Design Document for:

Bangkok Taxi

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Version # 1.10
Draft

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Design History

The original draft of the document was written on Sunday, January 20th.

Version 1.10

Version 1.10 includes some revisions based on changes in the design team and production timeline. The following changes were made:

1. Design goals were revised to incorporate the addition of a game artists, HeeJoo Kim, to the game team
2. The game scope was reduced to include only two cities and languages: Thai and Mandarin Chinese.
3. All sections of the document were outlined in draft form.

Game Overview

Philosophy

Bangkok Taxi is an educational game designed to combine the traditional fun of simple arcade games with the educational goal of learning a new language. Games are designed for one purpose, to entertain. Education must teach. Bangkok taxi is designed under this basic premise. It endeavors to be fun education. This goal can be achieved by exploiting the sometimes repetitive actions in games to increase retention.

Many players learn the terminology of a gameplay environment as a remnant of the game play experience. This game seeks to use this experience to teach its players language. Instead of learning the linguistics of a fictive world, the player will learn the language of another culture.

Although Bangkok Taxi will focus on Asian languages, this principle may be applied a variety of languages. Bangkok Taxi will be designed as a proof of concept for a greater educational practice.

The core benefits expected from this design practice are:

- **Improved interest in learning the language**

    Often, desire to learn a language is a prerequisite for its acquisition. If the student is not interested in learning language, they are often not very good at the task. However, students who are motivated to learn, do demonstrate more immediate retention. A commonly cited block to language acquisition is lack of desire. This game seeks to create motivation by creating a learn-to-play exchange. The more the player learns, the more the player will play.

- **Tightly coupled: in-game success and education**

Successful games have consistently provided players the opportunity to increase their level of skill. This games level of skill is based on language acquisition. The better the player understands of the language, the better their experience with the game. Oddly, this is often left out of edutainment tittles. Instead, many educational games limit the growth of game play, or worse, penalize the player for success by increasing the challenge as the player becomes successful. The result is similar to the old saying – the reward for good work is more work.

Common Questions

What is the game?

Bangkok Taxi, is a mini-mission based driving game where the core skills is language understanding.   The player drives a car-for-hire through the streets of Bangkok Thailand. The player must take direction to deliver their fare to the directed location. If the player succeeds, they are provided money to improve their vehicle.

Bangkok Taxi is Simon Says in a foreign language. It is a game that requires understanding of language to gain efficacy in the world. The patterns players follow are linguistics patterns, not the conventional patterns of color and shape. Players will follow directions, provided in a foreign language, and by following directions they will unlock increasing ability and efficacy. Like most racing games, the player must successfully navigate an environment and the acquired objectives. These objectives are provided as locations in the game play environment. The player's primary skill is their ability to listen and translate the provided directions in a timely manner while piloting a vehicle

Why create this game?

Bangkok Taxi fills a gap in the education market. It is a game to be played by children and adults that entertains both groups. Unlike many edutainment titles, Bangkok Taxi sets entertainment as its focus. The educational aspects of the game are so tightly nestled into the game design that it cannot be distinguishably separated into either educational or entertainment.

Where does the game take place?

Bangkok Taxi takes place in a user selected city. The location is dictated by the chosen language. It is a simplified version of the city that highlights some of its cultural and sociological character.

What do I control?

The player will control a non-descript taxi-cab.
To introduce variety to the game, the taxi will vary based on the game environment. In Bangkok, the environment for learning the Thai language, the taxi should be a Tuk-Tuk, three wheeled motorcycle.

During missions, the player must drive provided passengers to their desired location. During exploration, the player may use their vehicle to explore the game environment without a provided objective.

What is the main focus?

Game Play
The player aims to upgrade their vehicle to make navigating the streets of Bangkok more exciting. The upgrades allow the vehicle to drive faster, be more agile, or execute tricks. The player acquires money to improve their vehicle by completing missions. The missions are given as destinations, to which the player vehicle must be driven. When mission is completed, the driver is given money.

Education
The educational goal of the game is to improve a players understanding of basic vocabulary in a foreign language. The player will receive an introduction to the chosen foreign language through a top-down, immersive approach. The player must acquire an understanding of the foreign language's basic vocabulary.

The game is ideal for individuals looking to acquire an understanding of the foreign language useful for travel. The program does not intend to provide syntactical, grammatical, or written understanding of the language. Instead, it suffices to provide a level of exposure similar to spending a few days in a foreign country.

What are the Educational Methodologies?

The game employs three core mechanics to educate its players.

Following directions

The starting gameplay is similar to Simon-says. The player is given cardinal directions and asked to follow them. These directions are first provided in English, and then repeated in the foreign language selected. The player must follow the directions to deliver their passenger to the appropriate location. When the player has delivered enough passengers to the appropriate location the players will be given only foreign language directions. The first few rounds of foreign language direction will be provide while the player drives. Once the player has successfully completed these responsibilities the directions will be given in sets. This increase in language competency matches standard educational tactics. As the player demonstrates mastery, the player is asked to execute more complex tasks.

The direction following section is designed to teach players the following basics words useful in navigating a foreign country:

- Right
- Left
- Forward
- In front
- Behind
- Near
- Yes
- No

Creolizaition of Language

Once players have mastered, or chosen to skip, the following directions section of the game, they are taught specific place names through a creolization technique. A Creole, in linguistic terms, is hybridization of 2 or more languages. In this case, English will be hybridized with the player's chosen learning language. To expedite understanding, players will be given directions to drive a car to specific location within the game world. These locations will be provided in the foreign language, while the rest of the direction will be provided in English. The first time a location is specified, an image of the location will also be showed. If, for example, the player must find a pharmacy, the foreign

language word for pharmacy and an image of the pharmacy will be provided. Once the player has delivered several passengers to their specified location, they will have demonstrated an understanding of the basic word. To test this understanding, the player will have to deliver their passengers to a specific location provided only in the foreign language.

Locations to find will include

- Public restroom
- Pharmacy
- School
- Airport
- Train Station
- Bus Station
- Post Office
- Taxi
- Rental Car

Exploration of Language

The game can be played in an explorative mode. This mode allows players to drive, without an objective, through the game environment. The player may select an item to hear its name or action spoken in the chosen language. If, for example, a player drives by a post office, they will hear the word for post office when requested.

This mode of game play is designed to encourage explorative exposure to the foreign language. The experience is similar to asking a native speaker of a foreign language what a specific word means. The benefit in gameplay is that the exploration is entertaining and the speaker is tireless.

Feature Set

General Features

- **Educational Experience**
  The games primary focus is to introduce the player, through emersion, to specific foreign language.
- **Exciting, Fast-Paced Arcade Environment**
  To combat the sometimes monotonous activity of learning vocabulary, players are asked to use basic arcade-styled game mechanics to accomplish tasks related to the understanding of language.
- **Game World Emulates Real World**
  The game environment is simplified representation of existing cities in which the chosen foreign language is spoken.

Gameplay

- Spoken Word Mission Briefing
- Real time direction providing

The Game World

Overview

The game is designed to support foreign language education in a variety of languages. Players may steer their avatar through a variety of environments. Each environment is based on a specific city in which the chosen language is commonly spoken. Players speaking to learn Chinese, for example, may drive their car in a simplified Shanghai, China, while players learning Spanish may drive in Madrid, Spain.

Since the game world is derived from an existing city, the game play experience provides a secondary educational goal – an orientation to an unfamiliar city for the potential traveler. The game worlds contain landmarks, to orient the player that reflects the same general location of their real-world equivalents.

Area Specifics

Specific areas of the game offer particular challenges to players. These challenges roughly divide into beginner and advanced language understanding. Tourist areas provide lighter challenges, than areas not

intended for tourists. Each area will be defined visual and auditory cues that communicate that the area is designed for tourists.

Tourist Areas

In tourist's area, there will be considerable usage of creoles. The directions given by tourist to specific destinations will be given in hybridized languages. Players may hear English intermixed with Chinese or Thai. Driving tourists serves as a training component. Players are introduced to the basics of the language.

Driving tourists tends to pay the least, because tourists do not travel far from where they are picked up.

Citizen Areas

Citizens only use their native tongue to provide location. They travel further, offer less patience and tip less when players fail to follow directions. These passengers are most critical, but they provide the most pay for their delivery.

The Physical World

Overview

The game world is a simplified city. It contains vehicle and pedestrian traffic. The game employs simple, arcade style physics that are entertaining but not realistic.

Key Locations

The first iteration of Bangkok Taxi will offer two basic game environments. These are as follows:

- Shanghai, China (Mandarin Chinese)

- Bangkok, Thailand (Thai)

Travel

The player will drive a car. The car will be controlled through joystick, or keyboard. Its movement will be limited to streets and sidewalks. True to arcade-style it acceptable for the player to ignore traffic rules to accomplish their task. However, flagrant disregard for travel conventions in the chosen environment may result in lost passengers, or simply, failed missions.

Driving in the game should be amusing. Real-world driving mechanics and limitations are too be ignored. Cars will not demonstrate under steer, nor will they take damage.

It is important that driving not become too technical. A technical game requires additional learning which is likely to detract from the educational experience.

Scale

The game is experienced from a distance. The player's vehicle is viewed from above, as if from a traffic helicopter. Buildings and pedestrians are proportionately scaled.

Objects

The game world contains several basic entities

Pedestrians:
People populate every city. As such, the game must be peopled.

Potential Fares:
Potentials fares are pedestrians that are available to escort. Each potential fare offers the ability to learn a specific vocabulary word, or test the player's current understanding of language.

Buildings:
Most Buildings are simplified and non-descript. However, specific landmarks are designed to represent their real-world equivalent.

Traffic Vehicles:
A variety of local traffic vehicles line the streets of the game. These vehicles are appropriate to the world in which the exist. Vehicles in Thailand should look different from vehicles in Europe, for example.

Weather, Day and Night

Weather and time of day are not important to the game's design. All game play will occur during the day.

All driving missions will be timed. The amount of time allotted will be based on a simple formula:

Travel Distance = objective distance X player maximum speed
Comprehension Distance = 60 seconds / learning level factor
Mission Time = Travel Distance to specified location + comprehension distance.

Game Engine and Rendering System

Overview

The game is rendered in a hybridized 2D-3D perspective. Buildings are rendered in 3D, while all other game objects are rendered in high angle, aerial view. The result will be a gameplay perspective similar to Rock star Game's Grand Theft Auto I, for the personal computer.

This dated, but simple environment should be easy for a wide variety of game players to understand. The mechanics and aesthetics of such an environment are entertaining; offer low production costs and provide high modularity. These factors allow the game scalability at low costs.

2D/3D Rendering

The game will be rendered using the Blitz3D game engine. The game engine is aging, but the simple graphics of this design are well within its range. The environment also offers the following advantages:

High Portability
Based on previous experience, the installation and publication of Blitz3D games is simply. Blitz3D games are not encumbered by complex distribution restrictions or high technical requirements. Because the game must be widely distributed, portability is an important concern.

Fast Code Production
Blitz3D uses the prototype friendly, Basic programming. Several prototypes for this game were created using the application in only a few days.

Proven Reliability
Based on the developer's previous experience, Blitz3D programs have low technical requirements and a solid track-record for reliable performance across many Microsoft Windows based machines.

Lightweight Builds
Complete Blitz3D games are routinely under 20mb, making them reasonable to distribute over the Internet.

Camera

Overview

The camera will be computer controlled. It will always focus on the player's vehicle and center it on screen.

The player will be able to zoom their camera in and out to a limited range. The ability to zoom is important to supporting accessibility to players with vision hindrances.

Collision Detection

Our game engine handles collision detection really well. It uses the such and such technique and will be quite excellent. Can you see I am having a hard time making up stupid placeholder text here?

Lighting Models

Overview

Describe the lighting model you are going to use and then go into the different aspects of it below.

The World Layout

Overview

The simplified game world emulates the character of its subject city. Each city is divided into neighborhoods. For demonstrative purposes, the game will offer only a single neighborhood of game play for each of the two cities described.

Shanghai World Detail

Bangkok Detail

Game Characters and Avatars

Overview

The game will not rely on traditional story. The characters will be fairly shallow, offering only minor hints at personality. The development of story requires an additional level of investment and awareness for the game's players. This additional effort has the potential to distract from the games primary objectives, to entertain and educate. Although character development might prove beneficial to motivating character, it will not be applied to the first iteration of this game.

Modifying Car

The player will receive feedback on their success by earning money. Once the player has met specific monetary thresholds, their vehicle will be customizable.

Vehicle customizations include:

- Increase Speed
- Increase Braking
- Increase Look for Higher Fares
- Complete Vehicle Upgrade

Player Enemies

The player does not have conventional antagonists in the game. The game relies player curiosity and time limits to provide feedback on player success and traditional game challenge. AS the player improves, they will earn money which increases their ability to access other areas within the game. Earning money will also provide the player the ability to customize their vehicle, affording them the ability to complete tasks faster.

User Interface

Overview

The User interface will be fairly basic. A simply interface encourages the success of a wide range of players.

The interface will include the following:

Money Earned Indicator as Numerical Value
Minutes and Seconds Timer as Numerical Value

Successive iterations of the game may include a 2D popup of character dialogue to assist in the creaolization educational process. The popup will provide a simple image of the passenger and their spoken dialogue. This 2D message box will remain on screen until the player dismisses it.

Weapons

Overview

This game uses no weapons. This is a point of pride ☺

Musical Scores and Sound Effects

Overview

The musical score and sound effects for the game are arcade styles. They are dynamic, noisy and exciting. Sounds will continue the simplified simulation of their subject cities. Large cities should emulate their din, through language and ambiance. Cars should honk, people should talk.

3D Sound

The Blitz3D game engine supports 3D stereoscopic sound. Sound attenuation will help provide depth to the game's audio experience.

Sound Design

Sound design should emulate the popular Grand Theft Auto 1 game.

Single-Player Game

Overview

The game is only designed for a single player. Gameplay is designed to encourage short informative bursts of game play. A game play session will last between 20-30 minutes. Players will be allowed to save their games to continue from their last lesson, or the may choose to start again.

Each game play experience will be randomized between core vocabulary levels. The player will have reasonable diversity in each session of game play, although vocabulary will be additive.

Players may skip between lessons, by selecting their specific education goal before game play.

Story

The game does not have a substantial story. The primary situation is that the player character is a taxi-cab driver in their chosen city. They must deliver passengers to desired locations.

Hours of Gameplay

Total gameplay will be between 1-5 hours for each language. The production time for this particular project is less than 10 weeks, which means an average ratio of one week development will lead 2 hours of game play. This ratio is much higher than the industry average for the production of prototype video game.

Victory Conditions

The game does not have a specific victory condition. A player does not win in the game world, but they may finish all lessons. When all possible money is won, the player can be considered more comfortable with the language's vocabulary. As with all educational games, the ultimate victory condition is application of the game knowledge to real world situations.

Miscellaneous

This game design document outlines a short term iteration of a potentially long-term project. The scope of the document is written to describe the completed application, but the first iteration will be a functional prototype. As such, this document specified a subset of design elements related to the specifics of world creation and language scope.

XYZ Appendix

Objects Appendix

User Interface Appendix

Networking Appendix

Character Rendering and Animation Appendix

Story Appendix