

Global Gaming Capital Initiative at UNLV

Quarterly Progress Report

Reporting Period: July 1st to September 30th, 2015

October 15, 2015

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Project Purpose

The Global Gaming Capital Initiative (GGC) seeks to reinforce Nevada’s position as the world’s thought leader in gaming and hospitality, which remain the largest contributors to Nevada’s overall economy and the largest contributors of jobs for Nevadans. The acceleration of globalization and the rise of new technologies threaten the continued viability of Nevada’s gaming-related economy, and focused investment in research and innovation is necessary to maintain Nevada’s competitive advantage.

In response, the UNLV International Gaming Institute (IGI) has proposed a strategy that will:

1. Provide two reports (one focusing on design and one focusing on industry, government, and academic strategy) that will research, define, and develop recommendations for “The Integrated Resort of 2050.” Specifically, this project will develop initiatives that ensure that stakeholders are doing all that they can to ensure the long-term health of the gaming/hospitality sector in Nevada.
2. Build upon a successful existing model to create innovative and commercially viable games that attract the next generation of gamblers through the Center for Gaming Innovation (CGI).
3. Increase the efficiency, productivity, and profitability of non-gaming operations in integrated resorts through the collaboration of industry, entrepreneurs, and UNLV student inventors through Project: Hospitality Solutions.
4. Reduce the costs and increase the speed to market for gaming devices through conducting research that explores these key issues for new innovations in gaming, and then advocating for more consistent regulation across jurisdictions.
5. Strengthen the economy of Nevada by developing initiatives that expand the leadership role of women in the gaming industry, thereby expanding the pool of talent available to lead this industry.

The Governor has stated his commitment to reinforce Nevada’s status as the global intellectual capital for gaming and hospitality, and has called upon UNLV to lead the way. This Global Gaming Capital Initiative answers that call, with effective and appropriate academically-based strategies to achieve these objectives.

Section I: Proposal Progress

During the reporting quarter, the Global Gaming Capital Initiative has made a strong start in progressing toward meeting proposed metrics. Major accomplishments for the current reporting period include:

1. Major Accomplishment 1

Second Knowledge Fund-supported gaming innovation incubator round started:

In August, recruitment of industry and on-campus innovators was completed, and the fall, 2015 Center for Gaming Innovation launched with what appears to be its most diverse and expert group of participants, a reflection of the growing awareness and reputation of the program on campus among students and faculty. This year's class is composed of 15 UNLV students from many different disciplines including computer science, math, chemistry, gaming and hospitality, business and law. In addition to our UNLV students, we have again drawn interest from the greater community with 7 non-degree students working in fields including marketing, hospitality, and even dealing. The quality and creativity of the innovations produced in the class improve when the students' can draw on the different expertise and experience of their peers. Already the class of 2015 is showing themselves to be as exceptional as the class of 2014, which produced more than 15 patent applications.

2. Major Accomplishment 2:

Hiring of new team members:

Starting immediately when funding was secured, the IGI has been in constant hiring mode during this quarter. Specifically, and as was outlined in our proposal, the IGI has used Knowledge Fund support to add an Associate Director (Katherine Jackson), who is overseeing all operational matters pertaining to this Global Gaming Capital initiative, an Administrative Director (Patty Rice), who moved to the IGI from her similar role in the UNLV Office of the President (reflecting the university-wide appreciation for the importance of this initiative), and three new research assistants (Aron Kock, Ashlee Kalina, and Austin Tong). Daniel Sahl, Ph.D., was also hired as the Associate Director of the Center for Gaming Innovation. Finally, thanks to support from the Knowledge Fund, IGI Executive Director Bo Bernhard now dedicates 50% of his academic time to these projects. In the second quarter of this year, as outlined in the proposal, we will round out the team with new Director and Research Assistant hires for Project: Hospitality Solutions.

3. Major Accomplishment 3

Sales pipeline developments:

The Center for Gaming Innovation (CGI) continues to flourish, providing a major foundation for the tripling of intellectual property production at UNLV (as Vice President for Research and Economic Development Tom Piechota and President Len Jessup highlighted in many back-to-school presentations at the start of the fall semester). During this quarter, CGI boasted a total of three games on Nevada casino floors. It developed a partnership with IGT's new (post-merger) leadership team and SciGames' new (post-merger) leadership team – thereby securing the support of Nevada's two largest manufacturing businesses in gaming. On the operator side, the Center continued to collaborate with MGM, Caesars, and Station Casinos (the two largest Strip operators, and the largest local operator) on direct-to-market games that can be placed on casino floors immediately after approval by the Nevada Gaming Control Board (GCB). The Center for Gaming Innovation now has five games approved by the GCB – a remarkable figure given that this project began in April of 2013. Also on the operator front, the owners and management of Station Casinos volunteered to host and sponsor a special “showcase event” at Red Rock Station on November 1st, whereby CGI games will be presented and played by the company's best players, in an event that will celebrate GOED's investment in gaming.

4. Additional Accomplishments

- a. Newly-hired Research Assistant Ashlee Kalina teamed with UNLV IGI International Center for Gaming Regulation founders to begin the development of a new algorithm to determine where delays exist in the innovation pipeline. Though experts have long lamented the various “choke points” that slow innovation when trying to get a new gambling game to the casino floor, to date no scientific effort existed to examine this observation empirically (with data made available to us via public and private resources). In essence, this move invents the academic field of “gaming innovation and policy studies,” bringing a scientific perspective to a new and important area of economic development for Nevada.
- b. Made first hire (with UNLV funds, leveraging Knowledge Fund support) at the new Center for Women in Gaming (which will formally launch in January of 2016). This new hire has focused on summarizing burgeoning research literature on women in leadership roles in business, and then applying these findings to the (non-existent) field of the study of women in gaming leadership roles. Among the relevant findings: a just-released McKinsey study has found that expanding the talent pool to include more women would have a \$12 trillion positive global economic impact (and our team will now begin examining the size and scope of the economic impact within our sphere of gaming). The economic development objective

on this project is clear: strengthen the economy of Nevada by developing initiatives that expand the leadership role of women in the gaming industry.

- c. Launched “Integrated Resort of 2050” fall class with UNLV School of Architecture, focusing on research-based initiatives that will shape the design and structure of Nevada’s most important (and most exported) tourism invention. UNLV IGI also added a non-Knowledge Fund supported research assistant (Ray Cho) to this project, in addition to the Knowledge Fund-supported research assistant (Austin Tong) hired at the beginning of the quarter. Research themes at this foundational stage of the project include: examining the shift to “outward-facing” designs (e.g., LINQ, MGM’s new “park” behind Monte Carlo/New York-New York), incorporating new technologies and social media into the integrated resort experience to better facilitate a focus on millennials, and adjusting to what will be stark shifts in water management/usage over the next twenty years. The economic development objectives here are to help the State of Nevada maintain its (cutting) edge with this crucial economic driver.

5. Commercialization / Partnering

The Center for Gaming Innovation showed modest progress this quarter in its efforts to commercialize student inventions. One game, Show Pai, was purchased by Big Bet Gaming while another game, Super 3 Card (also purchased by Big Bet) was approved for Nevada Casinos. By the end of the quarter, CGI was actively engaged with both game distributors as well as casino operators to open new avenues to license and sell students’ games. These distributors include Scientific Games, IGT, AGS, Konami, Station Casinos, MGM Resorts, and Caesars Entertainment.

The IGI’s new International Center for Gaming Regulation received more than \$1 million in support from corporate partners including Wynn Resorts, Gaming Laboratories International (GLI), and the Association of Gaming Equipment Manufacturers (AGEM).

6. Intellectual Property

The Center for Gaming Innovation filed two provisional patents this quarter (see Appendix 2). These patent applications were from student ideas from the 2014 class that were late in reaching the patent stage. The 2015 class has not been in session long enough for any patent applications to be filed.

7. Programmatic & Project Changes

None.

8. Looking Forward

In the next reporting quarter, barring unforeseen circumstances, we will have hired the full staff (including the Director) of Project: Hospitality Solutions, consistent with the timeline outlined in our proposal. We also will have completed the planning to commence the first hospitality innovation class (which will begin in the third quarter, in January of 2015).

We also will announce a new (non-Knowledge Fund-supported) Executive Director of our International Center for Gaming Regulation, who will work alongside our research assistant (Ashlee Kalina) on the Knowledge Fund-supported effort to develop algorithmic and data-driven analyses of “speed to market” for gaming intellectual property (like the games we produce in the Center for Gaming Innovation.) This is crucial for gaming innovation, as gaming’s heavily-regulated environment means that the innovation pipeline can be much slower than it is in marketplaces like mobile-based apps, video games, and other internet-based games – each of which require little or no regulatory approval.

In addition, the Knowledge Fund-supported IR 2050 (“the integrated resort of the future”) will be in full swing, as the “integrated resort of the future” student projects in the School of Architecture will commence in class on October 12, informed (as all of our projects are) by regular engagement with industry experts. These projects constitute the “design component” of the project, while our research team will continue work on the “research component” that will produce a report on the strategies that industry, government, and the university communities can undertake to ensure that the integrated resort remains Nevada’s most dynamic and economically lucrative global export and invention, long into the future.

Finally, the next quarter will include two marquee events. We will have completed the fall semester’s innovation class for the Center for Gaming Innovation, and we will have produced two showcases for the intellectual property created at the Center. The first

showcase is industry-facing, with an objective of enhancing commercialization prospects, and highlighting the already-patented games we have developed at a special event at Red Rock Station November 1st. The second showcase serves as the final event for our fall class, featuring the famed student competition for the top innovations in the class, with “celebrity judges” from the industry, in order to provide a “first reveal” for the next round of innovations. This takes place during the second week of December. Each of these showcases support our broader and primary objective of creating new, dynamic intellectual property for the next generation of gamblers – and then commercializing these innovations in a manner that supports the Nevada-based gaming and hospitality industries.

Section II: Performance

Table 1: Progress Toward Metrics

 International Gaming Institute / Global Gaming Capital Initiative (GGC) Progress Dashboard	Current Result / Year-end Target		
	To 6/30/15	By 6/30/16	By 6/30/17
	GOED Requested Metrics		
Number of Companies that moved to Nevada as a result of IGI KF project	0 / 0	0 / 0	0 / 0
Number of start-ups	0 / 0	0 / 0	0 / 1
Number of jobs created	0 / 0	0 / 0	0 / 10
Intellectual property licenses / options	0 / 0 ^A 5 / 0 ^B	0 / 0 ^A 1 / 4 ^B	0 / 0 ^A 0 / 6 ^B
Intellectual Property Revenue Received by University	\$25,500/ 0	0 / \$20,000	0 / \$30,000
Amount of research grants awarded to (and received) the IGI research teams and faculty ^C	0 / 0	0 / 0	0 / 0
Amount of research funding received by IGI research team from industry of public sector agencies	0 / 0	0 / 0	0 / 0
Number of sponsored research contracts executed on behalf of IGI research team	0 / 0	0 / 0	0 / 0
Number of patent applications filed	23 / 0	2 / 10	0 / 10
Number of issued patents	0 / 0	0 / 0	0 / 0
Number of students placed with companies	0 / 0	0 / 2	0 / 2
Number of faculty hired	1 / 0	1 / 1	0 / 0
Amount/value of gifts/donation received by UNLV in support of IGI	\$5,000/ 0	0 / \$20,000	0 / \$20,000
Total number of student internships	1 / 0	3 / 4	0 / 4

A. Number of IP licenses
 B. Number of options
 C. Excludes sponsored research and KF funding
 For the period up to 6/30/15 actual performance only has been reported for the revised metrics (targets were based on previous metrics)

Color Key	n/a or target of zero	Too early to tell	Goal not met	Close to achieving goal	Goal achieved
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Project Scorecard Narrative

Intellectual property options:

Table 2: CGI Commercialization Successes

Primary Inventor	Application No.	Application Date	Type	Commercialization Status
John Nguyen	62/200117	08/03/15	Provisional	Sold (Big Bet) July 2015

Number of patent applications filed:

Table 3: CGI Patent Filings

Primary Inventor	Application No.	Application Date	Type	Commercialization Status
Travis Walters	62/200117	08/03/15	Provisional	Early Progress
Angel Cantu	62/214920	09/05/15	Provisional	Advanced Progress

Number of faculty hired:

Daniel Sahl, Ph.D., hired as Associate Director of the Center for Gaming Innovation

Total number of student internships:

Three out of four Knowledge Fund graduate assistants hired:

- Aron Kock
- Ashlee Kalina
- Austin Tong

Section III: Budget

Please see the quarterly report to the GOED Business Office.

Section IV: Monthly Logs of Global Gaming Capital Initiative Activities for Reporting Quarter

July:

In July, we searched for the Graduate Assistants to work on this initiative. We hired Ashlee Kalina to serve as the research assistant at the International Center for Gaming Regulation (in addition to a support role in reporting and coordinating the overall Global Gaming Capital Initiative). We also hired Aron Kock to serve as the teaching and research assistant in the Center for Gaming Innovation, and Dan Sahl as Associate Director of the Center for Gaming Innovation. Dan Sahl completed his doctoral dissertation research on the convergence of video gambling and video games, and defended successfully, hence becoming “Dr. Sahl.” Finally, we hired Austin Tong as a research assistant on the IR 2050 (“integrated resort of the future”) project.

One of the table games to come out of the 2015 class, Show Pai, was purchased by Big Bet Gaming and is currently in the early stages of getting approved with Nevada Gaming Control. In addition, Big Bet Gaming entered into an agreement with INAG Inc. to expand distribution of several UNLV student games to casinos in the North West

August:

Ms. Kalina worked with International Gaming Institute Executive Director Dr. Bo Bernhard to begin the data-driven analyses of the speed and ease with which gaming innovations can make it to the marketplace. Mr. Kock and Dr. Sahl developed and launched the fall innovation class, alongside CGI Executive Director Dr. Mark Yoseloff. Mr. Tong began a comprehensive literature review of integrated resort history and design in support of our research efforts on IR 2050 (“integrated resort of the future” project). Finally, we launched the School of Architecture class on hospitality design, starting with projects that problem-solve generally with significant issues that arise in integrated resorts (such as choke points for pedestrians, and water challenges), which will then build up to “integrated resort of the future” projects.

Super 3 Card Poker, a game invented by a student in the 2015 class and purchased by Big Bet Gaming, was approved for Nevada casinos by the Gaming Control Board and is slated to debut

in two Nevada casinos shortly. Dr. Yoseloff held meetings with potential partners in student game development including AGS, Konami, Caesars Entertainment, Scientific Games, and IGT.

September:

During September, CGI's gaming innovation course was in full swing, with students beginning with the standard lectures on patents, math, and the history of gambling game design. They then began work on their first idea for development. Our regulatory ("speed to market") efforts were highlighted by a ten-day visit of the soon-to-be-announced Executive Director of our International Center for Gaming Regulation, during which the team studied new innovations and speed to market efforts highlighted at the Global Gaming Expo, the world's largest gaming industry convention. Finally, our Architecture students developed their final presentations on "problem solving in the integrated resort," in support of their efforts to develop design models for the integrated resort of the future.

Dr. Yoseloff began negotiations with game development companies to begin the process of demonstrating available student games at the highest levels with two large gaming corporations. Dr. Yoseloff has also been in consultation with an investment group looking into the casino games of the future. The Center for Gaming Innovation was invited to give a lecture on the relationship between game design and gaming regulation at the 2015 Gaming Law Conference held at UNLV's William S. Boyd School of Law.

Section V: Appendix

Appendix 1 – Sales Pipeline

Company Name	Company Type	Opportunity Type	Notes (Progression and Next Step)
Leads - Awareness (346 - 432)			
Prospects - Interest (56 - 79)			
Company D	Hotels and Gaming	Collaboration	Interest in consultation/products related to gaming space of future.
Qualified - Desire (19 - 26)			
Company A	Game Distributor	Product Sale	Interest to further examine three student games
Company B	Game Distributor	Product Sale	Interest to further examine unspecified number of games.
Company C		Product Investment	Interest in unique Gambling Game Innovation
Negotiation - Action (7 - 5)			
Won or Lost (2 - 4)			
Big Bet Gaming	Game Distributor	Product Sale	Student Game Show Pai.

Game sales in the gaming industry

Each game sold by the Center for Gaming Innovation usually includes upfront money, which can vary greatly in amount from a few thousand dollars to six figure sums. All of the sales include royalties to the inventors for each machine or table installed and generating revenue for the distributor. For example, upfront money provided to student inventors for a sale may be modest (less than \$5,000)

and then, in addition, the inventors receive a 20% royalty for the gross income for each table installed (which is fairly standard when distributing table games).

All five of the CGI's patents that have been sold since inception were outright sold (sometimes the inventor retains certain rights to the patent, or the sale covers brick and mortar applications but not internet options). Big Bet Gaming LLC* has been a particularly fruitful venue for CGI's table games because they have committed (and made good on their commitment) to get every game approved for use in Nevada and to place those games in casinos.

The time to develop, patent, commercialize, and offer a game on a casino floor can be less than a year in the case of table games. A slot patent takes longer due to the increased cost and time investment needed to develop and test the game.

A successful gambling game can only generate revenue if it is popular, both with casinos and players, a process that can take years. The good news is that the number of patents being generated by CGI increases the likelihood that one or two popular games will emerge to generate a strong revenue stream for the program, to provide revenues to the game manufacturers, and to increase gaming revenue in Nevada and beyond.

For most CGI products, the sales process is surprisingly quick once the initial demonstration of the product is made. If a game generates interest, the sale may be finalized in a matter of a few months.

*Big Bet Gaming LLC was established by CGI's Executive Director Dr. Mark Yoseloff as a means of getting student-invented table games to the casino floor quickly. As the former CEO of Shuffle Master, and as the developer of several successful gambling games himself, Dr. Yoseloff is an expert in table game invention and distribution. Breaking into the gaming industry is extremely difficult, and independent inventors often find commercialization to be a formidable challenge. In order to break through this barrier, Big Bet Gaming was established as a commercial outlet that would not otherwise have been available. As Dr. Yoseloff is the Founder, established companies readily view Big Bet Gaming projects as viable opportunities for revenue. Without the company, many of the games with potential would go unnoticed or flounder on the vine. Big Bet is committed to getting the table games it purchases from students approved and on casino floors in a short amount of time. This is evidenced by the fact that within 18 months, four games have been approved for use in Nevada casinos and two of those games have actually made it to casino floors.

All CGI participants are advised both during the class (by the university's intellectual property officers) and during any negotiation with Big Bet that they are not obliged to sell their game to Big Bet, and all CGI participants continue to be exposed to opportunities with other major game developers as well. Participants are encouraged to seek independent advice from UNLV's Office of Economic Development, Boyd Law School, and/or their own personal attorney or advisor. All transactions and processes are regularly monitored by the university's intellectual property officers. This type of arrangement is not abnormal in the area of university/private collaboration in the development of intellectual property. Thanks to this mechanism, CGI has an effective and efficient means to get students' games out onto casino floors - generating revenue much faster and in greater numbers than would otherwise be possible.

Appendix 2 – Scorecard Supporting Documentation

Electronic Acknowledgement Receipt	
EFS ID:	23090636
Application Number:	62200117
International Application Number:	
Confirmation Number:	9996
Title of Invention:	MULTI-HAND POKER WAGERING GAME
First Named Inventor/Applicant Name:	Travis Wade Walters
Customer Number:	97462
Filer:	Mark A. Litman/Connie Scheff
Filer Authorized By:	Mark A. Litman
Attorney Docket Number:	777.719USP1
Receipt Date:	03-AUG-2015
Filing Date:	
Time Stamp:	00:51:24
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$130
RAM confirmation Number	7926
Deposit Account	501391
Authorized User	LITMAN, MARK A.
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Electronic Acknowledgement Receipt	
EFS ID:	21908298
Application Number:	62139827
International Application Number:	
Confirmation Number:	1068
Title of Invention:	TABLE-TOP, THREE-DIMENSIONAL DISPLAY AND WAGERING CONTROL
First Named Inventor/Applicant Name:	Angel Salinas Cantu
Customer Number:	97462
Filer:	Mark A. Litman/Connie Scheff
Filer Authorized By:	Mark A. Litman
Attorney Docket Number:	777.732USP1
Receipt Date:	30-MAR-2015
Filing Date:	
Time Stamp:	09:56:35
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$130
RAM confirmation Number	8622
Deposit Account	501391
Authorized User	MIHALCHICK, CASANDRA M
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Super Three Card Approval in Nevada:

NEVADA GAMING CONTROL BOARD MEETING NOTICE AND AGENDA. Wednesday Aug 5th 2015.
<http://gaming.nv.gov/modules/showdocument.aspx?documentid=10145> See page 26.

Show Pai sale to Big Bet Gaming:

We do not have documentation of this sale available at this time.