PREDICTIVE ONLINE LEARNING AND EXAMINATION

1Sayaban Kumar Yadav, 2Ghodke Shubham Anil, 3Sai Lavaneesh Reddy Pothula, 4Ankita Chawla

1Research Scholar, 2Research Scholar, 3Research Scholar, 4Assistant Professor

1Lovely Professional University,

2Lovely Professional University,

3Lovely Professional University,

4Lovely Professional University

Abstract:

Online Examination is a fundamental fixing in electronic and intelligent learning, in any case, in instructive climate the vast majority of assessments are done in the traditional paper-based path because of the absence of resumption ability when power/organization/actual PC's segment disappointments. Thus, embracing and building up an online assessment framework goes about as a functioning exploration region as of late. This paper audits the best in class and the-craft-of-the-practice for nine universally useful online assessment frameworks found in the writing, just as, some devoted mechanical frameworks dependent on seven chosen interlaced highlights; to be specific: secure login, resumption capacity, multi-educator, arbitrary inquiry choice, irregular inquiries appropriation, irregular decision dispersion, and compactness execution strategy. Despite the fact that, the execution of these frameworks is promising, nonetheless, these frameworks make them drain focuses. For example, by rehearsing the current assessments framework, some difficult highlights are found and others are absent. Among these highlights; to be specific: the resumption ability and the blend of randomization highlights are absent in the evaluated frameworks. Fix and work from prior works, this paper proposes an Online Examination System (OLES) that tends to every one of the chosen highlights to work with embracing on the web assessment. Instructors and instructive foundations are endeavoring to track down a fitting methodology to rouse just as connect with Understudies in the learning cycle. Organizations are empowering the utilization of gamification in schooling to improve the natural inspiration just as commitment. Nonetheless, the understudies' viewpoint of the issue is under-researched. The reason for this exploration study was to investigate graduate understudies' viewpoints toward the utilization of gasification procedures in

Internet learning. Notwithstanding, most current investigations need cautious and careful exploratory assessment on the impact of gamification and are ordinarily applied to science learning for grown-ups which makes it hard to sum up the discoveries to other learning spaces. Online Examination System is an on-line test system is to take online assessment, test in an effective way and no time squandering for physically checking of the test paper. The principle objective of this electronic online assessment framework is to

effectively assess the understudy completely through a completely robotized framework that saves parcel of time as well as gives quick and exact outcomes. For understudies they give papers as per their comfort from any area by utilizing web and time and there is no need of utilizing Online assessment framework assists understudies with offering a speedy and simple approach to show up for the test. It likewise gives the outcomes following the assessment with 100% exactness and security. Understudy can enter to perform test just with their legitimate username and secret phrase. This assessment contains various decision questions and proper number of alternatives. There are no impediments on number of alternatives and it very well may be randomized so same arrangement of inquiry won't appear to all understudy so it forestalls control. Beyond what one choice can be right however the client can choose just a single alternative. This gives time limit. The client can see their outcomes subsequent to finishing the test. This assists the understudies with composing the test from far distance and which can give security and straightforwardness and other helpful highlights to the client.

Keywords: E-learning; distributed learning environments; architectures for educational technology system; online examination system; software engineering;

Introduction:

The reason for on-line test system is to step through online examination in a productive way and no time squandering for checking the paper. The principle objective of on-line test system is to proficiently assess the competitor completely through a completely mechanized framework that saves part of time as well as gives quick outcomes. For understudies they give papers as indicated by their comfort and time and there is no need of utilizing additional thing like paper, pen and so forth

On-line assessment framework has been generally applied in the instructing, particularly in the educating of PC course. By and by the online test framework model has two sorts: Browser/Server model (B/S) and Client/Server model (C/S). The (B/S) model dependent on program is a sort of Thin Client, the primary benefit of assessment framework dependent on (B/S) model is not difficult to introduce and maintain, but cannot utilize the customer's assets, every one of the assessment's administrations are expected by worker, which increment the worker's weight, yet in addition increment network traffic by sending information among customer and worker, simultaneously, this model can't work customer's documents and can't review understudy's assessment records and so forth .Therefore this model isn't appropriate for assessment arrangement of information focuses with complex activity, is just reasonable for the basic online assessment arrangement of target questions. Actually, Rich Client(C/S) assessment framework model can utilize the assets of customer, admittance to the circle of customer and get the application program interface (API). Simultaneously, the framework dependent on C/S sends the information just among customer and worker, needn't communicate the interface, so the assessment framework dependent on C/S executes quicker than the framework dependent on B/S. The fundamental issues of the assessment framework dependent on C/S are because of the convoluted work for establishment, support and arrangement. What's more, limitations and necessities for customer are exacting ∘ And the assessment framework can't accomplish reuse of program of cross-stage. To tackle these issues, the venture advances an online assessment framework dependent on web administration and COM parts. This Online Examination System is a product arrangement, which permits any industry or foundation to orchestrate, direct and oversee assessments through an online climate. It very well may be done through the Internet/Intranet and/Local Area Network conditions. A portion of the issues looked during manual assessment frameworks are the deferrals occured in outcome preparing, documenting represents an issue, sifting of records is troublesome. The possibility of loss of records is high additionally record looking is troublesome. Support of the framework is likewise extremely troublesome and takes part of time and exertion. Online assessment is one of the vital parts for online training framework. It is effective, quick enough and diminishes the enormous measure of material asset.

Until now, various investigations have been led in different fields, like math, science, business and language to look at the adequacy of gamification in improving understudies' exhibition. Notwithstanding, little consideration has been given in bookkeeping instruction to the capability of gamification to improve understudies' presentation when it is utilized in the

study hall. The current writing on gamification approach embraced in bookkeeping schooling just gives an outline of the authentic improvement of bookkeeping games as a showing instrument and the new gamification exercises that can be utilized to enhance bookkeeping educating and learning2 and appraisal of elements that impact continuation utilization of bookkeeping game3 . Just one examination has been found with respect to the utilization of game to improve understudies' information on cost bookkeeping topics4 . Thusly, the reason for this paper is to consider the impact of gamification approach of bookkeeping instructing and learning on understudies' exhibition instead of customary methodology

The Online Examination System is an electronic application. This structure will help the school/Institution to evaluate the request have diverse option with one right answer. The school/Institution can coordinate the online assessment and report the result in a couple time. The assessment office is responsible for the making the request paper and it would be thoroughly secure. Online Examination system give distantly admittance to understudies. It helps the controller with decreasing crafted by driving test, checking answer sheets and creating result. All these work is done by the machine. All the data is taken care of on the worker. Additionally, clients can get to these data sets and give test. Here we use a client worker model. Chief offer admittance to teacher and understudies. Understudies who have account on the structure will have the ability to give test. There are two kinds of test portion Practice and Real test. Understudies can give the two tests. Right answer will be featured in assorted concealing. Ensuing to submitting test the result will be made and assessments is done on the reason of result and send it to each and every understudy.

Persuasive hypotheses propose that tending to arranged inspirational affordances of understudies is basic to cultivate characteristically persuaded practices. Among these hypotheses, Self-Determination Theory [20] suggests that there is a sort of continuum between outward inspiration, when student might be spurred by extraneous prizes like getting a passing mark, and natural inspiration, when the student is persuaded just by the purpose of learning. Extraneously inspired practices are not characteristically fascinating, however they can be utilized to draw in understudies in the underlying stages. After beginning onboarding, three persuasive perspectives achieve characteristically

spurred practices: self-sufficiency, relatedness and competency. Self-governance is the ability to set one's own targets and to work freely towards them. Relatedness is the feeling of belongingness to a gathering with a particular objective. Ability is the inclination of proficiency regarding an objective. An internet gamified experience will keep its clients connected with as long as it tends to these arranged persuasive affordancesLiterature Survey:

• Hongmei Nie Math, Physics and Information Engineering College Online examination is the crucial parts among online education. It is efficient and fast enough and reduces the large amount of material resources. Examination system is developed based on web. This paper describes the principle of the designed system, that presents the main functions of the system, analyzes the algorithm of auto- generating test paper,and discusses the security of the system.

• Nor Shahida bt Mohd Jamail Abu Bakar Md Sultan Faculty of Computer Science and Technology, Selangor, Malaysia Examination process is important activities for institutions to evaluate student's performance. Thus the quality of the exam questions would determine the quality of the students produced by the institutions, also preparing exam questions is challenges, tedious and time consuming for the instructors. Current technologies help instructors to store the questions banks in computer databases. The issue arise is how the current technologies would also help the instructors to auto generate the different sets of questions from time to time without concern about repetition and duplication from the pass exam while the exam bank growing. This paper describes the use of shuffling algorithm in an Automatic Generator Question paper System (GQS) as a randomization technique for organizing sets of exam paper. The results displays the shuffling algorithm could be used to overcome randomization issue for GQS

A number of studies have been conducted to examine the effectiveness of gamification or game-based learning in enhancing students' performance. In science education, past studies have revealed that gamification and gamebased learning led to a better test achievement when posttest results were compared with the pre-test results. Another study has indicated that a collaborative educational game employed in science courses not only

benefited the students in fostering their learning attitudes and learning motivation, but also improved their learning
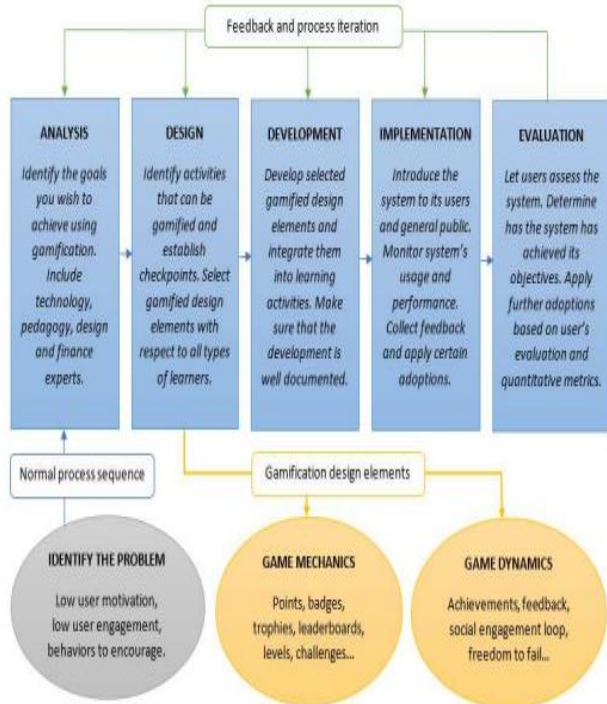
achievement and self-efficacy8 .A study in computer science education has demonstrated that the game-based learning approach was both more effective in promoting students' knowledge of computer memory concepts and more motivational for students than the non-gaming approach. This was evidenced by significantly higher post-test results produced by the students that had used the gaming application than those that had used the non-gaming one. In mathematics education, previous studies have also found that students who played games performed significantly higher than the students who did not play the games. However, another study has provided no credible evidence that computer gaming facilitated students' achievements in cognitive math skills. The study has shown no significant differences between participants' pre-test and post-test performances in ''Game Skills Arithmetic Test''. Most of the studies discussed above have focused on digital-game based learning. Digital games provide "animated graphics and audio effects as well as immersive stimulation". In a classroom setting, educator-student interactions and student-student interactions may have an enormous impact on learning. The use of card games in learning could enhance the direct interpersonal interaction between teachers and students as well as among students to a level that is incomparable to the sound and audio effects of digital games17. A board game, is another type of physical games that can be added to educational process to promote an interactive learning

experience. Players often learn from one another when playing a board game while at the same time having fun in a competitive environment.

Scope:

Online Examination course of action is a Multiple-Choice Questions based Examination system. It gives a basic method to use the climate for both test-conductors and understudies appearing for assessment. Online Examination System is a web application that sets up a framework between the foundations and understudies. Foundations enter on the site the requests they need in the test. These requests are appeared as a test to the certified understudies. The appropriate responses enter by the understudies are then surveyed what's more, their score is processed and saved. This score at that point can be got to by the associations to center the passes understudies or to evaluate their execution. Online Examination System gives the stage yet doesn't explicitly check out, nor is it remembered for any tests drove. Requests are posted not by the site, yet rather customers of the site. The site requires an association to enroll prior to posting the requests. The site has a chief who watches out for the overall working of the structure. Scope of this project is very broad in terms of other manually taking exams. Few of them are: -

- This can be used in educational institutions as well as in corporate world.
- Can be used anywhere any time as it is a web based application (user Location doesn't matter).
- No restriction that examiner has to be present when the candidate takes the test.

A few precise writing audits, like this examination, have been led to give an account of the impacts of gamification in online instructive settings. From these, it is feasible to make the accompanying inferences: despite the fact that the quantity of distributions on the utilization of gamification in schooling has expanded, the field experiences (1) an absence of "genuine experimental exploration on the adequacy of joining game components in learning conditions", (2) lacking "procedure utilized in the greater part of the exact settings to test the impacts of game components" and (3) "heterogeneous investigation plans and commonly little example sizes, which feature the requirement for additional examination". In any case, regardless of

every one of these lacunae, gamification has been decided to be a field with potential, an educational procedure that if very much planned and executed can truly give a lift to clients' commitment and inspiration.
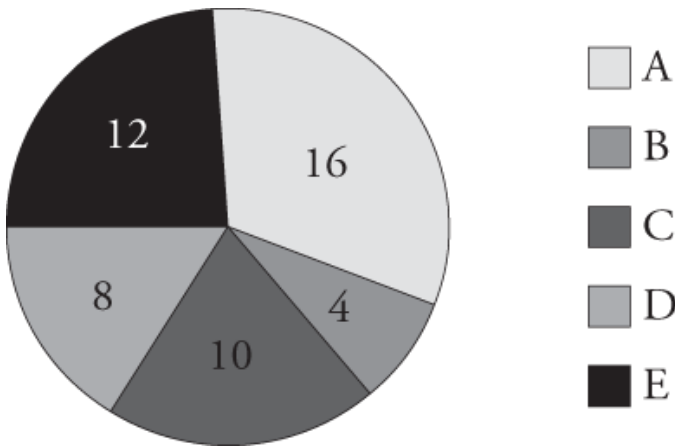

Methodology:

Moral Consideration: Participation in the investigation was intentional and members were given additional credit grade that goes toward their alumni endless supply of all online course's necessities. Members were furnished with a definite educated assent structure showing the motivation behind the examination. Incorporation in the examination required every member to sign an educated assent before the beginning regarding the information assortment measure.

Information Collection Strategy: Before the information assortment, 47 members were acquainted with the LMS in two instructional meetings and afterward were separated in gatherings of 3-4 understudies/gathering to make 10 diverse online little courses. The little courses were planned dependent on explicit rules that enveloped successful online course plan standards, and were facilitated in a learning the executives framework that upholds gamification. This LMS gives the course engineer the alternative to incorporate gamification instruments like focuses, identifications, and leaderboards as a feature of any movement the student connects with into during the learning experience. They were given three-week time period to make the courses. At that point, when the courses were prepared and checked purchase the scientist for quality, every member was taken a crack at in any event two small scale online courses with one condition that members ought not to be selected courses that were planned by them. For instance, if bunch 1 made course 1, they couldn't be selected as understudies around there, they can rather be enlisted as

understudies in course 2 and 3. The courses were overseen and instructed by the gatherings that planned them
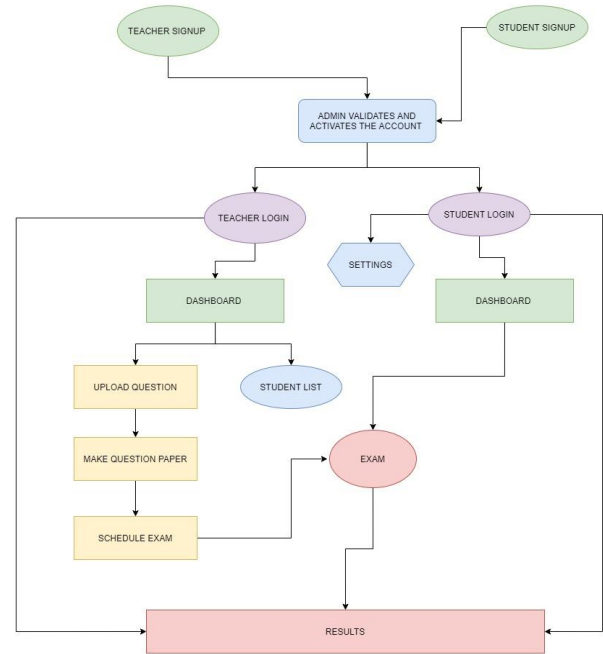
.Courses Design: Because of the way that the members were understudies in an alumni instructional innovation program, the analyst discovered this examination opportunity an extraordinary one to allow those understudies to apply their procured information identifying with online course configuration in making and dealing with the smaller than normal courses. Understudies were given explicit rules to continue in the course plan like the base number of modules (three modules) and exercises in the course which the scientist requested to fit multi week time period. The modules ought to be of expanded trouble just as the exercises planned in them. They were additionally approached to incorporate a conversation action just as involved exercises relying upon the subject of the course. The exercises ought to likewise mirror sprouts' higher request thinking abilities just as lower suspecting abilities. For conclusive evaluation, members were needed to add a last test. For each planned action, the members were approached to join a particular number of focuses that match the trouble level of the errand. They utilized the gamification apparatuses accessible in the LMS. Different directions were likewise given to the members identifying with the tasteful piece of the course and other plan rules equipped to decreasing intellectual burden.
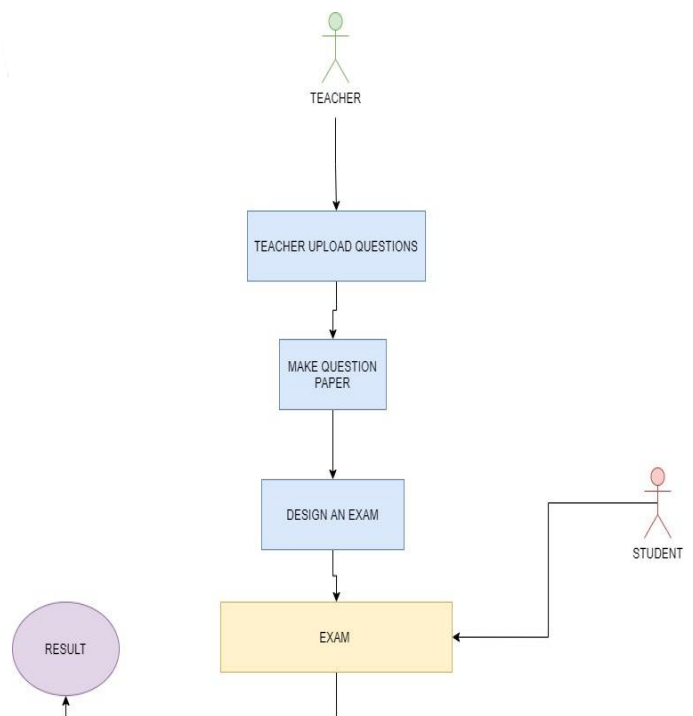
Data Analysis: Responses from the survey were analyzed using percentages of every point of the five-point Likert scale on each item. Overall, the average percentage was calculated for each survey section to compose the final perspective of the included students. Tables and figures (pie charts) were used to support and summarize the theoretical results. Additionally, the level of agreement reported as strongly agree and agree were grouped as agree while those reported as strongly disagree and disagree were grouped as disagree.

Model of e-learning with gamification for advanced education is intended to augment understudies' fulfillment, inspiration, viability and productivity. This model considers present day hypotheses and practices of training and e-learning. Current speculations of successful learning propose that learning is best when it is dynamic, experiential, arranged, issue based, and gives quick input. Muntean made a hypothetical examination of gamification as a device for expanding the commitment in e-learning stages. Gamification in e-learning stages appears to can possibly build understudy inspiration, in any case, it's not inconsequential to accomplish that impact, and gigantic endeavors are needed in the plan and execution of the experience for it to be completely rousing for members. As indicated by Simões et al., new and fitting structures and models are required for the plan of gamified learning substance. To plan a model of e-figuring out how to be utilized in higher instructive foundations that utilization gamification, we need to realize our clients are and their necessities. Most of understudies in advanced education have framed individual objectives and vocation direction. Seriousness of study at the college is, as a rule, more prominent than in the lower levels of training. Understudies in advanced education are more mindful of the significance of schooling they have picked. Inspiration of understudies in the portrayed model is expanded considerably more by the utilization of gamification. A few terms like game mechanics, game elements and gamification are portrayed in the past areas. Gamification should be coordinated into the model in a manner that supports understudies' inclination of the significance of training for what's to come. With the utilization of gamification we can interface understudies' very own objectives with e-learning targets. The destinations of e-learning should be totally clear and unambiguous. The targets of e-learning should be unequivocally introduced, just as rules, rules, time periods, prerequisites and impediments of e-learning. Gamification underscores showing obvious targets that inspire understudies. As indicated by the hypothesis of gamification, the primary

goals of e-learning ought to be partitioned into a few more modest targets. It is simpler to accomplish a little level headed, which can bring about expanded understudy inspiration and fulfillment. Progress and cu
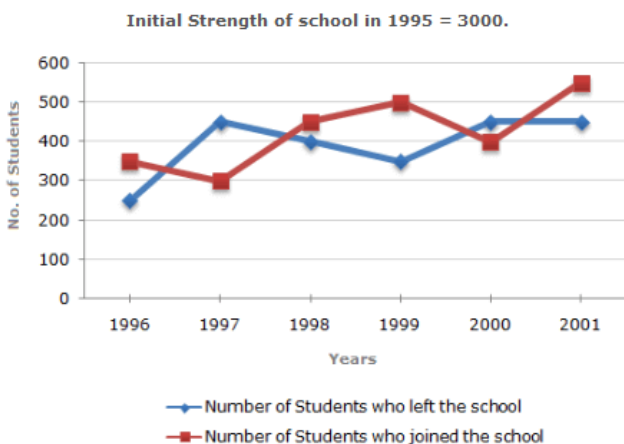

rrent status of understudies' exercises should be obviously and graphically showed. This sort of work gives understudies full self-rule over their work. Self-rule at work lessens the dread of utilizing e-learning. Terrible showing and end of learning are important for any instructive interaction, by e picking up being no exemption. The reason for gamification in e-learning is to urge understudies to keep working regardless of the current disappointment. During the interaction of e-learning we need to gather information about understudies and their exercises in e-learning. Sufficient information give a premise to dissecting and adjusting e-figuring out how to accomplish ideal condition of the whole framework.

Adverse consequences of Incorporating Game Elements: in light of the adverse consequences of fusing game components in learning the board frameworks, the outcomes showed that most understudies didn't have a negative sensation of game components because of the making of rivalry. This gathering of understudies didn't see game components as debilitating with respect to making a solid scholastic and social relationship. They, additionally, couldn't help contradicting the explanation that game components demotivate the understudy's desire to finish the course, make nervousness, and prompts helpless learning propensities. A few understudies, then again, concurred that game components debilitate

socialization, make uneasiness, cause helpless learning propensities, and restrain the consummation of the reason

Limitations:

Numerous restrictions were distinguished in this examination. In the first place, since the idea of gamification is genuinely novel, there are not many exact investigations on the subject. It is accordingly hard to build up a profound understanding of exploration accomplishment. Besides, the assessment of impression of understudy utilized a little example size, which restricts the generalizability of the examination results. The examination configuration being cross-sectional, it just inspects understudies utilizing a gamified learning framework at a particular time. It, consequently, makes it hard to comprehend the drawn out insight and viewpoint of the utilization of gamification in internet learning. Gamification is made out of a few components, including game mechanics and game elements (Urh et al., 2015). At last, in this investigation, just game mechanics, which are the objects of the game, are utilized, leaving out game elements, which catches the conduct arising out of messing around.

Initial Strength of school in 1995 = 3000.

- Number of Students who left the school
- Number of Students who joined the school

Conclusion:

The On-line test System is created utilizing Django completely meets the destinations of the framework for which it has been created. The framework has arrived at a consistent state where all bugs have been killed. The framework is worked at an undeniable degree of effectiveness and every one of the educators and client related with the framework comprehends its benefit. The framework tackles the issue. It was proposed to tackle as prerequisite detail.

The way toward making e-learning is frequently a sort of undertaking assignment and it is connected with programming plan. All e learning types are not similarly acknowledged, viable and effective. Most basic variables adding to a disappointment of a product project are: ridiculous or unstated undertaking objectives, incorrect evaluations of the requires assets, severely characterized framework necessities, helpless announcing of the task's status, unmanaged hazards, helpless correspondence among clients, designers, and clients, the utilization of obsolete innovation, failure to deal with the venture's intricacy, messy advancement rehearses, helpless undertaking the executives, partner governmental issues, and business pressures (Charette, 2005). The model of the presentation of gamification into the field of e-learning in advanced education incorporates strategies for overseeing e-learning. The model remembers significant components for e-learning. The reasons for blunders in the e-learning are essentially identified with components depicted in the model. E-learning ought to be created by the cutting edge improvement of web applications, and ought to incorporate components of gamification. The primary periods of the improvement are: examination, arranging, advancement, execution and assessment. All through every one of the periods of e-learning improvement, components of client experience are vital When utilizing gamification in an e-learning framework, it is imperative to consider different sorts of students and their learning propensities. Our center can't be gone distinctly to socializers as the most widely recognized player type, all things being equal, we should uphold a wide range of players/students. When we choose to bring game mechanics and elements into an e-learning framework we ought to follow all periods of e-learning framework advancement: Analysis, plan, improvement, execution and assessment.

The discoveries from the examination have uncovered that understudies have a positive discernment towards utilizing gamification in internet learning. Exact and predictable with the discoveries of past investigations, graduate understudies are more serious, persevering, and effective with gamified learning the executive's frameworks. These discoveries recommend that graduate understudies in this innovative time require an exertion requesting, testing, and complex learning

framework. Graduate understudies accept that fusing game components in learning empower them to have a feeling of having a place, appreciate, feel less desolate, increment availability, diminish fatigue, decrease uneasiness, decrease pressure, and increment energy in the learning interaction. Gamification, thusly, decidedly impacts the psychological piece of the understudies. These discoveries portray that graduate understudies need learning frameworks with insignificant mental trouble. The discoveries additionally showed that gamified learning offers moment input, which adds to advance observing, building revenue in the course, and expanding understudy learning commitment. Such results uncover that graduate understudies need a drawing in learning framework with continuous observing.

References:

[1] A. Trivedi, "A Relevant Online Examination System", Proceedings of the 1st IEEE International Conference on Technology for Education (IEEE T4E), Mumbai, India, pp. 32-35, July 2010.

[2] C. Xiangjun and W. Fangsheng, "Web-based General Examination System Development", Proceedings of the 2nd International Conference on Computer Engineering and Technology (ICCET), Chengdu, China , Vol. 3, No. 4, pp. 457-461, April 2010.

[3] M. A. Sarrayrih and M. Ilyas, "Challenges of Online Exam, Performances and Problems for Online University Exam", International Journal of Computer Science Issues (IJCSI), Vol. 10, No. 1, pp. 439-443, January 2013.

[4] D. Kochakornjarupong, "Web-based System Design for Enhancing Learning Problem Solving in Artificial Intelligence", International Journal of the Computer, the Internet and Management (IJCIM), Vol. 18, No. 1, pp. 42.1-42.6, December 2010.

[5] J. McGough, J. Mortensen, J. Johnson, and S. Fadali, "A Web-Based Testing System with Dynamic Question Generation", Proceedings of the ASEE/IEEE International Conference on Frontiers in Education, Renu, Nevada, USA, Vol. 3, pp. 23-28, October 2001.

[6] E. Guzman and R. Conejo, "Self-Assessment in a Feasible, Adaptive Web-Based Testing System", IEEE Transactions on Education, Vol. 48, No. 4, pp. 688-695, November 2005.

[7] K. Henke, "Web-Based Test, Examination and Assessment System", Advanced Technology for Learning, Vol. 4, No. 3, pp. 140-145, June 2007.

[8] M. Z. Rashad, M. S. Kandil, A. E. Hassan, and M. A. Zaher, "An Arabic Web-Based Exam Management System", International Journal of Electrical and Computer Sciences (IJECS-IJENS), Vol. 10, No. 1, pp. 35-41, February 2010.

[9] S. Vasupongayya, T. Kamolphiwong, S. Kamolphiwong and S. Sae-Wong, "Interactive Examination Management System", Proceedings of the 2nd IEEE/IACSIT International Conference on Education Technology and Computer (ICETC), Shanghai, China, Vol. 2, pp. 55-59, June 2010. International Journal of Computing Academic Research (IJCAR), Volume 4, Number 2, April 2015 82

[10] R. Sheshadri, T. C. Reddy, and N. A. kumar, "Web-Based-Secure Online Non-Choice-Based Examination System (WONES) using Cryptography", International Journal on Computer Science and Engineering (IJCSE), Vol. 3, No. 10, pp. 3383-3393, October 2011.

[11] P. G. Raj, P. Kumar, S. Sengupta, K. Vats, and P. R. Gupta, "An Architectural Insight into the National Online Examination System", International Journal of e-Education, e-Business, eManagement and e-Learning, Vol. 2, No. 2, pp. 126-131, April 2012.

[12] H. Satav, T. Nanekar, S. Pingale, and Nupur, "SQL Based Paperless Examination System", Journal of Information Engineering and Applications (JIEA), Vol. 2, No. 2, pp. 30-33, 2012.

[13] M. Z. Islam, M. M. Rahman, and M. K. Islam, "Online Examination System in Bangladesh Context", International Journal of Science, Environment and Technology (IJSET), Vol. 2, No. 3, pp. 351-359, June 2013.

[14] T. M. Fagbola, A. A. Adigun and A. O. Oke, "Computer-Based Test (CBT) System for University Academic Enterprise Examination", International Journal of Scientific & Technology Research (IJSTR), Vol. 2, No. 8, pp. 336-342, August 2013.

[15] A. Dhokrat, H. R. Gite and C. N. Mahender, "Automated Answering for Subjective Examination", International Journal of Computer Applications (IJCA), Vol. 56, No. 14, pp. 14-17, October 2012.

[16] J. Shen, S. R. Hiltz, and M. Bieber, "Collaborative Online Examinations: Impacts on Interaction, Learning, and Student Satisfaction", IEEE Transactions on Systems, Man, and Cybernetics, Vol. 36, No. 6, pp. 1045-1053, November 2006.

[17] C. C. Chen, K. T. Jones, and K. Moreland, "Distance Education in a Cost Accounting Course: Instruction, Interaction, and Multiple Measures of Learning Outcomes", Journal of Educators Online, Vol. 7, No. 2, pp. 1-20, July 2010.

[18] T. Tasci, Z. Parlak, A. Kibar, N. Tasbasi, and H. I. Cebeci, "A Novel Agent-Supported Academic Online Examination System", Journal of Educational Technology & Society, Vol. 17, No. 1, pp.154-168, 2014.

[19] L. Siyao and G. Qianrang, "The Research on Anti-Cheating Strategy of Online Examination System", Proceedings of the IEEE 2nd International Conference on Artificial Intelligence, Management Science and Electronic Commerce (AIMSEC), Zhengzhou, China, pp. 1738-1741, August 2011.

[20] S. Chao and Y. B. Reddy, "Online Examination", Proceedings of the 5th IEEE International Conference on Information Technology, pp. 1266-1267, April 2008.

[21] (31th March 2015) Coursera Web Site, "Coursera Courses", available at: https://www.coursera.org/courses.

[22] A. S. Tanenbaum and M. V. Steen, "Distributed Systems Principles and Paradigms", 2nd Edition, Pearson Education, 2007.

[23] I. Sommerville," Software Engineering", 9th Edition, Pearson Education, March 2011.

[24] S. Abdulla, S. Iyer, and S. Kutty, "Cloud Based Compiler", International Journal of Students Research in Technology & Management (IJSRTM), Vol. 3, No.3, pp. 308-322, May 2013.

[25] P. J. Deitel and H.M. Deitel, "Java How to Program", 10th Edition, Pearson Education, March 2014.

[26] M. F. M Ali, M. I. Younis, K. Z. Zamli, and W. Ismail, "Development of Java based RFID Application Programmable Interface for Heterogeneous RFID System", Journal of Systems and Software (JSS), Vol. 83, No. 11, pp. 2322-2331, November 2010.