunt (working title only) would combine the features of an augmented reality, GPS location-based out-of-doors activity game with the geolocation, property acquisition and development (digital bison and, eventually, virtual land) aspect of *Upland* and *Decentraland*.

EVENT MOTTO: "The best way to learn from the past is to relive it…virtually."

Prior to development of the game concept, the author proposed the creation of real world production called the **CAMP1872 Xperience** to commemorate the *Great Royal Buffalo Hunt* [13] that took place in southwest Nebraska at the height of the annihilation of the southern bison herds.

The early winter of 1872 brought together American military personnel and civilians, as well as a small party of Russian nobility and diplomats, into intimate (perhaps literally in a couple cases) contact with hundreds of the Brulé band of Lakota (Sioux) Indian for a three-day bison hunt on the eroded grassland's between the Platte and Republican

---

[12] https://news.bitcoin.com/earn-money-by-selling-nft-properties-in-upland/

[13] https://humanitiesnebraska.org/catalog/age-range/adults/custer-in-nebraska-the-royal-buffalo-hunt-of-1872/

Rivers. The region had been the hereditary hunting grounds of the Pawnee and Omaha, who were eventually forced out in the early 18th century by the expansive Sioux, now in possession of horses.

The hunting party involved some 120 officers and men of the US 2nd Cavalry regiment along with the regimental band, various contracted teamsters[14] hauling camp supplies and tons to food stocks for the Lakota. They were assembled to entertain - and protect - a half dozen Russian officials, including the fourth son of Russian Tsar Alexander II, for whom the hunt had been arranged. Encamped with them were an unknown number of Brulé, variously estimated in the hundreds and possibly more than a thousand.

Among the Americans was an all-ready famous frontiersman: William Frederick Cody, age 26, known in Ned Buntline's dime novels as *Buffalo Bill, King of the Bordermen*. Overseeing the enterprise was Civil War General Philip Sheridan, who invited his favorite hunting buddy, Lt. Col. George Armstrong Custer, to join them. The Russian delegation was led by the tall, handsome Grand Duke Alexis in whose honor the temporary encampment was dubbed "Camp Alexis." He turned 22 during the hunt, which seems to have temporarily taken his mind off his family troubles

back home in Saint Petersburg where his mistress had just given birth to his illegitimate son, born out of wedlock because the Tsar refused to allow Alexis to marry "a commoner."

---

[14] The Spirit Airline pilot who flew the Omaha-to-North Platte leg of the *AirMail100 Centennial Flights* project (http://airmail100.com), which this proposal writer organized and managed in 2020, relayed information that a family ancestor, who ranched in Nebraska in the 1870s, was one of those teamsters.

Sheridan had invited the Brulé because their chief, Sinte Galeska (Spotted Tail) had proven himself one of the more amenable leaders among the Sioux, who had fought a bloody war on the frontier from 1864-68. Known as "Red Cloud's War," it saw Custer and his 7th Cavalry regiment attack - and massacre - at dawn the wrong Sioux village. Black Kettle, its chief, had signed a peace agreement and flew the American flag over his village. That didn't stop Custer's troopers, who went on a shooting spree to the jaunty tune of "Gary Owen." [15]

"Bribed, " as one reporter put it, with wagon-loads of provisions - flour, sugar, coffee - the Brulé kept the peace and showed the young Grand Duke a memorable time.

The **CAMP1872 Xperience** aims to allow those of us in the 21st century to experience a day in the life of the hunt using Xtended Reality, state-of-the-arts holography, LED surround stage projection (see Appendix 2) , and deep learning neural network technology.

There are two traditional ways that exhibitions of this type are funded: charitable grants and high net worth investors groups or individuals. The development of ICOs can be third way, sharing the risks and rewards more equitably.

The CODY Coin ICO

Production of the Xperience will require a number of advanced, cutting edge computer technologies now used in Hollywood from the creation life-like digital avatars using motion capture, occlusion-detecting augmented reality where a herd of stampeding bison will run through the audience. Eventually deep learning reinforcement will generate conversational (chatbot) agents of Cody, Alexis (who spoke several languages fluently, including English), Custer, and Spotted Tail. The availability of affordable augmented reality (AR) eyewear anticipated to shortly emerge on the consumer market will be instrumental in creating an amazing sensory event.

---

[15] Legend says that after the 'battle', Custer took one of the surviving women and made her his mistress. The child she gave birth to nine months later likely came from Custer's brother Tom, who died with him at the Little Big Horn. It is alleged that George was sterile from mercury treatment administered for syphilis he contracted while a cadet at West Point.

The *CAMP1872 Xperience* will cross pollinate with the Little Big Buffalo Hunt game development in terms of both technology development and marketing. The Xperience will be marketed with the game enabling event sales and the resultant NFT collectibles being created with a push of the button, while the game will help develop the digital assets needed for the Xperience.

We propose the "minting" of not only collectible NFT event passes (see Appendix 2) but also ICO tokens called CODYs - after the famous showman. They will constitute financial stakes in the *Xperience.*

Funds generated by the minting and sales of the CODY coins - and their NFT collectable passes/tickets - will be used to produce the show, the cost of which is currently conservatively estimated at a million dollars[16]. We see the event opening in one or more venues in larger population centers: New York, Chicago, Denver, Las Vegas. Revenue from event sales and merchandise, as well as potential valuation rise of CODYs and NFTs will be allow us to periodically upgrade the show's technology and launch new programs, increasing the value of the CODY over time. The *Xperience* and the game will cross-promote each other, as well.

---

[16] This is a off-the-cuff estimate based on conversations with professional exhibition developers. Should be project receive an expression of support within the crypto investor community, we could move ahead to better define production costs and revenues.

CONCLUSIONS:

As figure 3 in Appendix 1 illustrates, the future of North America's bison is looking bright, indeed; conceivably even approaching the numbers last seen in pre-Columbian times[17]. Such numbers hold the promise of helping redress, at least in part, some of the ecological damage inflicted by the introduction of intensive European agriculture: the loss of top soil and the destruction of its intricate microbiome[18]. The decimation of the great herds in the latter half of the 19th century also devastated the lives of the Plains Tribes, for which they fought valiantly - and yes, at times, cruelly - to preserve, at the cost of many lives on both sides of the struggle.

Little Big Buffalo Hunt and its associated "CAMP1872 Xperience" seeks to not just tell the story of that dramatic cataclysm via modern computer game technology and state-of-the-art immersive digital display technology but also to facilitate a dialogue on lessons to be learned from that era that can be applied to shape a kinder and more sustainable world of the 21st century. A world where resources are thoughtfully husbanded and equitably shared.

There are, of course, myriad questions and issues for which greater thought need be given by minds more conversant with the technology of cryptocurrency, blockchains, smart contract, non-fungible tokens, and ICOs, just to name a few, than the author. It is hoped that you who read this can help address some of those matters and suggest answers and directions that will, in the end, not only make this proposal more tenable but more importantly, enable it to help bring greater joy and meaningfulness to the lives of the both the "banked" and the "unbanked" of the world.

---

[17] Concerns over methane production in cattle can be addressed by shifting the percentage raised for slaughter since bison typically produce one-quarter to one-third less methane as beef and dairy cattle according to field measurements. https://scholarworks.montana.edu/xmlui/bitstream/handle/1/15531/CookMeasuringMethaneEmissions2019.pdf

[18] https://www.nps.gov/articles/bison-bellows-10-6-16.htm

About the Author

James William "Bill" Moore is a long-time resident of Nebraska. He holds a BA degree in theology from Ambassador College, St. Albans, HERTS, UK. Upon graduation in 1969, he worked as a ministerial assistant and then pastor serving congregations in Pennsylvania, the Virginias and Illinois. Upon leaving the ministry in 1980, he worked for Continental Airlines while pursuing a freelance writing projects with publication in Discover, Popular Science, Air & Space Smithsonian. After a brief stint in advertising, he launched Digital Revolution in 1993 and effectively became Nebraska's Internet evangelist and first commercial website developer. In 1998, he launched EVWorld.com devoted to the world of electric vehicles, which he has published continuously since then. In 2015, he launched an electric-assist bicycle rental startup called quikbyke.com, which developed the world's first solar-powered rental Qiosk.

He twice has been honored by the Nebraska chapter of the Sierra Club with their Environmental Innovation Award. He has been a Kiva lender since 2007.

In 2019, he was invited to be interviewed as a member of the TEDx Omaha "Reframe" program, for which he developed a "virtual" Augmented Reality safari that included a 3D animated humpback whale swimming in the atrium of Heider Hall on the campus of Creighton University[19].

In 2020, he organized and managed the Airmail100 Centennial Flight[20] project to commemorate the 100 anniversary of the start of transcontinental airmail service in 1920. Involving some 14 private pilots flying in relay over the same 2560 mile route as the first US airmail pilots, the project covered the same four day period, delivering a USPS mailbag filled with nearly 4,000 postcards to the Postmaster in San Francisco on the exact same day, time and location as accomplished in 1920, despite aircraft mechanical issues, thunderstorms, snowstorms, and California wildfires. That mailbag - signed by all the pilots - is now in the collection of the American Philatelic Society.

Submitted by: James William Moore • 1915 Southview Dr. • Papillion, NE 68046
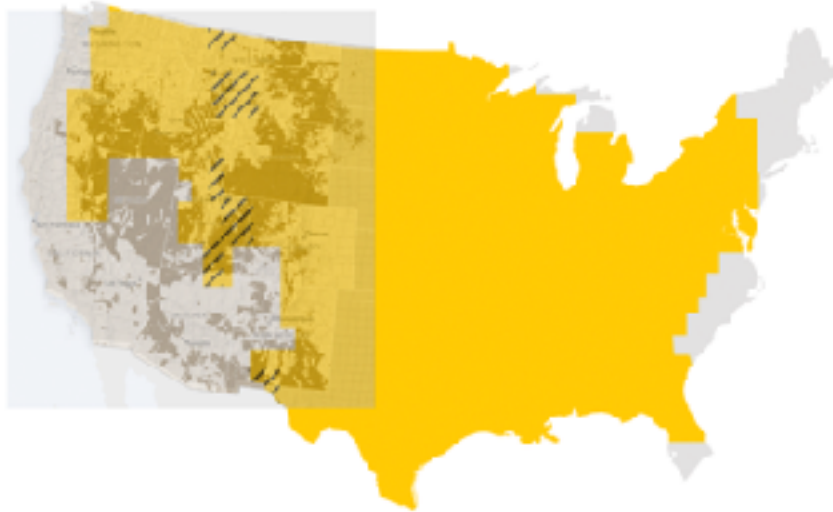Website: http://camp1872.toonstech.com
Email: bmoore@toonstech.com. Mobile: 402.575.8085

---

[19] http://toonstech.com/TEDxOmaha2019.php

[20] http://airmail100.com
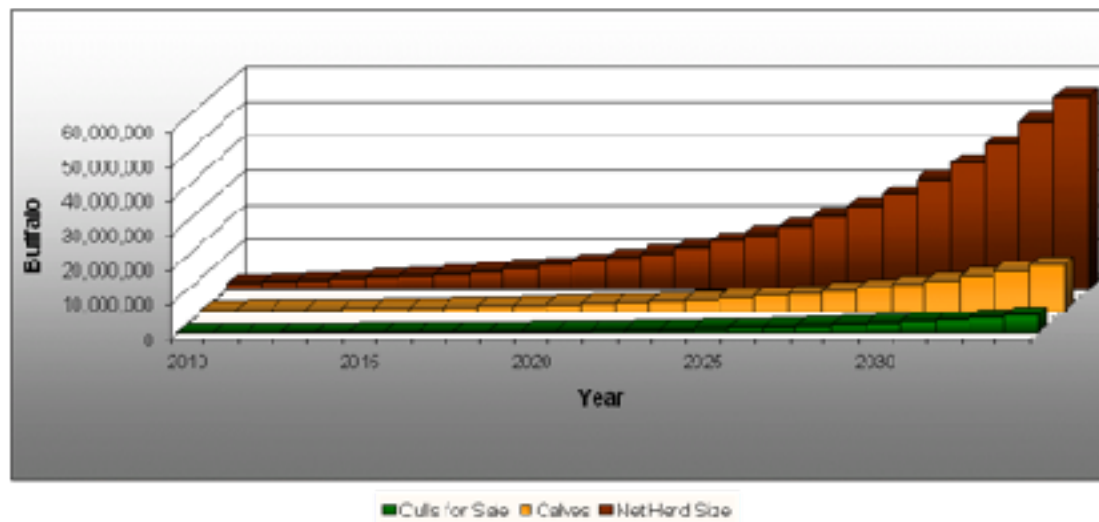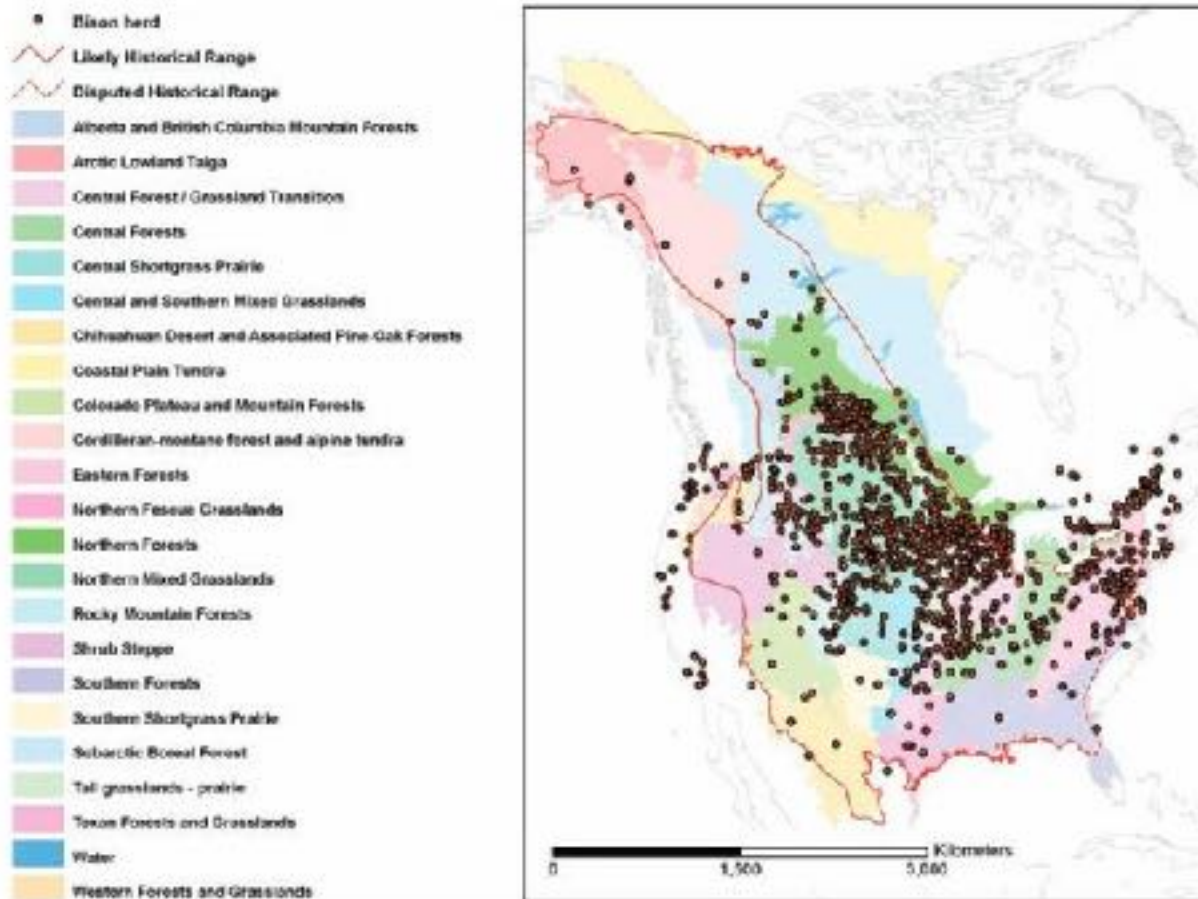
APPENDIX 1

Original Bison Range (yellow) & Federal Section 3 Grazing Allocations

Figure 3: Regrowth of the Bison Herd - What a Future!

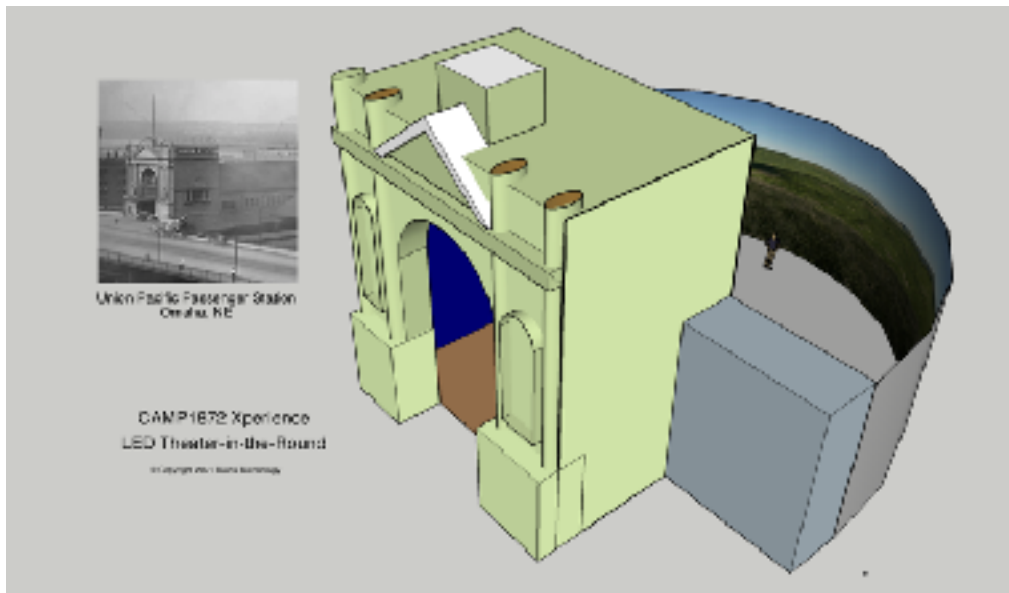https://hlresearch.org/Yorksite/Bison.html

Bison Bellows: Back Home on the Range

Legend

- **Bison herd**
- **Likely Historical Range**
- **Disputed Historical Range**
- Alberta and British Columbia Mountain Forests
- Arctic Lowland Taiga
- Central Forest / Grassland Transition
- Central Forests
- Central Shortgrass Prairie
- Central and Southern Mixed Grasslands
- Chihuahuan Desert and Associated Pine-Oak Forests
- Coastal Plain Tundra
- Colorado Plateau and Mountain Forests
- Cordilleran-montane forest and alpine tundra
- Eastern Forests
- Northern Fescue Grasslands
- Northern Forests
- Northern Mixed Grasslands
- Rocky Mountain Forests
- Shrub Steppe
- Southern Forests
- Southern Shortgrass Prairie
- Subarctic Boreal Forest
- Tall grasslands - prairie
- Texas Forests and Grasslands
- Water
- Western Forests and Grasslands

https://www.nps.gov/articles/bison-bellows-1-7-16.htm

APPENDIX 2

Proposed CAMP1872 Xperience LED 'Theater-in-the-Round'. Entrance is modeled after original 19th century Union Pacific train station in Omaha through which the Grand Duke, Sheridan, Custer and Cody passed. The theater is semi-circle and uses display technology similar to used for production of Disney's 'The Mandalorian'.

Below is a mockup of an NFT-based event pass that might include 3D animation, the mobile phone version of which would serve as the admittance to the indicated Xperience date, time and location.