Topic: Educational Technologies and Applications

Overview, Keywords, and Subtopic Name

Overview: The outcome of this project is an educational mobile app for adults learning the fundamentals of math up to a GED level. The application will create lessons and tests appropriate for the user's current skill level and interests. A user who has mastered addition will receive more difficult addition problems and advance into multiplication problems. Tailored content is not limited to skill level. For example, a user who is interested in football would receive more questions related to their favorite team. Keeping the user interested and engaged with measured progress and questions relevant to their interests are the core motivators of the learning experience. The learning experience should be challenging at times, but never overwhelming.

Keywords: Education, Math, GED, Adults, Software Analysis and Development, Application, Graphical User Interface, Web Service, Database, Numeracy, Ontology, Analytics

Subtopic Name: EA1 Pre K-12 Education

Intellectual Merit

The Small Business Innovation Research Phase I project uses a groundbreaking approach for creating math problems, solutions, and explanations of solutions. Current math learning applications rely on question templates and cannot truly tailor questions to the user's skill level or interests. Questions should be generated in real time using the building blocks of math theory, not just pulled from the database or created using a basic template. The greatest innovation of this project is to create a way to dynamically create math questions that are appropriate to the skill of the user and provide them with an engaging interface to support a learning experience optimized for adults.

The Remind Math Project creates the foundation of the question by first generating an equation and building the final question from there. By generating the equation a question is based on first, the Remind Math Project can create any kind of question without knowing what the final result should look like ahead of time. Starting with an equation first in the question generation process also provides a convenient way to generate steps to solve the final question based on the originating equation, no matter what the final question looks like. These steps can be shared with struggling users to help them through the solution process.

Broader/Commercial Impact

The app benefits society by optimizing the learning path of adults in the study of mathematics, greatly improving numeracy. The Remind Math Project will be free for use with advertising or available ad-free for a small fee in order to reach the greatest number of people. The Remind Math Project will optimize the learning path for each person.

The algorithm at the core of the application and their concepts can be applied to furthering the study of learning math before, at, and beyond the GED level. Furthermore, other areas of academics and technology can draw from these concepts, improving academic experiences in other topics, improving machine learning techniques, or expanding the understanding of other academic fields.

Elevator Pitch

The Remind Math Project is intended for anyone interested in learning or improving their core math skills. This includes people trying to get their GED, refreshing math skills left idle for some time, strengthening what the user already has experience with, or beginning a long journey of numeracy from day one. Basic numeracy skills are expected of nearly all adults, but the truth is that not everyone over the age of 18 can estimate tip, do their taxes, or even count to 100. These skills are a crucial and necessary part of everyday life.

The Remind Math Project will help users learn the skills necessary to become a math competent adult and pass the math section of the GED. Using the Remind Math Project, users will begin with basic math lessons, create a foundation for more complex questions. Users will improve their math skills until they have completed all skills available in the Remind Math Project. With each unlocked skill, a greater diversity of questions becomes available, but the advancement is rooted in older lessons to help the user understand where the new skill comes from. Using this method, the users will expand their math competence into new areas of math and become math capable adults.

Modern math learning software is extremely limited compared to the Remind Math Project. Even the best math learning software available separates each lesson as a single topic with questions pulled directly from a database or from a basic template. Since each topic is coded separately, it is nearly guaranteed that the lessons will not build from previous topics. Instead of a natural progression and mixing of skills, each lesson creates a steep learning curve, dissuading users from completing their lessons.

The Remind Math Project uses a system of incrementally advancing skills to overcome the serious limitations of the templated approach described above. The Remind Math Project creates a much stronger math skills foundation and introduces fewer and smaller barriers to numeracy education with each new skill. Learning is fluid with fewer barriers to advancement. As an added bonus, since the questions are built from the supporting concepts instead of as standalone lessons, review of previous lessons is automatically built in, reinforcing learned skills while exploring new lessons.

The Remind Math Project will serve as a math learning product for users of all skills, abilities and interests. Skills in the Remind Math Project are easy for users to learn because they start at a very basic level of math understanding. Even complicated skills are easier to learn as a user of the Remind Math project because advanced skills are built from the more basic skills and introduced slowly and fluidly. Remind Math Project skills exist as either locked or unlocked to show the user what is coming next and where the lessons origins come from. This skill mapping helps the user progress through logically ordered, easily accessible math lessons while also understanding exactly where they are in the learning process. Since the lessons and questions come from the the more basic skill modules, there is no way to surprise the user with an unexpected problem that they cannot be expected to solve. This hierarchy provides a built-in safeguard against surprising the user with unexpected, difficult problems that could dissuade the user from completing their lessons.

Societal Impact

The Remind Math Project addresses issues of numeracy. Numeracy is the ability to access, use, interpret, and communicate mathematical information and ideas, to engage in and manage mathematical demands of a range of situations in adult life. Numerate adults have little issue managing situations requiring an understanding and application of math concepts. However, many people grow into adulthood without ever reaching a competent level of numeracy. The Remind Math Project aims to improve numeracy across many groups of people, but to be sure, this group of innumerate adults is the most targeted and has the most to gain.

The Remind Math Project will generate exercises that will help with real world adult level tasks. Without numeracy skills, frequently occurring situations that many of us take for granted can become large obstacles to normal life. Consider the simple task of making dinner. It is likely that the recipe will need to be scaled to fit your situation. If you do not know how to multiply by 2, you will not be able to double a recipe. Perhaps this whole recipe problem can be avoided though. Maybe going out to eat is a better option so you can leave the recipe math to the restaurant. That option may seem reasonable until you get the bill and need to calculate the tip or split the check. Suddenly the simple task of doubling a recipe has become a complicated case of bistro mathematics that even the highly numerate can struggle with in a complex social group. These adult level tasks, both simple and complex, are examples of the kinds of problems you should expect to see generated from the Remind Math Project.

The Remind Math Project will especially benefit the large portion of the US population that lacks adequate math skills. There is no avoiding the need for fundamental math skills, but there is still a significant lack of adequate math skills in the United States today. On the PIAAC numeracy scale (measured from least numerate,1, to most numerate,5), only 9% of US adults ages 16-65 rank in the top 2 levels. Comparatively, the bottom 2 levels account for 30% of the same demographic. These statistics mirror the high school graduation rate in the United States. In the 2011, 2012 academic school year, only 80% of students graduated within the expected 4 years. The bottom line is there is a lot of room for improvement and a large population that could benefit from the Remind Math Project.

One of the primary goals of the Remind Math Project is to help people achieve their GED. Not achieving a high school level of numeracy can have devastating consequences for both the individual and society. High school dropouts can expect to earn about 33% less than high school graduates. This lower salary assumes employment, which is about 50% less likely (12% compared to 8.1%). Compared to college graduates, high school dropouts are 63 times more likely to be incarcerated and cost the average taxpayer $292,000 over the their lifetime. These distinct disparities can be narrowed by improving the academic achievement for those with the most room for improvement. Increasing the number of people with performant math skills is beneficial to both the users with newly gained math capabilities and to the country as a whole. The negative consequences of not completing high school will be greatly reduced by ultimately completing the GED and advancing the individual's academic career. Scaled properly, when enough people improve their academic standing, expect the broader consequences like economic burden and overpopulated prisons to also be reduced. The country needs the kind of innovating

thinking and advanced education techniques developed in the Remind Math Project to tackle the severe problem that is the United States numeracy problem.

Through the Remind Math Project, we can cut down on the problem of numeracy and help the United States reach a greater level of numeracy with more people able to perform at a GED level. By using the innovative approach developed with this project, adults that never achieved their GED can perform better on the math section of the exam. Since problems target both the actual skill level and interests of the user, learning and progress are improved and accelerated, leading to a faster, more solid base of numeracy knowledge and skills.

Commercial Opportunity

The Remind Math Project will be beneficial for a large portion of the population. Accounting for approximately 15% of the US population (approximately 48 million people), the largest and most clear market is people who have not completed their high school education. This group of people need help and guidance, but do not have a formal academic curriculum to draw from like typical diploma seeking children. The Remind Math Project will help these individuals learn the required math topics to pass the GED exam and apply the concepts to everyday life.

In addition to the large population of people currently or potentially seeking their GED and need to study outside of a formal academic setting, the Remind Math Project can also be used in a formal academic setting. Students struggling with math in a typical school setting can greatly benefit from the Remind Math Project. Practice tests can be generated by the student to help hone their skills. The product will allow the student to take the test, grade their work, and provide explanations of the solutions to help the student with any problems they struggled with. Teachers can benefit from the use of the Remind Math Project as well. Tests can be generated from a narrowed filter of subjects reflecting the current study material of the teacher's course and skill level of the class. This quick and easy test generation saves the teacher the time spent creating practical questions for their students. Furthermore, tests can be created so quickly and easily that the teacher can create a unique test for each student. Since each student has their own unique test, there is no benefit to peeking at your neighbor's work. This greatly reduces the opportunity for cheating in the classroom.

In a large market cluttered with tools targeting children, the Remind Math Project addresses learning in a different way. Most math learning materials for the pre-GED level target children. This targeting becomes a problem for adults learning the material because it creates a sensation that the person is being patronized with childish applications including material that is neither prevalent in the user's life nor interesting. Consider the following word problem example:

> *"Jimmy has 5 baseball cards and his best friend Joey has 4 baseball cards. How many more baseball cards does Jimmy have than Joey?"*

Looking at this example, it is easy to see that this question is directed at children. It is unlikely that 35 year old John Smith is able to relate to topic of baseball card collecting and trading. However, by applying what the Remind Math Project has learned about John Smith, this problem can be reorganized to better reflect his interests. For example, if John Smith is a serious New York Giants fan, the question might look like this:

"The New York Giants have 5 wins so far this season and the Dallas Cowboys have 4 wins so far this season. How many more wins do the New York Giants have than the Dallas Cowboys?"

As a New York Giants fan, the material involving his favorite team narrowly leading a division rival will create more interest in the material than a topic John Smith has little or no interest in.

The Remind Math Project is superior to all other math learning products as a result of its unique and dynamic question generation technology. In a market with so many possibilities and such a large target audience, it is surprising to note that there are very few solutions available and none of them address the issue of interest by personalizing the test questions. Most competing products involve either a database full of static test questions or a collection of question templates to change the problem in minimal ways. A database full of static questions is problematic. Even with large databases, consider the fact that most people complete their math education through a GED level in the first 18 years of their life. In 18 years, you should expect to see the same problem more than once, yes, but drawing from the same database over such long periods of time create a system where you will very likely repeat the same question multiple times and eventually run out of testing material. Questions may be categorized to target specific material for a test in other products, but they are rarely, if ever, ranked by difficulty making it impossible to target the user's skill level in an area of study. Because the Remind Math Project generates the questions dynamically with a cutting edge process not used by any other product, there is an unlimited number of questions that can be generated. The Remind Math Project also considers difficulty when generating questions and tracks the user's progress to make sure the questions being generated are appropriate to the user's current skill level.

I believe the best way to bring the Remind Math Project to market is as a GED math training course. There is currently very little competition in this area. One company that is targeting the same prospective clients is Kaplan. Starting at $129, Kaplan's course offers 3 months access to 5 GED tests with hundreds of practice questions. With the ability to generate an unlimited number of tests and questions, the Remind Math Project can do much better. Kaplan focuses only on the test and does not provide a mechanism to isolate specific skills forcing the user to go elsewhere to learn and target specific topics. The Remind Math Project provides an option to practice specific skills, a limited set of skills, or all skills at once, depending on what the user wants to study at that time.

The Remind Math Project has great earnings potential. Even if we narrow the target audience to adults going back to complete their GED, the market is 48 million strong. Competitively pricing the Remind Math Project at $100 per user and lowballing the expected impact of the product to 1% of this market would still produce 480,000 customers, totalling $48 million in total revenue. This earnings model creates a low-ball estimate of the starting earnings potential of the product. If we add teachers and current students into this model as well, the expected revenue significantly increases and in the ideal moonshot situation, the Remind Math Project could become part of the regular academic curriculum in the United States.

As great as the discussed earnings model is for GED math test preparation, this is only the beginning. After dominating the GED level math field, the test generating principles can expand into other, more complex fields. Consider a more advanced exam like the LSAT. Although the questions appear more complicated, and to be sure, they are more complicated, the same principles can apply to creating many of those questions. In particular, the logic section of the

LSAT is a great candidate to apply the Remind Math Project's methodology. The LSAT in particular is a great candidate because there is a percentage of LSAT test takers that already pay for test preparation courses, many of which are very expensive. On the lower end, Kaplan offers an LSAT prep course starting at 5 times their GED course. There is also the opportunity to expand the business beyond the Remind Math Project question generation capabilities into a tutoring service. Again considering the LSAT test preparation example, more expensive product options include private tutoring, which run approximately 3 times the base cost (totally 15 times Kaplan's previously mentioned base GED price).

As a product, the Remind Math Project is a versatile and expansive concept that can be applied to many academic fields. As a business, the Remind Math Project has growth opportunities in many directions including expansion into new fields and expansion of services supported by the major technological advances included in the Remind Math Project.

Technical Discussion

The primary Phase I technical innovation of the Remind Math Project is the capability to categorize math equations and create problems from them. At a high level, a question is generated in the following way:

1. An equation is generated at random.
2. The equation is categorized into a skill group.
3. A question is created from the equation that tests the user's abilities in a skill.

It is important to note that the skills a user has mastered may not include all available skills. Skills can either be selected or detected if the user has an account and the user should not expect to be tested on skills that they have given no indication that they know and/or would like to be tested on.

The main advantage of the above approach is that you can create any math question using the underlying equation that you are trying to get the user to solve. Compared to a typical test generator that you would see in the current market, questions will not be highly repetitive. The reason questions can be highly repetitive in existing test generation products is because these products create questions either based on a template, or are retrieved from a database of questions. With either of these approaches, questions will be repetitive.

The main challenge of the above approach is in the categorization and question generation steps, not the equation generation step. To be clear, equation generation is the first step and imperative to the Remind Math Project question generation process, but it is not considered a difficult task to create equations at random. In fact, it is important that this step is not difficult. Depending on the number of skills the user is being tested on, not that many equation types may be appropriate for each question type. Therefore, equations will need to be generated very quickly to create enough appropriate questions for the user to be tested on.

Equation categorization is the first significant challenge to the Remind Math Project, but it is not insurmountable if it is broken into smaller problems. To categorize the questions, there will be a suite of detectors with at least one detector per skill. The number of skills estimate is about 100, so it is also important that most detectors are simple. The detection system as a whole will be

complex as different detectors will be used depending on the skills used to create the test, but this challenge can be solved with proper organization.

The next significant challenge is the translation of the equation and category into a viable math problem. This again will be made simpler by breaking it the challenge into smaller problems. To translate a category and equation into a viable problem, we will need a suite of translators such that we have at least 1 translator per skill category. In the simplest case, a text arithmetic problem will be displayed on the screen for the user to solve. In a moderately complex case, a basic geometric shape labeled and drawn to reasonable scale will be presented to the user with a text problem to solve related to the problem. In a more complex case, the user may be presented with a statistical diagram or chart with a question to solve. This is considered more complex and more dynamic because these charts can be represented in many different ways which increases the number of available ways to present the problem to the user. Although this increases the difficulty of the task, it also provides a great opportunity to really show off the concept of the Remind Math Project. You can imagine that the equation can be represented in a pie chart, histogram, or other kind of chart really broadening the types of questions a user may receive for a single skill. In addition, as a future concept, the chart would be populated with topics that are of interest to the user to keep their level of interest as high as possible.

Another Phase I challenge is the creation of plausible incorrect answers. If you think about it from the perspective of the final question presented to the user, this would be very difficult to create. Solving the question would also prove a huge obstacle. However, this is another benefit of creating an equation at random as your first step in question generation. Finding the correct answer to the question is as simple as solving the equation. Finding plausible incorrect answers can be created by adjusting the equation in small ways. This method creates possible solutions that a user may reasonably stumble across if they solve the question using an incorrect method or if their math is not quite correct.

All math tests will be graded after completion by the user and the results will be stored in the Remind database. Each question will be equally weighted and grading is straightforward. Grading alone is not a complicated problem nor is this an innovative approach. However, persisting the results and associating the results to a user creates many possibilities. This enables the Remind Math Project to track the user's progress both in general and in terms of specific skills and question types and provide a report on the user's progress.

The user's progress will be measured in 3 ways. First, the user will have a skill rating for each skill related to their abilities in each skill type based on their test performance. When a user's skill rating is higher, the Remind Math Project will provide them with more difficult to solve questions in that skill.

Second, the user's overall progress will be measured as a percentage based on the system's perceived readiness of the user to take the math portion of the GED exam. Readiness should not be taken as an estimate of the score the user will receive on the official exam, but it can be used as an indicator to suggest that they have all of the tools necessary to do well. A 100% readiness rating suggests that the user has mastered all of the skills necessary for the math portion of the GED exam. The readiness rating is calculated based on the user's accumulated skill ratings.

Lastly, Remind supports tests that reflect all of the necessary skills for taking the math portion of the GED exam and will record these scores separately. This will provide a history metric so the

user can assess their overall progress towards doing well on the actual exam. To make a clear distinction between the last 2 metrics, the readiness rating is a measurement based on a deep analysis of the user's performance in each skill type while the history metric on GED style exams is a broad assessment of how a user might do on a single test.

From a commercial standpoint, there is very little financial risk with the Remind Math Project. After the upfront development costs, the ongoing maintenance and support costs are very low. These costs are limited to the cost of hosting a web server, database, and DNS registration fees. The hosting costs may go up when there are many users, but once there are many registered users, the product should be well funded enough to support these increases with plenty of room for profit. The maintenance costs are low enough to support a user registration fee model, subscription fee model, or advertising model. In the moonshot scenario, a licensing model can be used when the Remind Math Project is adopted into the formal education community as a training tool.

32 Week Phase I R&D Plan

The Remind Math Project will adopt an agile methodology consisting of 2 week sprints (a short block of time with specific goals) and release trains (a long block of time with general goals) consisting of 4 sprints. This will be a total of 4 release trains. The first 2 release trains represent the Fall semester and the second 2 release trains represent the Spring semester. Testing for each sprint will be included within the sprint. In other words, each user story in a sprint will not be considered complete or accepted until unit and integration testing is complete.

Release Train 1

Release Train 1 incurs a heavy research and setup cost necessary for smooth development. This does not mean there will be no deliverables. Tangible milestones will include equation generation and categorization procedures.

Sprint 1.1: The first sprint will be spent researching current implementations of products filling similar roles. These implementations will be analyzed for both their good qualities (for inspiration) and bad qualities (to improve on). Commercial approaches and cost models will also be explored during this research into competitive products. At the end of sprint 1, a good list of requirements and expectations should be set on the project in terms of goals and workflows.

Sprint 1.2: This sprint will be spent researching development and infrastructure frameworks to support the creation of the Remind Math Project. At the end of this time, a project should be set up and deployed with no functionality, but basic support so that you are ready to start writing and deploying code to create the Remind Math Project. All major initial and systemic hurdles related to frameworks and hosting should be solved by the end of this time box.

Sprint 1.3: The most straightforward and first step of generating a question is the random creation of a math equation. This is a good opportunity to set up the basic code design including a flexible contract between the front and back end aspects of the system, a UI capable of displaying the response based on that contract, and the back-end system capable of populating the contract

with values for the UI to present to the user. The deliverable at the end of Sprint 3 is a web page displaying randomly generated equations.

Sprint 1.4: The next step is skill categorization of the equations. An extensible implementation is needed to cover the many expected skill categories including some methods that will aid skill detection modules. Each detection module will represent 1 skill, though there may be multiple detection modules per skill. The most important deliverable of this sprint is the flow from equation generation to equation categorization such that new skill categories can be added quickly and easily. That being said, there is also an expectation of having 10 skill categories and detectors completed by the end of this sprint. The deliverable for Sprint 4 is an updated UI to display both the randomly generated equation and the categories that the equation belongs to.

Release Train 2

The completion of release train 2 results in a full process workflow to create full questions for the Remind Math Project. This includes skill selection, complete question generation, display, and answer choices.

Sprint 2.1: The first sprint in release train 2 will be to create a way to generate formal questions based on the equations and categories generated in release train 1. The deliverable for this sprint will be the display of arithmetic problems in 2 formats (horizontal and vertical). These equations should be visible in the UI. Other equation types should still be categorized, but no formal display will be available at this stage.

Sprint 2.2: This sprint will include the first drawing tasks for the project. Two primary features will be necessary to draw a question in the Remind Math Project. First, there needs to be a system of labeling. Drawings with no labels would not produce math questions that a user could solve. Second, the category and labels need to be used by the front-end to draw the shapes necessary to display a question with a diagram. The scope of this sprint is to create the system of labeling and diagram drawing in a duplicatable and, where possible, extensible way. The deliverable of this sprint is the creation of diagrams representing circles, squares, rectangles, and triangles. These diagrams should be included in the UI and output in a browser alongside their equation and category with a text based question for the user to solve based on the diagram.

Sprint 2.3: In the third sprint of the release train, we will generate the selectable answers related to the question. This will create 1 correct answer and 3 incorrect answers. The answers will be randomized in terms of order. The correct answer will be solved based on the equation generated in release train 1. By adjusting the equation, we will generate plausible incorrect answers as well. The deliverable of this sprint is an updated UI that includes the newly generated answer choices.

Sprint 2.4: The final sprint of this release train will be the creation of skills selections in the UI. By this sprint, skills should exist in the form of skill categories and detectors in the backend, but there is not yet a way for the user to select the skills they wish to be tested on. The deliverable of this sprint is a UI that the user can select the currently available skills and generate questions related to those selections.

Release Train 3

This release train is about expanding on the groundwork completed in the previous 2 sprints. The milestone achievement from release train 2 is an end-to-end solution to create questions, but it is limited in terms of categorization, translation, and display.

Sprint 3.1: Expanding on the categorization completed in sprint 1.4, a full catalog of math skills related to the GED must be collected and categorized. The expectation is that there will be approximately 100 skills in total. The groundwork is already available from previous work. All that remains is grouping the skills and implementing each one. The deliverable for this sprint is an updated skills selection UI so the user can select all of the new skills and an updated question display so you can see the correct categorization of the equations for the new skill categories added in this sprint.

Sprint 3.2: This sprint will be dedicated to the expansion of translation methods. Like categorization in sprint 3.1, the groundwork already exists for this. Unlike categorization, however, translation is a higher level of effort per skill. As such, this sprint will be dedicated to the translation of non-diagram based questions like algebra and logic as well as 3D geometry based questions like cubes and spheres. The deliverable of this sprint is an updated UI that includes the display of diagrams and labels for 3D geometry based questions and questions that do not include diagrams.

Sprint 3.3: Continuing the progress in sprint 3.2, this sprint will focus on chart based translations, particularly those related to statistics and graphical analysis. The deliverable of this sprint is an updated UI that includes chart and graph based questions

Sprint 3.4: The last sprint in release train 3 is for developing the grading mechanics. The UI will need to be updated to allow answer selection and test submission. The backend will need to create a method to grade the test and provide a test score. The deliverable of this sprint is an updated UI where the user is able to select answers, submit the test, and receive a grade.

Release Train 4

The theme of release train 4 is user progress. By the end of this release train, the Remind Math Project should include a history of the user's tests, reporting on their progress, and measurements of their skill levels overall and by skill category.

Sprint 4.1: The first sprint in release train 4 is to create a mechanism of persistence. Specifically, the graded tests will need to be stored in the database and associated to the user that submitted the test. Each question and answer stored will need to include the skill category, the question level of difficulty, and if the user answered correctly.

Sprint 4.2: This sprint will be dedicated to creating the user's skill level per category. Based on the records created in the database resulting from the work in sprint 4.1, we can analyze skill based success rates of the user's answers to generate the skill levels for each category. The deliverable for this sprint is a UI where the user can see all of their current skill capabilities with a score associated to their current level.

Sprint 4.3: Sprint 4.3 will be dedicated to the development of the exam readiness metric. Exam readiness will be calculated based on the user's skill levels for each category. Categories the user has no experience with will result in a score of zero. The deliverable for this sprint is the UI from sprint 4.2 updated to include an overall "Exam Readiness" rating at the top of their skill ratings. The UI should also be updated to allow targeting of the skills the user is struggling with, at their discretion, to improve their overall readiness score.

Sprint 4.4: The final sprint of release train 4 and all of Phase 1 is to create the final test that includes all skills in the math portion of the GED exam and stores them to include a full history of the user's test progress over time. Key features of this sprint are a mechanism to create skill category distributions such that the test reflects a ratio similar to the real math section of the GED, an expansion of that concept to all tests, except as a normal distribution, and the persistence in the database of the test results, marked for separate analysis from other tests. The deliverable of this final sprint is an updated UI where the user can take a GED math prep test including all skills and review their progress over time for these tests.

Result

At the end of these four release trains, version 1 of the Remind Math Project will be complete and ready for launch. Version 1 will include the ability to create full tests for users, track and report on user's skills progress, provide the user with the ability to target specific skills for improvement, and provide questions testing skills at appropriate levels of difficulty to the user by measuring the user's abilities in specific skills based on past performance.