PROJECT REVIEW

Object Oriented Analysis and Design (ITE1007)

MEMBERS

KUNJ PATEL (19BIT0256)

Email ID: kunj.patel2019@vitstudent.ac.in

Number: 9409254293

FACULTY

PROF. PRABHU J

ONLINE STUDENT CREDIT SYSTEM

I.   Abstract

In today's time, the cost of a student going through college is a big amount. Some private institutes have courses which even cost up to 30 to 50 lakhs. This is a big sum for any middle-class family to pay. Thus, we need online student credit system apps to give loans to student which helps the family to pay for the colleges and lessen the burden on the earning member(s) of the family as most colleges have their fees paid all at once for a year rather than in installments. Online student credit systems provide loans to the student at a small interest rate enabling students to pay the amount back in installments within a comfortable span for time. They help college students with a goal to help students tackle short-term financial constraints, aid in emergencies and encourage the maintenance of good credit scores even before employment, preparing them for the future. In this paper, we conduct a survey to determine whether students are aware of Student Credit Apps and which one of them is the most widely used currently. After a comprehensive study taking into account both the literary review and student responses from google forms, it was determined that StuCred is the dominant student credit system in use in today's market.

Keywords: Loans, Online Credit System, Student Credit Apps, StuCred

II. Introduction

The use of cross-sectional data to infer individuals expected future wages or income is one of the most critical, although typically under-discussed, concerns in applied labour and education economics. Most of the research in this area assumes that point-in-time estimates can be

utilised to make reliable lifetime projections. This assumption is especially important in research that is motivated by a desire to better understand the empirical implications of student loan policy design. Current student loan research focuses on two related but distinct questions. The first is the potential impact of so-called time-based repayment loans (TBRLs) on debtor hardship, as these types of student loans impose debt repayments regardless of a debtor's ability to repay debt. This problem has sparked a large body of research focused on estimations of "repayment loads," or the percentage of a debtor's disposable income that must be utilised to pay down a TBRL debt. This burden is viewed as a critical aspect of TBRLs for good reason: when an individual has a high RB, repayment appears to be a difficult experience, leading to anxiety, hardship, the need for family and/or friends to assist in debt repayment, and, in the worst-case scenario, having to default on the loan. A debtor's costs, particularly those related with default, are substantial. The government's costs associated with the establishment of an alternative student loan system are the second research and policy-related problem in the student loan research domain. What counts here are the subsidies that result when TBRLs are substituted with their only policy alternative, "income-based loans" (ICLs), in which borrowers' ability to repay a loan is contingent on their future income. While the fundamental benefits of an ICL are evident, it is the design specifications of an ICL connected to locating the associated taxpayer subsidies that are important for policy.[6]

Online Student Credit Systems are usually Time-based repayment loans as they usually can offer low interest rates for a time period. ICL type loans are only favourable when the time taken to repay the loan would be too long as the client(student) can't afford it in the present or near future. ICLs also have higher interest rates than TBRLs as TBRLs usually have a short set deadline and the risks are low.

III. Literature Survey

Sr. No.	Title	Author, Year	Methodology	Key Findings	Limitations
1	Security Evaluation of a Banking Fraud Analysis System	MICHELE CARMINATI, MARIO POLINO, and ANDREA CONTINELLA 2018	Introduced an effective online banking decision and fraud analysis system. Bank seller automatically ranks fraud and anomalies in wire transfer, prepaid phone, and debit card transactions. During a training phase, it builds a local, global, and temporal profile for each user. The local profile models past user behaviour to evaluate the anomaly of new transactions.	Fraud schemes, Fraud detection , user-centric/system- centric modelling	Detection system based on a user centric approach requires more effort from an attacker that wants to "mimic" users' behaviours. Not aware of banking Trojan variants able to perform such complex techniques of evasion. system-centric modelling has less computational requirements and offers more generalization than the user-centric approach
2	The influences of system usability and user satisfaction on continued Internet banking services usage intention: empirical evidence from Taiwan	Huei-Ting Tsai Jui-Lin Chien Ming-Tien Tsai 2014	Identify the factors influencing user's continued IBSs usage intention. A series of statistical analyses were carried out to answer the following research questions: (1) what are the salient factors influencing users' intention to continue using IBSs after initially accepting the services how do the factors influence users' intention to continue use of the IBSs? whether the answers of above two research questions are varying between different user groups with different level of experience and frequency of using IBSs? The statistical results support eight of the nine specific hypotheses. The results of multi-group analysis reveal that there	Internet banking services , Technology acceptance model , System usability, User satisfaction , Continuo us usage intention , Taiwan	This study only considers the influences of users' subjective perceptions of system usability (i.e. PU, PEOU, and perceived compatibility) and users' subjective emotional appraisal (i.e. user satisfaction) on continued IBSs usage intention. technology acceptance-related factors and individuals' emotional experiences and responses cannot fully explain users' continuance intention to use a particular technology.

		are some variations between different user groups which are distinguished by usage experience and frequency of the IBSs		
3	A Deep Learning Approach for Credit Scoring of Peer-to-Peer Lending Using Attention Mechanism LSTM	CHONGREN WANG, DONGMEI HAN, QIGANG LIU3 AND SUYUAN LUO 2018	Introduce deep learning method into the Field of credit scoring and put forward a method for credit scoring based on the user operation behaviour data of P2P lending industry. Based on the LSTM neural network, the attention mechanism is introduced. The attention mechanism can calculate the importance of the LSTM output at different times and extract more critical information.	P2P lending, credit scoring, machine learning, deep learning, LSTM, attention mechanism.	Only considers the sequence of events in the online user operation behaviour data without considering the time interval at which the event occurs. However, the time interval of the event also contains important information.
4	P2P Lending Survey: Platforms, Recent Advances and Prospects	HONGKE ZHAO, YONG GE, QI LIU, GUIFENG WANG, ENHONG CHEN, and HEFU ZHANG 2017	Comprehensive survey on the research about P2P lending provide a systematic taxonomy for P2P lending by summarizing different types of mainstream platforms and comparing their working mechanism in detail.	P2P lending, microfinance, online loans, platforms, prospects	Pricing problem, mechanism improvement, risk management, privacy preserving, and personalization haven't been looked into.
5	The US college loans system: Lessons from Australia and England	Nicholas Barra, Bruce Chapmanb, Lorraine Deardenc, Susan Dynarskid	This paper draws on the experience of the income-contingent loan (ICL) systems operating in England and Australia, in which monthly or two-weekly repayments are related to the borrower's income in that period, thus building in automatic insurance against inability to repay during periods of low income. We discuss the design of this type of loan in detail since such	Income-contingent loans Mortgage-type loans Student loan design Loan defaults	Universal ICL in the USA raises important questions about price setting. Should the government, as ultimate risk taker for unpaid debts, allow private-sector and State- based institutions access to the loan without reference to the level of tuition fees? Or should the government set maximum levels of either prices or loan amounts to guard against

			an exercise seems to be largely absent in the US literature		high levels of unpaid debt?
6	Evaluating and designing student loan systems: An overview of empirical approaches	Lorraine Dearden 2018	Current Population Survey (CPS) data from the US is used to demonstrate empirical approaches that can be exploited to simulate lifetime income and earnings profiles for graduates which are needed to understand and design effective and sustainable student loan systems. repayment burdens (RBs) of student loans are calculated at different quantiles of the graduate income or earnings distribution.	Student loans Student loan design Repayment burdens Income-contingent loans Copula functions Dynamic lifetime earnings and income simulations	Approach has limitations when evaluating student loans and that simple raw quantile estimation by age with some age smoothing is preferable
7	Student loans in Japan: Current problems and possible solutions	Shiro Armstrong, Lorraine Dearden, Masayuki Kobayashi, Nobuko Nagase 2018	Time-based repayment loans (TBRLs) created financial hardship for increasing numbers of loan recipients and their families. Universal ICL system were introduced in Japan that avoids problems with the current partial income-contingent loan scheme and would help alleviate access issues for those from disadvantaged backgrounds.	Student loans Student loan design Japan	The availability of universal loans needs to be restricted to high-quality university and college provision for suitable students in a transparent way. This is always much more difficult in a country where most students go to private universities.
8	What Are Student Loan Borrowers Thinking? Insights From Focus Groups on College Selection and Student Loan Decision Making	Carrie Johnson, Sheri Worthy, Jean Lown, Cathy Bowen 2016	Describes a qualitative study that was conducted to answer questions including (a) how students with college loans decided where to attend college, (b) how they feel about borrowing money for college, (c) what they know about their student loans.	College students, decision-making, online focus groups, student loans	Because of the qualitative nature of this study, the generalizability of findings from this study of college selection and student loan decision- making factors is limited. Discussion between participants was limited, and replies to original posts did not lead to the conversation that traditional focus group research typically yields
9	Adaptive Information	Chih-Lin Hu and Ming-	Both static and dynamic information services are	Push, adaptation,	Methods are mainly designed for the static

	Dissemination: An Extended Wireless Data Broadcasting Scheme with Loan-Based Feedback Control	Syan Chen 2003	subsumed as service groups, i.e., the building blocks with the uniform representation of structure and group popularity and, thus, the conventional scenario becomes a special case of framework	feedback control, data broadcast, information dissemination, wireless network.	optimization of data broadcasting, but not to address the efficient dissemination of dynamic data and information contents.
10	Online Banking Security	KJELL J. HOLE, VEBJØRN MOEN, AND THOMAS TJØSTHEIM 2006	Studied customer authentication methods in several Norwegian Internet banks from 2003 through 2004.	Banking Security, Norway, Brute- Force, Online Bank, SSN Filtering	Application-layer DDoS attacks are still a serious problem. The security-by-obscurity practice continues unabated, hampering the sharing of important technical information. difficulty entailed in alerting banks and other large institutions about security weaknesses.
11	Paytm – A Review	K. Balanagaraja n, Kabaly P S 2018	Uses the conceptual frameworks viz ExO attributes and 6D's of exponential organization to examine and understand the Paytm's growth and its evolution into an exponential organization. The Exponential organizations make use of the abundant external resources instead of owing and securing assets.	Exponential Organization, Paytm, Six D's, Digitization	The limitation of this study is that it is pivoted in one case of Paytm. There is a good scope for further research by looking into similar exponential organization in India and across the world to unravel the understanding of exponential organization.
12	Improve Profiling Bank Customer's Behavior Using Machine Learning	EMAD ABD ELAZIZ DAWOOD , ESSAMEDEA N ELFAKHRAN Y , AND FAHIMA A. MAGHRABY 2019	Study aims at using k-mean, improved k-mean, fuzzy c-means and neural networks. The used dataset is labelled and creating a new label as a target for neural network classification is the main aspect of this study, which helps to reduce the clustering execution time and get the best accuracy results	Pro_ling, banking, machine learning, k-mean, fuzzy c- mean, neural network classifier.	Effectiveness and performance of proposed approach can be improved by applying some deep learning algorithms In medical informatics.
13	Heterogeneous Ensemble for	WEI LI, SHUAI	Has a multi-round ensemble learning model	Ensemble learning,	Researchers have proposed a broad range

	Default Prediction of Peer-to- Peer Lending in China	DING, YI CHEN, AND SHANLIN YANG 2016	of heterogeneous ensemble frameworks comprised of XGBoost, DNN and LR individual learners, which was used to predict the default risk of P2P borrowers in China. In the ensemble model, we firstly used XGBoost as the main modelling algorithm to the initial ensemble, producing better performances in terms of prediction accuracy, robustness, application range and running speed, etc.	default prediction, imbalanced data, P2P lending.	of classification technologies, including statistical techniques such as linear discriminant analysis (LDA) and logistic regression, as well as non parametric models like k-nearest neighbour and decision trees. However, the above mentioned models are not very effective in solving the classification of imbalanced data
14	Fraud detections for online businesses: a perspective from blockchain technology	Yuanfeng Cai and Dan Zhu2 2016	This study explores the rating fraud by differentiating the subjective fraud from objective fraud. Then it discusses the effectiveness of blockchain technology in objective fraud and its limitation in subjective fraud, especially the rating fraud. Lastly, it systematically analyses the robustness of blockchain-based reputation systems in each type of rating fraud.	Blockchain, Fraud detection , Rating fraud, Reputation systems	Limitation that ratings can only be submitted after completing transactions increases the cost of rating fraud. However, sellers can still enter into agreements with raters for incentivized ratings. Fraudulent raters can submit unfair higher ratings in exchange for significantly discounted products or services, or they can complete the transaction, submit the rating, and be subsequently reimbursed by the seller.
15	Discretion in Bank Loan Loss Allowance, Risk Taking and Earnings Management	Justin Jin, Kiridaran Kanagaretn a m, Gerald J. Lobo, 2015	Examining whether the use of this discretion relates to bank stability and bank risk taking, or whether it relates to earnings management to meet or beat earnings benchmarks	Loan Loss Allowance; Risk Taking; Financial Crisis; Earnings Management	-
16	Determinant s of loan funded successful in online P2P Lending	Yuejin Zhanga, Haifeng Lia , Mo Hai a , Jiaxuan Lia , Aihua Li 2017	Analysis the factors that determine whether the borrowers can obtain loans finally or not from the largest P2P platform in China, which will help the platforms to improve	P2P lending, microfinance, online loans, platforms, prospects	Information asymmetry between the borrowers and the lenders in online lending, the loan rating given by the platform is not so useful that the investors cannot

			its loan approving process and reduce their operational risk. An empirical study is conducted by using public dataset from Paipaidai		effectively assess the investment risk
17	Privacy information in a positive credit system	Marcelo Luiz Brocardo, Carlos Roberto De Rolt, Julio da Silva Dias 2017	Proposed a cryptographic protocol to share sensitive information while preserving the privacy of the customer as well as the information of the commercial institution	positive credit; authentication; privacy; computer network security; cryptographic protocols; credit rating analysis	Application-layer DDoS attacks are still a serious problem. The security-by-obscurity practice continues unabated, hampering the sharing of important technical information
18	Student Loan Nudges: Experimental Evidence on Borrowing and Educational Attainment	Benjamin M. Marx and Lesley J. Turner 2018	Loan amounts listed in financial aid award letters ("offers") do not alter students' choice sets but significantly affect borrowing. Students randomly receiving a nonzero offer were 40 percent more likely to borrow than those who received a $0 offer. Per additional borrower, loans increased by $4000, GPA and completed credits increased by 30 percent, and transfers to four-year public colleges increased by 11 percentage points	Internet banking services , Technology acceptance model , System usability, User satisfaction , Continuo us usage intention	-
19	What Matters in Student Loan Default: A Review of the Research Literature	Jacob P. K. Gross, Osman Cekic, Don Hossler, and Nick Hillman 2019	Their literature searches for studies of student loan default targeted peer-reviewed journals in the fields of higher education as well as economics, sociology, and finance. We also used a variety of databases—such as EBSCO, Lexis-Nexis Academic, and JSTOR— to identify relevant	Ensemble learning, default prediction, imbalanced data, P2P lending.	Research that was most robust in scope and methodology was conducted during the late 1980s and, especially, in the mid to late 1990s. Because few multivariate studies using national databases have been undertaken in the last seven years, much of the best research on this topic was conducted a decade

			reports or articles that may not have been published in journals		or more ago—during a different historical context
20	An Updated Look at Student Loan Debt Repayment and Default	Laura W. Perna ,James Kvaal, Roman Ruiz 2017	Discusses recommendations for facilitating repayment and curbing defaults on student loans, including: protecting students from low-performing institutions; encouraging use of forbearance and deferment mechanisms; and strengthening income-driven repayment options	College students, decision-making, online focus groups, student loans	-
21	A Review of Fraud Detection Techniques: Credit Card. International Journal of Computer Applications.	Chaudhary, Khyati & Yadav, Jyoti & Mallick, Bhawna. 2012	Demonstrated various techniques used in credit card fraud detection and their advantages with data mining techniques including neural networks, and confidence value calculation and suggest improved techniques with better accuracies for the detection.	Fraud detection, modelling of an ideal detection system, comparative analysis	Only measures performances based on certain metrics and does not include any other performance metrics.
22	Student Loans Repayment and Recovery: International Comparisons	Hua Shen, Adrian Ziderman. 2008	This paper is an analysis of 44 loan schemes across 39 countries. It analyses the repayment and recovery ratios of all the schemes and finds that they show significant variations. The study finds that in more than 40% of the schemes, repayment ratio is 40% or less and the overall loan recovery is considerably low. It also suggests improvements to the policies.	Loan recovery is low, loan schemes are generally expensive for government, high subsidies in schemes might lead to losses.	Only focuses on the repayment and recovery ratios overlooking other factors. No reasons are taken into account for the non-recovery.

23	Student Loans: Do College Students Borrow Too Much—Or Not Enough?	Christopher Avery, Sarah Turner	This paper analyses if taking a student loan is actually a beneficial thing and how much loan is considered an ideal amount. It focuses on subjects of earning to loan repayment ratios and how investing in a college can affect a student and how student loans and potentially improve the efficiency of the economy by raising the supply of college educated workers in the labour market.	Framework of Student Loans, Usage of student loans wisely, What it an ideal number to borrow	Considers that all students have the same kind of expenses, lifestyles and decisions.
24	Sequential loss of self-control: Exploring the antecedents and consequences of student credit card debt	James W Peltier, Andrew J Dahl, John E Schibrowsy (2016)	In this paper a causal model is developed and tested exploring college students' pre-/post-debt decisions as a series of sequential losses in self-control, and how initial and post-failure decisions impact financial anxiety. Pre-debt loss of control takes on two forms: materialism and impulsivity. Locus of control theory is used to test how post-failure self-control lapses negatively impact the psychological well-being of consumers. A better understanding of these time-ordered self-control mechanisms offer insights for developing educational and policy interventions useful for staving off self-control lapses early in the decision-making process.	Psychological well-being of consumers, locus of control, financial services, impulsivity, self-control	Although the current study contributes to the literature by exploring the complex effects of materialism and impulsivity on negative credit card outcomes and financial anxiety, a few limitations exist. First, although college students represent an important credit card user audience exhibiting negative credit outcomes and financial anxiety, our results may not be generalizable to vulnerable, credit-risky consumers across other age groups. Future research should examine the model across multiple campuses and with another vulnerable consumer groups. Second, the model uses self-reported measures for credit card balance and engagement in negative post-failure behaviors.

Problems with existing systems

High fees and interest rates

Online loans have higher interest rates and fees, compared to normal loans. Aside from the high interest rates and fees that you must pay as you apply for the online. You will also have to pay a fee if you are late in your payment. Most late repayment fees that are charged by online lenders are quite great that they can reach up to double or triple the amount that you have borrowed.

Short repayment course

Normal loans from banks and other institutions can give you a repayment plan that divides your debt payment in a long span of time. Repayment can be done within the span of a year or two when getting a normal loan. An online loan however, requires you to settle your debt within a shorter span of time. it can be within two weeks or a couple of months.

Vague terms and condition statement

In some loan services, there may be certain terms and conditions that place you in a high risk situation. This is often intentionally hidden or made unclear, since they don't want you to know about it.

IV. Proposed Model

Given are the Use-case Diagram, Activity Diagram, Class Diagram, Dataflow Diagram, Component Diagram and Deployment Diagrams of a standard Student Loan application. These have been made by reviewing multiple student credit applications and have been used to compare the applications taken into consideration. The following student credit applications have been taken into consideration while making the UML diagrams:

StuCred

StuCred is a secure digital platform that offers short term student loans to empower and educate college students all over India. It is easy to download the app with clear steps on   how to register, currently offering loans ranging from Rs. 500 to Rs. 30,000 to pay back in 30 days, which can be extended to 60 days. So, in essence, StuCred is a type of lender.

mPokket

mPokket gives some financial assistance for college students, in short, some Pocket money, it's a platform which offers short term instant loan for students in a hassle-free manner, and initially you can start borrowing INR 500 to 1000 and the borrowing limit will keep on increasing over time with good usage. The repayment option is also flexible, as it can vary from 1 to 3 months.
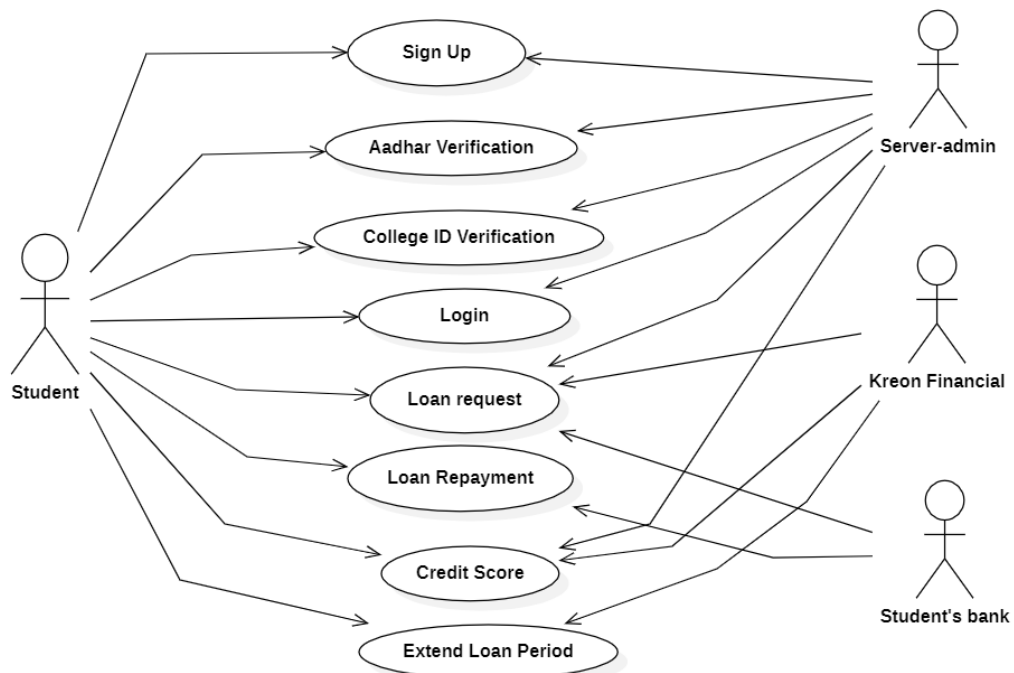
SlicePay

SlicePay is an app that solves all your obstacles of money, Slice Pay is a secure use anywhere, pay later credit which allows you to shop at online and offline stores without paying anything (or paying partially) upfront. You can simply pay next month or can convert it to low-cost EMI with low interest.
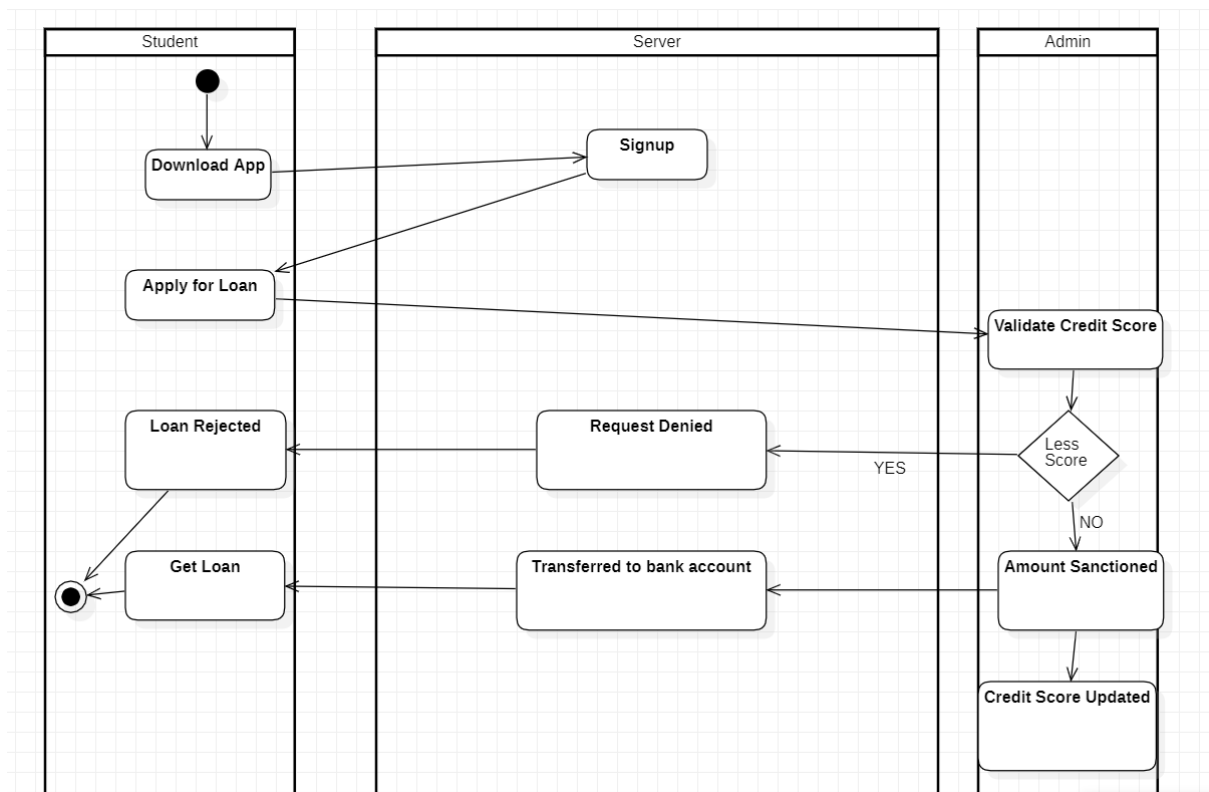
Notesgen

If you have notes like study notes, assignments, projects or presentations which can be either typed or handwritten can be uploaded by taking a photo or through the gallery, hard disk drive, or even by cloud drives such as Google Drive, Dropbox, and Evernote and earn each time when your notes are purchased.
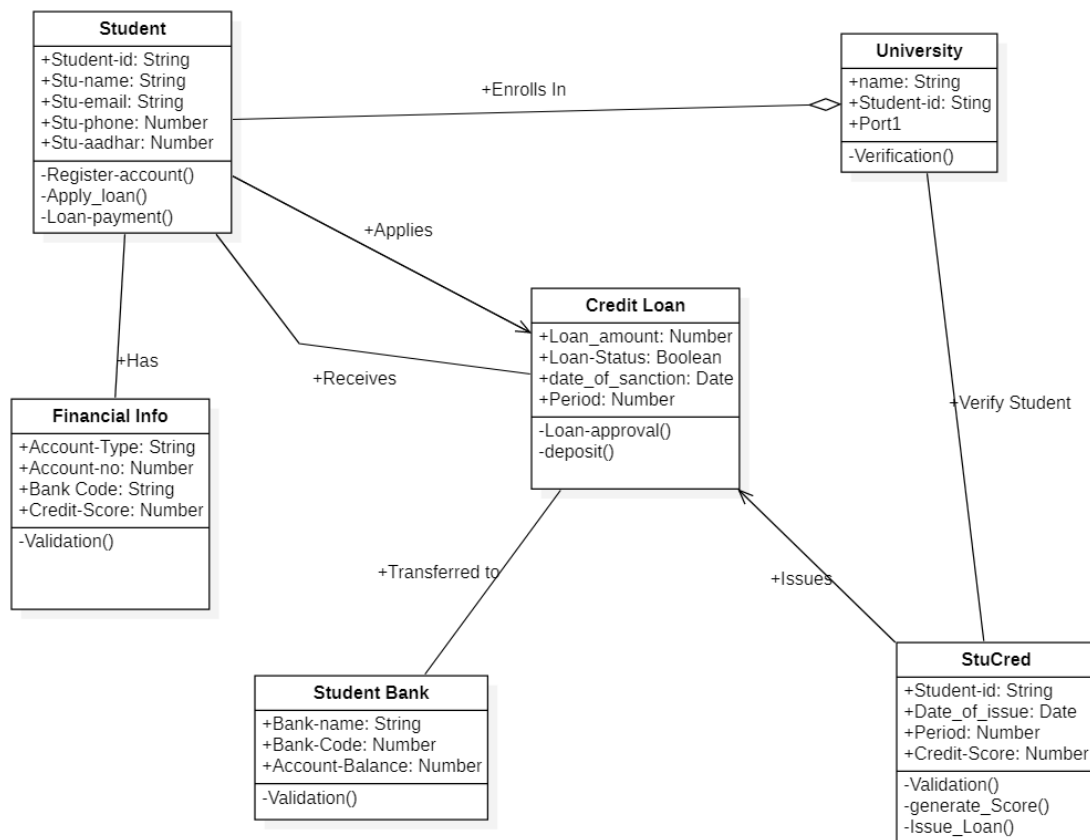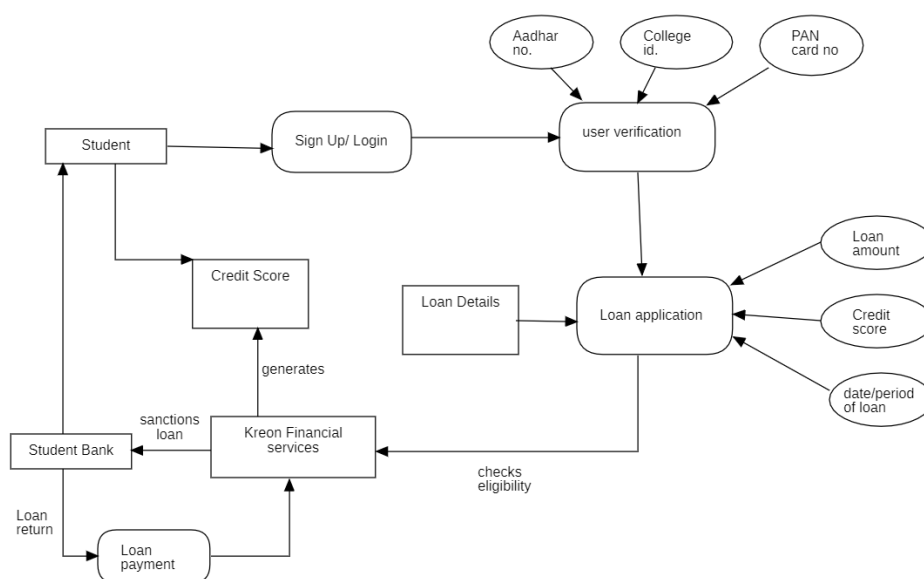
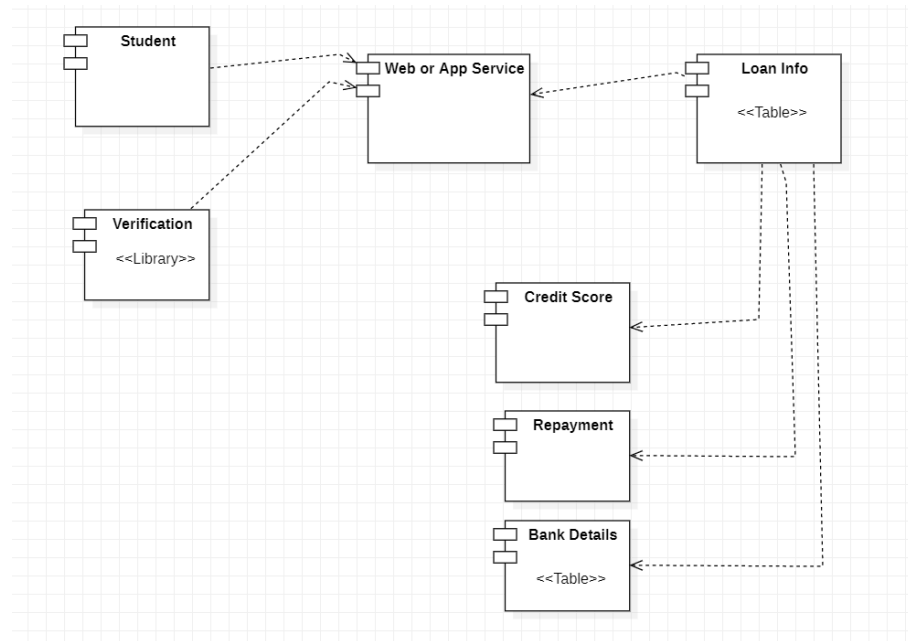# Use Case Diagram

Activity Diagram

Class Diagram

Student
+Student-id: String
+Stu-name: String
+Stu-email: String
+Stu-phone: Number
+Stu-aadhar: Number

-Register-account()
-Apply_loan()
-Loan-payment()

University
+name: String
+Student-id: Sting
+Port1

-Verification()

+Enrolls In

+Applies

+Receives

+Has

Financial Info
+Account-Type: String
+Account-no: Number
+Bank Code: String
+Credit-Score: Number

-Validation()

Credit Loan
+Loan_amount: Number
+Loan-Status: Boolean
+date_of_sanction: Date
+Period: Number

-Loan-approval()
-deposit()

+Verify Student

+Transferred to

+Issues

Student Bank
+Bank-name: String
+Bank-Code: Number
+Account-Balance: Number

-Validation()

StuCred
+Student-id: String
+Date_of_issue: Date
+Period: Number
+Credit-Score: Number

-Validation()
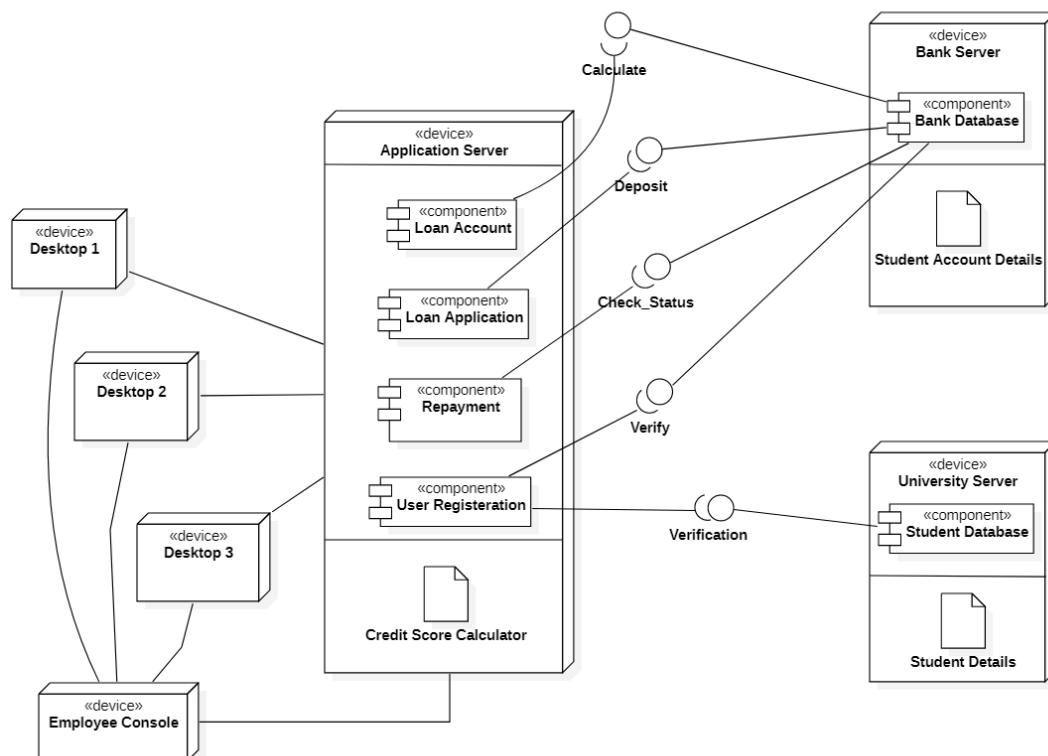-generate_Score()
-Issue_Loan()

Dataflow Diagram

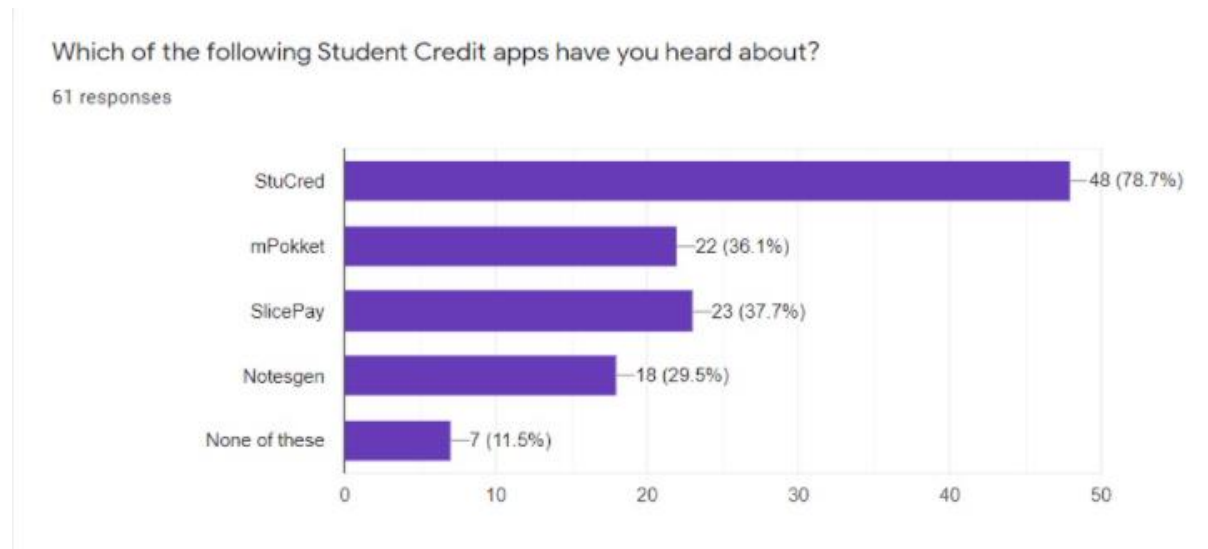# Component Diagram

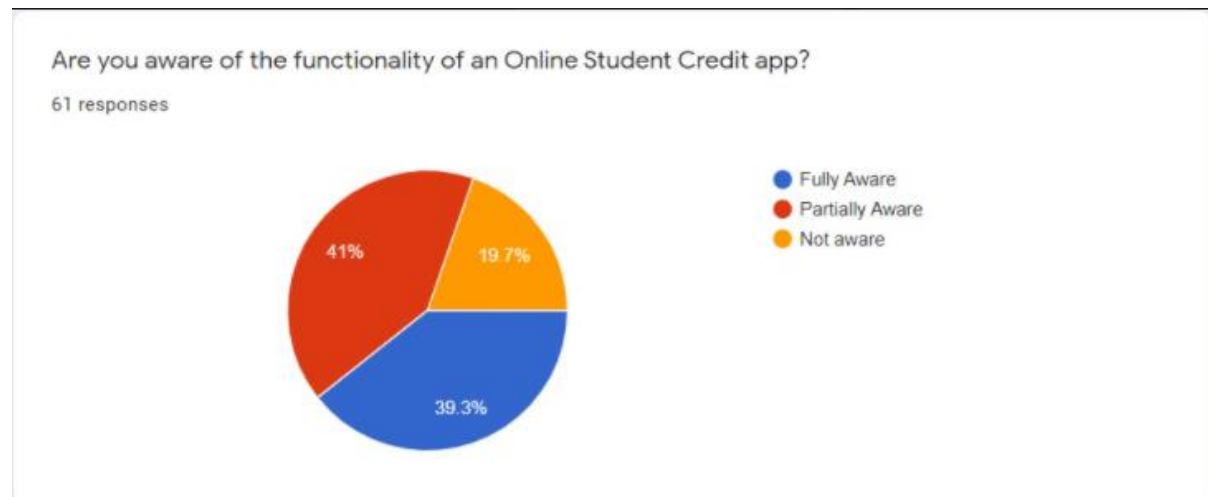# Deployment Diagram

V.   Comparative Analysis/Results

Out of the existing online credit systems, StuCred is the best and most popular one. The reason for it being better are as follows:

- **Quick and Instant Loans** - StuCred app is as quick as a flash of lightning that, before you know it, your loan is credited, and you've got your cash to spend on all those emergencies. It's a complete back-to-back process right from registration to getting your loan credited. It basically provides instant credit at 0% interest.

- **Boosts your Credit Score** - What is this credit score? A credit score is a value that reflects on how likely you are to re-payback any form of credit. Technically speaking, this score is calculated based on the number of times you've repaid your loan back by abiding by all terms and conditions of your lender.

- **Safety & Security is a Top Priority** - A zero human intervention environment with personalized OTP generations and individuality verifications are done on point to keep your details perfectly secured, especially from middle-men.

- **Helps with your Financial Responsibility** - While StuCred lends and helps you with money, it also trains you gradually in how to manage money, or repay the money back in time, etc. By practising this, even with a gradual increase in the amount would not scare you, but give you the confidence to take care of such situations.

- **Hassle free loaning** – It Requires no guarantor and no paperwork is involved to get loan approved from this app.

We made a google form to get the information about how many people know about Online Student Credit Systems and which one they prefer.

Which of the following Student Credit apps have you heard about?
61 responses

App	Responses
StuCred	48 (78.7%)
mPokket	22 (36.1%)
SlicePay	23 (37.7%)
Notesgen	18 (29.5%)
None of these	7 (11.5%)

It is seen that most of the students are aware of at least one Student Credit app, StuCred being the most popular out of them.

Are you aware of the functionality of an Online Student Credit app?
61 responses

- Fully Aware: 39.3%
- Partially Aware: 41%
- Not aware: 19.7%

Nearly 40% of the students are both fully aware and partially aware of Student Credit Systems. Around 20% of the students though do not know about Student Credit apps showing that the awareness is still a little lacking.
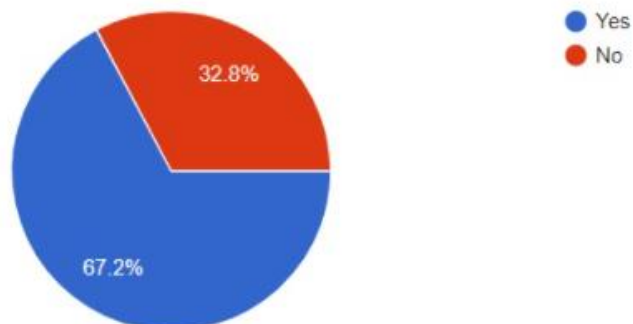
Have you ever used a Student Credit app before?

61 responses

- Yes
- No

42.6%

57.4%
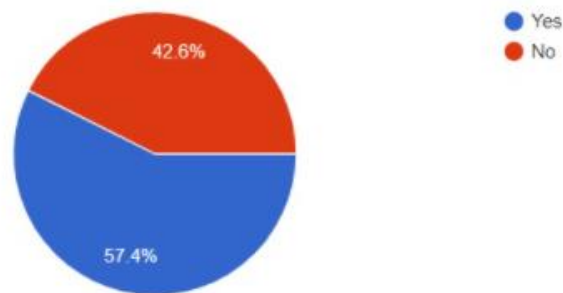
Many students haven't used any Student Credit app before but are at least aware of the market.

Are you aware of any apps similar to StuCred that are available in the market?
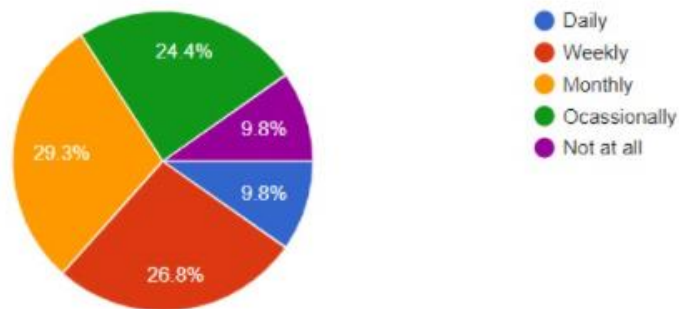
61 responses

- Yes
- No

32.8%

67.2%

Which Student credit app would you prefer the most?

41 responses

1 (2.4%) Crazybee
1 (2.4%) Cred
1 (2.4%) Mpocket
1 (2.4%) NA
1 (2.4%) None
6 (14.6%) Notesgen
3 (7.3%) SlicePay
18 (43.9%) StuCred
5 (12.2%) Stucred
4 (9.8%) mPokket
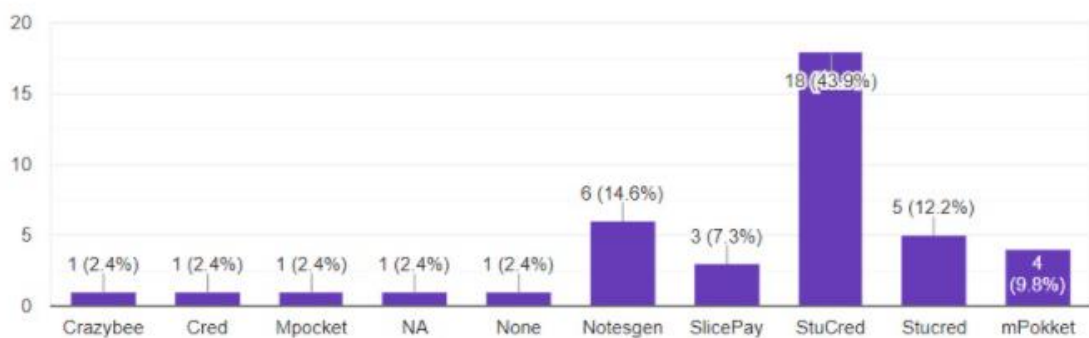
How often do you use Student Credit apps

41 responses

- Daily
- Weekly
- Monthly
- Ocassionally
- Not at all

24.4%
9.8%
9.8%
26.8%
29.3%

How reliable do you think the Student Credit app you use is?(On a scale of 1 to 5, 5 being the most reliable)

41 responses
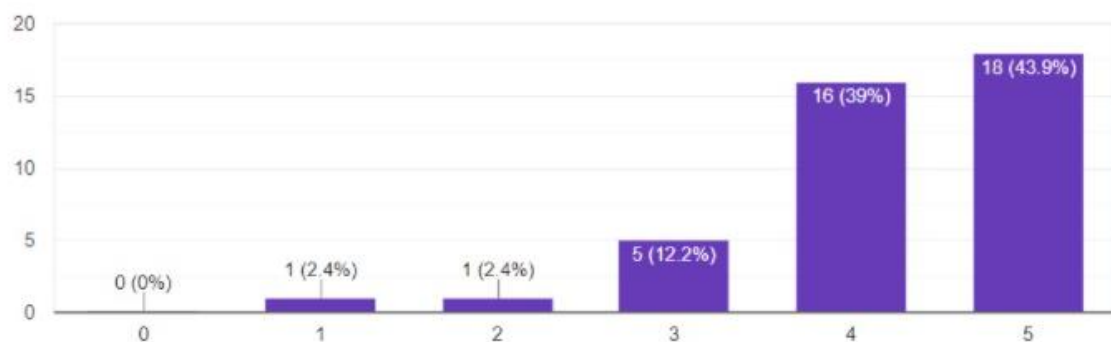
Out of many students that use or are aware of Student Credit apps, most of them prefer StuCred over others and most of the ones that are satisfied with their Student Credit app are also StuCred users.

In accordance to the data collected from the students and the public review found on the internet, StuCred comes out to be the most reliable and used Student Credit System in the present time.

VI. Discussion

After conducting this survey on StuCred it was noticed that there were certain challenges faced by few students while availing the benefits of StuCred.

Guaranteed Loan Repayment of the new user:

If a user registers for the first time, there can't be any guarantee whether they will be able to repay the loan in the given amount of time without any hassle or even payback the loan. There is no way to calculate this risk because no credit score would be there for such newly registered user.

To overcome this challenge, we can include referrals for the loan requests. Referral will be done by an existing user who has good enough credit score to be trusted on to give loan to new user. This solves the inability to put trust on the new user because the existing user's credit score will be on the line as well, therefore won't just recommend anyone unless they are sure the new user can repay the loan. So, if the new user repays the loan in time the credit score of both the users will be increased and if the loan is not repaid in due time credit of both the users will be decreased.

VII. Conclusion

In this paper, we review several student credit applications namely StuCred, mPokket, SlicePay and Notesgen and make several UML diagrams to determine the ideal functionality of a student credit application. It was determined that StuCred was better in contrast to other applications out there in the market. This is determined considering the highlights it offers like 0% loan interest, 45 days' return, instant loans, no guarantor requirement to sign the loan and keeping credit score. User response were also taken into account where It's ideal for any student searching for little advances to pay for their books, or then again, some other extra cost of their own. Our aim was to legitimize how StuCred is better compared to another comparative applications existing in market and literary works examination further aided in our review.

VIII. References

[1] Michele Carminati, Mario Polino, Andrea Continella, Andrea Lanzi, Federico Maggi, and Stefano Zanero. 2018. Security Evaluation of a Banking Fraud Analysis System. ACM Trans. Priv. Secur. 21, 3, Article 11 (April 2018), 31 pages. DOI: https://doi.org/10.1145/3178370

[2] Tsai, H-T, Chien, J-L & Tsai, M-T 2014, 'The influences of system usability and user satisfaction on continued Internet banking services usage intention: empirical evidence from Taiwan', Electronic Commerce Research, vol. 14, no. 2, pp. 137–169, viewed 5 November 2019

[3] 'A Deep Learning Approach for Credit Scoring of Peer-to-Peer Lending Using Attention Mechanism LSTM'
(2019) IEEE Access, Access, IEEE, p. 2161. doi: 10.1109/ACCESS.2018.2887138

[4] Zhao, H. (1) et al. (no date) 'P2P lending survey: Platforms, recent advances and prospects', ACM Transactions on Intelligent Systems and Technology, 8(6). doi: 10.1145/3078848.

[5] Barr, N. et al. (2019) 'The US college loans system: Lessons from Australia and England', Economics of Education Review, 71, pp. 32–48. doi: 10.1016/j.econedurev.2018.07.007.

[6] Dearden, L. (2019) 'Evaluating and designing student loan systems: An overview of empirical approaches', Economics of Education Review, 71, pp. 49–64. doi: 10.1016/j.econedurev.2018.11.003.

[7] Armstrong, S. et al. (2019) 'Student loans in Japan: Current problems and possible solutions', Economics of Education Review, 71, pp. 120–134. doi: 10.1016/j.econedurev.2018.10.012.

[8] Johnson, C. L. et al. (2016) 'What Are Student Loan Borrowers Thinking? Insights from Focus Groups on College Selection and Student Loan Decision Making', Journal of Financial Counseling and Planning, 27(2), pp. 184–198.

[9] 'Adaptive information dissemination: an extended wireless data broadcasting scheme with loan-based feedback control' (2003) IEEE Transactions on Mobile Computing, Mobile Computing, IEEE Transactions on, IEEE Trans. on Mobile Comput, (4), p. 322. doi: 10.1109/TMC.2003.1255647.

[10] 'Case study: online banking security' (2016) IEEE Security & Privacy, Security & Privacy, IEEE, IEEE Secur. Privacy, (2), p. 14. doi: 10.1109/MSP.2006.36.

[11] Balanagarajan, K. and Kabaly P. S. (2018) 'Exponential Organization: Paytm -- A Review', Global Journal of Enterprise Information System, 10(3), pp. 34–40. doi: 10.18311/gjeis/2018.22804.

[12] 'Improve Profiling Bank Customer's Behavior Using Machine Learning' (2019) IEEE Access, Access, IEEE, p. 109320. doi: 10.1109/ACCESS.2019.2934644.

[13] 'Heterogeneous Ensemble for Default Prediction of Peer-to-Peer Lending in China' (2018) IEEE Access, Access, IEEE, p. 54396. doi: 10.1109/ACCESS.2018.2810864.

[14] Cai, Y. (1) and Zhu, D. (2) (no date) 'Fraud detections for online businesses: a perspective from blockchain technology', Financial Innovation, 2(1). doi: 10.1186/s40854-016-0039-4.

[15] Jin, J. (1), Kanagaretnam, K. (2) and Lobo, G. J. (3) (no date) 'Discretion in bank loan loss allowance, risk taking and earnings management', Accounting and Finance, 58(1), pp. 171–193. doi: 10.1111/acfi.12210.

[16] Zhang, Y. et al. (2017) 'Determinants of loan funded successful in online P2P Lending', Procedia Computer Science, 122, pp. 896–901. doi: 10.1016/j.procs.2017.11.452.

[17] Brocardo, M.L., Rolt, C.R.D., Dias, J.D.S., Custodio, R.F. and Traore, I., 2017. Privacy information in a positive credit system. International Journal of Grid and Utility Computing, 8(1), pp.61-69.

[18] Marx, B.M. and Turner, L.J., 2019. Student loan nudges: Experimental evidence on borrowing and

educational attainment. American Economic Journal: Economic Policy, 11(2), pp.108-41.

[19] Gross, J.P., Cekic, O., Hossler, D. and Hillman, N., 2009. What Matters in Student Loan Default: A Review of the Research Literature. Journal of Student Financial Aid, 39(1), pp.19-29.

[20] Perna, L.W., Kvaal, J. and Ruiz, R., 2017. An updated look at student loan debt repayment and default.

[21] Khyati Chaudhary, Jyoti Yadav and Bhawna Mallick. Article: A review of Fraud Detection Techniques: Credit Card. International Journal of Computer Applications 45(1):39-44, May 2012.

[22] Shen, Hua & Ziderman, Adrian. (2008). Student Loans Repayment and Recovery: International Comparisons. Higher Education. 57. 10.1007/s10734-008-9146-0.

[23] Avery, Christopher, and Sarah Turner. 2012. "Student Loans: Do College Students Borrow Too Much--Or Not Enough?" Journal of Economic Perspectives, 26 (1): 165-92.

[24] Peltier, James & Dahl, Andrew & Schibrowsky, John. (2016). Sequential loss of self-control: Exploring the antecedents and consequences of student credit card debt. Journal of Financial Services Marketing. 21. 10.1057/s41264-016-0002-5.