Purposeful Gaming & BHL

Response to RfP

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Executive Summary

We are a mobile games and apps company based in Philadelphia. In addition to in-house games, we also work with organizations and companies to consult on mobile strategy, and to gamify their products and services for marketing and outreach. Currently, we have two published games in the App Store: *voidScapes* and *C.U.B.I.P.L.E.X.*

Our first game, *voidScapes*, was selected as an Official Honoree of the Webby Awards for excellence in visual design and experience. We also successfully used the game (a spin on Rock,Paper,Scissors) to educate kids and adults on the importance of biodiversity and how different species use analogous strategies for survival in nature. We plan on including educational components in future versions of *voidScapes*.

Our most recent game, *C.U.B.I.P.L.E.X.*, is a 3D word game that involves training CUBI - "a companion bot (digital robot)" - by teaching it words using a word search grid. The game adds novel features to the classic word search game and encourages players to form longer words while simultaneously improving their spatial visual memory. A future version of *CUBIPLEX* will also be used for educational purposes. As the game develops, AI algorithms will be integrated to demonstrate CUBI's progress and provide a much more interactive experience.

Our upcoming game, *Cosmic Venture*, allows the player to build virtual companies to facilitate space exploration in the future. In addition to giving tips on entrepreneurship, the game will also serve as a platform for education by highlighting the technological breakthroughs that have helped advance state-of-the-art space exploration and travel. An early version (*Bionomiks)* was implemented in collaboration with biotech and pharma companies to gamify their products and services at a conference.

We bring to the table a strong sense of visual aesthetics, technical expertise, market sensibility,

and innovativeness. As crowd sourcing through games is one of the core areas that GanaLila is building expertise in, we are committed to the success of your project. As former scientists, one of our goals is to disseminate knowledge in an engaging manner, while also providing a platform for the general public to contribute to further knowledge creation.

Our Products

The game most relevant to your needs is *C.U.B.I.P.L.E.X.* (Cool Unit of Bot Intelligence to Play, Learn, Enjoy & eXplore) (Download link: http://appstore.com/cubiplex), which is centered around a digital robot - CUBI - as the next generation AI machine that learns through games played on its internal simulation engine. The current game mode involves the player teaching CUBI words using a 3D word search grid. The game is designed to include several modes and we plan on including many new features in the near future. We are also adding multi-player modes that will bring a social element into the game.

In terms of success stories, we would like to highlight the early version of our upcoming game on space entrepreneurship - *Cosmic Venture* (http://youtu.be/oayj1vpgxa0) - which was previewed at the BIO Convention 2012 (over 15,000 attendees) as a Pennsylvania Bio booth attraction. The aim of the game was to highlight the services and offerings of the companies present in the booth. We structured the narrative around biotech/life science entrepreneurship, with each step in the entrepreneur's journey requiring a service or product from the companies in the booth. The games were well received by both the companies and the attendees, because we were able to make "boring tasks engaging through the game".

Past clients

We have worked with both for-profit and non-profit organizations. Our non-profit clients include Pennsylvania Bio / University of Pittsburgh.

Game Development Process

Our game development process typically has 4 components: Game design, UI/UX design + Software architecture, Development, and Testing. Once the game narrative is defined and the player journey mapped, the process becomes more streamlined and is tackled in an Agile fashion. Player feedback is an integral part of the process; we assess their comfort levels with different gesture controls (swipe, tap etc.) and game types (adventure, puzzles, etc.), and incorporate what works best for the experience we want to deliver.

We believe that mobile is the right platform to implement crowd sourcing through games, as it has a higher chance of user engagement. Even several web-based games have seen their engagement rates skyrocket after transitioning to mobile (e.g. Draw Something). To make full use of the platform features, we build our games using native code. The iOS platform presents lesser fragmentation and is therefore preferred as the platform for initial release.

In order to maximize the likelihood of success for this project within the limited budget, we believe that the best strategy would be to build the custom games for your project using our existing/ongoing game templates and present them to the players as part of our existing games. There are several advantages to this:

1)   The player base for purposeful games is typically lesser than general casual games. Bundling the project needs with existing games that we are building and growing will increase the likelihood of a much broader audience.

2)   We believe that the cost of marketing the game would be substantially reduced.

3)   Since it is generally difficult to determine *a priori* the best strategy for a successful outcome, an iterative approach will be needed to test different scenarios and game types and modes to determine which elements and experiences work best with players. Some players might prefer an adventure-like setting but prefer to play solo, while others might prefer the word search game but play with other friends competitively. Thus, from an

operational point of view, the project requires a hands-on approach, and would benefit from being packaged with an ongoing game that we are building and growing over time.

With the above strategy, we believe that we can fit the project costs, given the timeline and the duration, within the budget proposed: $110,000. We estimate that the marketing costs will be roughly a third of the overall budget with the rest towards a license for the use of the *CUBIPLEX* platform and specific infrastructure for the duration of the project. The marketing strategies will include press releases, advertising on social media and game review sites, working with app marketing agencies, making trailers, and presenting at relevant conferences.

The entire project will be managed at our end with the required end results being delivered to BHL/MOBOT servers at mutually convenient time intervals. The platforms used will be iOS and Android (only latest versions of the most popular device/platform type). We plan on releasing an Android version of *CUBIPLEX* in the near future; the project aspects will be mapped in the same way as in the iOS version. However, any iterative testing strategy and early implementations will be primarily focused on the iOS version only.

Also, as we mentioned, since this project represents a strategic direction for GanaLila, the above approach will provide a foundation for stronger collaborations in the long term.

Team

We are a core team of two and engage consultants and contractors from our network as needed, for assistance with game development and with PR/marketing.

About the co-founders:
Both co-founders, Shreedhar Natarajan and Jaisree Moorthy have doctorates in the biomedical sciences and have broad experience in STEM education across all age groups and audiences. Together, they have over 15 years of experience in event management and organizational leadership through a wide range of activities including performing arts, fashion, cultural

festivals, and student organizations. In college, Jaisree started the institute's first women's sports team that competes at the national level. Shreedhar's background includes analysis of large data sets through his thesis (Bioinformatics), and through a stint in advertising research, where he mined nationwide psychographic and demographic data to recommend brand positioning and market entry strategies to Fortune 500 firms.

As part of the leadership of the Penn Biotech Group at Wharton, they started several new initiatives, improved job opportunities for students, promoted entrepreneurship and strategic partnerships, and added significant value to startups and Fortune 500 businesses through consulting engagements. They have also successfully completed several business courses, including a gamification course, at Wharton.

Ideas for your needs

Games typically benefit from a narrative structure to sustain player interest. In our case, *CUBIPLEX* already provides the ideal background to map your project's needs, particularly because it is a word game. We have a range of games and game modes that we plan on adding to *CUBIPLEX* in the near future (e.g. jumble, crosswords etc.). Project related game modes would be a part of some of these existing/planned games. As we evolve *CUBIPLEX*, the narrative will also allow for integration of your project at different points in the form of achievements or alternate mission packs.

CUBIPLEX is currently a free game. The mission packs related to the project will be available for free as well, for the duration of the project. We will share with our players that their CUBI will be learning more about biodiversity and also contributing to the knowledge banks. We will also incorporate special badges and milestones for these missions and have online leader boards to compare their achievements. We can also potentially have leader boards specific to universities, organizations, and locations. Where applicable, multi-player modes will also be implemented.

We plan on including two types of game challenges, i.e., interpret a text image, and verify existing interpretations. We will also be periodically reviewing the results to determine reliability

scores on users and potentially adjust game modes etc. based on expertise, frequency of use, and reliability.

Some ideas include: In our current word search game, we can add a "Words to find" category, and ask the players to form words only with these letters in the order they appear – effectively spelling out the word. A consensus can be constructed from multiple players to award bonus points once they have completed their mission with some level of accuracy. Other game modes could include letter cubes dropping down and having the user slide across the cubes and form the word corresponding to the image. Another idea to have the player disambiguate between alternate transcriptions would be to hide them within the word grid and have people find the right one. These are some initial ideas and we will test and build more modes as we move along the project. Many of the above ideas obviate the need for a keyboard, which is desirable, as it takes up real estate and can interfere with a smooth user experience.

Time Line

	Jul '14	Aug '14	Sep '14	Oct '14	Nov '14	Dec '14	Jan '15	Feb '15	Mar '15	Apr '15	May '15
Begin	■										
Prepare for iOS platform		■	■	■	■						
Release first installment on iOS						■	■				
Iteration and tuning on iOS							■	■	■	■	
Release final installment on iOS											■
Prepare for Android platform								■	■	■	
Game deployed on Android											■
PR & Marketing				■	■	■	■	■	■	■	■

Contract Terms & Conditions

We will implement the project as described above within the given duration (Jul 2014 – May 2015) and provide maintenance and support until Nov 2015. We usually bill in 3 stages: beginning, around midpoint, and before the end of the project. The billing structure for this project would be as follows: 1) $45,000 at the onset of the project (July 2014), 2) $45,000 around Nov 2014, and 3) $20,000 towards the end of the project (May 2015). On-going maintenance and operational costs until November 2015 are absorbed in the above billing structure.

As we will be essentially implementing the solutions as part of our existing templates/games, IP on the technologies will remain with GanaLila.

We would like to have at least one conversation on a monthly basis during the project to share updates and strategies. As we get close to testing and deployment, we envisage more frequent communication.

We would also like the opportunity to collaborate on the data analysis and co-author any publications resulting from this work.

Expectations from MOBOT/BHL

As outlined in the RfP, we have assumed that you will provide us with the appropriate text images that contain words or letter combinations, and transcriptions of these images. We would like to have access to ground truth pages throughout the project as we might need to refine aspects of the games based on accuracy/reliability. It would also be great to have illustrations and other content that would enhance the game experience. Also, we welcome your support in enlisting testers, and in reaching out to universities, partner organizations and other outlets (e.g. Museums, Flower shows etc.).