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Ramp It Up: Gamifying College Financial Readiness

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Executive Summary

Financial capability is a prerequisite to financial security and opportunity. Young people face financial capability challenges which are exacerbated for youth in low-to-moderate-income (LMI) households. Higher education presents an especially high-stakes challenge. Deficits in financial capability for engaging with higher education can lead to students choosing not to continue their education, paying too much for an education, taking on crippling debt to finance their education, and/or choosing an ill-matched school.

Deficits in financial capability for engaging with higher education can lead to students choosing not to continue their education

Against this backdrop, in October 2015, the US Department of Treasury awarded Commonwealth a Financial Empowerment Innovation Fund contract to create an effective gamified mobile app that provides high school students with information about financial choices related to college, and study its effects on students who use it. The gamified app focuses on five topics: college finances, financial aid, debt, return on investment, and financial readiness in general. The contract also asked Commonwealth to provide insights on the process for designing an effective gamified app and on how to best reach, influence, and spur action among LMI high school students. This report provides a description of the development of Ramp It Up (RIU), a gamified app designed to improve college financial readiness, and shares insights on how others can design and distribute gamified apps. Final findings from the testing and evaluation of Ramp It Up are available at www.buildcommonwealth.org.

Ramp It Up

Commonwealth developed RIU, a gamified college financial readiness app, to help de-stress students, teach basic financial capability, develop important decision-making skills, and introduce new resources to young people approaching college age. Many people, particularly youth, enjoy the challenge, competition, entertainment, and pride of accomplishment that games provide. Gamification – a way to use game-like features to encourage a specific behavior in the real world – has proven popular and effective in multiple contexts. Games and gamified apps can help build skills while reducing stress, which undermines learning and decision making.

Commonwealth has tested the gamified app with almost 1,000 students to understand its effectiveness at changing mindsets, building knowledge, and prompting action. RIU, and games and gamified apps like it, may produce significant benefits for the students who are least likely to request help. Reaching students through a medium they are familiar with and have access to, relieving the stress that undermines learning, and providing an easy way to understand and navigate a series of complex financial decisions is essential for these students. Games and gamification create an engagement bridge to help youth achieve greater financial capability. As one student said, "I can't believe you're making something like this to help me. I didn't think I could do it before, but maybe I can."

In the course of this project, Commonwealth surveyed and met with students, educators, college administrators, non-profit organizations, advocacy groups, and private sector companies. This research led to important insights on effective strategies for designing and distributing gamified college financial readiness apps for youth, how gamification can be applied to foster financial capability among high school students broadly, and some learnings that may be helpful for federal agencies that seek to support these efforts.

"I can't believe you're making something like this to help me. I didn't think I could do it before, but maybe I can."

Youth need to be able to find – and then want to play – any app designed to help them. Thus, the first step is to build a well-designed gamified app that is authentically fun. To be successful, game elements must be applied systematically and thoughtfully, rather than in isolation or as mere "add-ons." Game designers must also include users at every step of the design process and incorporate robust metrics to measure the impact of the app.

Methods used for distributing the new innovations and for engaging students with those resources are just as important as the content. Choosing the right distribution channels for a gamified app requires understanding the ideal environment for using the app (self-directed play vs curriculum integrated play) and the needs of the distributor. Our research found that some distributors wanted a turn-key program, while others preferred customized apps to meet their particular needs. Since gamified apps are still new in the field of financial capability and decision-making education, all distributors said that they would need proof of their effectiveness before

using gamified apps with youth. Regardless of the distribution channel, gamified youth financial capability apps, no matter how fun, must be introduced to youth by a trusted source. These apps also are most successful when distributed in ways that encourage "virality" (the likelihood that a youth will recommend the app to another youth), which in the case of gamified youth financial capability apps, perhaps surprisingly, is through in-person or private on-line interactions amongst youth.

The federal government has both a stake and important role in promoting college financial readiness through improved engagement and innovation. For example, federal government support of private sector entities through convenings and funding to design and develop innovative projects are important ways the government can enable new resources to flourish. Similarly, improving access to government resources such as by creating secure APIs that make key data safely available could be an effective method for encouraging innovators to work with the federal government in creating and distributing resources. Finally, gamifying complex or difficult to use information and other resources so that students and parents better understand the processes and have the requisite socio-emotional support to use the information effectively can greatly improve long-term access.

Additional research on the long-term effects of games and gamification on youth financial capability is needed. Developing a clear understanding of how and where resources can be deployed to most effectively reach students should be an ongoing focus for the field.

This report has four sections:

- Section 1 provides an overview of the challenge of youth financial capability, especially as it relates to college financial readiness, and the opportunity for a gamified solution.
- Section 2 describes the innovative gamified app, Ramp It Up, that Commonwealth developed and tested.
- Section 3 describes insights, based on Commonwealth's research and experiences, on gamification design principles and distribution channels for gamified apps.
- Section 4 shares insights on ways the federal government can improve college financial readiness.

SECTION I: Introduction

A. Challenge of Youth Financial Capability

Financial capability is a prerequisite to financial security and opportunity. It involves understanding what is needed to negotiate financial decision making, having access to resources and tools for acquiring knowledge and skills, and applying that expertise effectively in a variety of contexts. Deficits in financial capability diminish financial well-being.

Higher education presents a particularly difficult challenge for students from LMI households.

Young people face particular financial capability challenges that are especially difficult for youth in low-to-moderate-income (LMI) households. Youth have fewer life experiences to give context and meaning to financial decision making, and their mental ability to process and apply information is still developing. LMI youth may not have mentors and peers who feel they are qualified to provide input and advice on financial matters either due to self-perception or lack of knowledge. These youths also tend to face daunting financial challenges, such as a caregiver's volatile income flow.

Higher education presents a particularly difficult challenge for students from LMI households. Although college is often critical to achieving long-term financial prosperity, unlocking that opportunity requires teenagers from LMI households to be even more skilled at financial decision-making. These prospective students often live in environments with limited or no exposure to higher education institutions, processes, and expectations. Thus, they are even more ill-equipped to deal with the intricacies of college accessibility and affordability.

The financial capability challenges of higher education start with its pricing: the actual cost of a college is remarkably difficult to determine, in part because the published tuition amounts are only a starting point given that colleges often are able to award scholarships and use other means for reducing overall costs for individual students in ways that are often neither transparent nor apparent. A large majority of students require financial aid to attend college, but this aid can come from many sources in many different forms, and may require considerable effort to comprehend. Furthermore, much financial aid is in the form of loans. Although going into debt for a college education has historically been worthwhile, for many students borrowing for higher education is an opaque process that discourages objective, informed, and rational decisions about long-term financial obligations.[1]

Youth who are making a financially-informed college choice need to be able to think about their future earning potential and their future ability to repay student loans.

Deficits among LMI youth in financial capability, particularly around higher education decisions, can have negative consequences such as not attending college, paying too much, assuming crippling debt, and/or selecting a school that is not a good fit for them. For LMI students in particular, financial issues that emerge in the summer before starting school, such as unanticipated costs, cash flow constraints, credit problems, and missed financial aid deadlines, can derail even the best plans. All of these issues contribute to relatively low attendance at four-year institutions by college-ready students from lower-income families compared to higher-income households.

B. The Opportunity of Games and Gamification as Teaching Tools

Many people, particularly youth, like the challenge, competition, and entertainment that games provide. Gamification – applying the structure of gaming to explore aspects of everyday life – is popular and effective in multiple contexts. Gamified apps provide amusement and support for users in pursuing and achieving individual goals. For example, the Fitbit app uses a gamification strategy to leverage competition and rewards as motivation and support for improving personal fitness.

1. National College Access Network. Financial Aid Eligibility Mindsets Among Low-Income Students. Report. Accessed May 5, 2017.

Game elements can provide opportunities for making learning about difficult or unfamiliar concepts engaging and fun.

Gamification can be an effective teaching tool. Game elements can provide opportunities for making learning about difficult or unfamiliar concepts engaging and fun. The interactivity inherent in game-playing permits an iterative and self-reinforcing approach to increase knowledge and build confidence. While being entertained, players encounter and work with new information in small chunks, gradually developing competency and self-confidence that is strengthened as they progress through the game. Each game title can effectively focus on achieving specific learning objectives.

Commonwealth has developed a suite of successful and effective Financial Entertainment games to strengthen various aspects of financial capability: Bite Club (saving and investing for retirement), Celebrity Calamity (credit card debt and spending), Con 'Em If You Can (avoiding financial fraud), Farm Blitz (compound interest, debt, and savings), Groove Nation (budgeting), and Refund Rush (tax-time saving). These educational games focus on various concepts to help players develop new skills.

SECTION II: Ramp It Up

A. *Ramp It Up*

Commonwealth recognized the opportunity of applying its expertise and success with financial entertainment games to the difficult task of helping high school students from Low and Moderate Income (LMI) households to build their financial capability for pursuing higher education.

A gamified app can communicate key concepts to demystify higher education financing and can connect young people to college financial aid systems and resources. Gamification principles provide an entry point for addressing resource and knowledge deficits. The game frames essential content as fun, and the challenging interactive environment motivates users to engage.

Gamified apps can be used in a variety of contexts. They may be used in conjunction with existing teaching opportunities to destress students and facilitate use of existing resources. Gamified apps may also be found as part of self-directed learning on websites or through app stores.

What is a Gamified App?

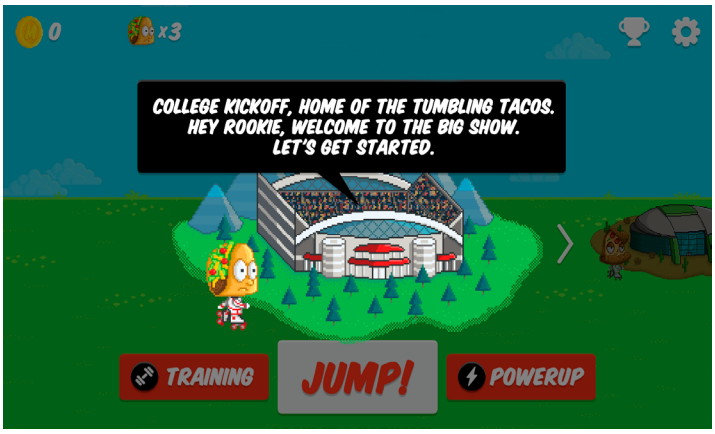
The terminology around games and gamification can be confusing. The following definitions may be useful in reading this report:

- **Casual Game**- A casual game is a video game characterized by simple rules and minimal demands on time or skill. Casual games are often played on phones or online. Popular examples include Candy Crush and Angry Birds.
- **Educational Game**- An educational game integrates games into the learning process to teach a specific skill or learning objective. Popular examples include Oregon Trail and Commonwealth's Financial Entertainment suite of games which are available at www.financialentertainment.org.
- **Gamification**- The application of game mechanics (such as levels, challenges, or points) in a manner that intrinsically motivates people towards an action or behavior that is not inherently game based.
- **App**- A software application designed to perform a specific function that is installed on a device, such as a phone or tablet.
- **Gamified App**- An app that uses gamification to drive to an outcome. Gamified apps connect in-app rewards with activity completed outside of the app. Popular examples include Pokemon Go and FitBit. Ramp it Up is a gamified app.

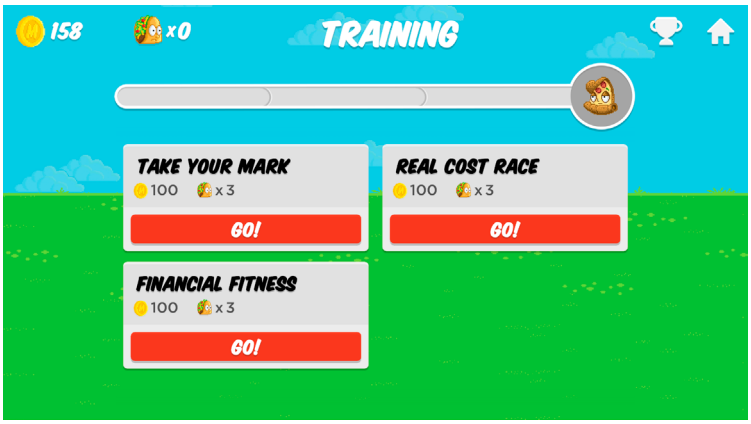
Ramp It Up (RIU) is a gamified app that students can use on phones, tablets, or through their computer browsers. It uses game mechanics like lives, power-ups, badges, and an embedded game mechanic to encourage engagement with learning objectives and outside resource use. It has three teaching goals: 1) Changing student attitudes that may discourage them from attending college, particularly attitudes about financing higher education; 2) Strengthen students' knowledge about college choice and finances; and 3) Motivating action-taking that could lead to successful college enrollment. The experience of playing RIU addresses the three goals and motivates and rewards players to participate in activity cycles. RIU's iterative progression – with levels, badges, achievements, virtual goods, power-ups, and upgrades – drives the player's real-world activity by building financial capability decision-making skills and supporting concrete outcomes, such as developing an understanding of key concepts such as the actual net price for attending a particular college.

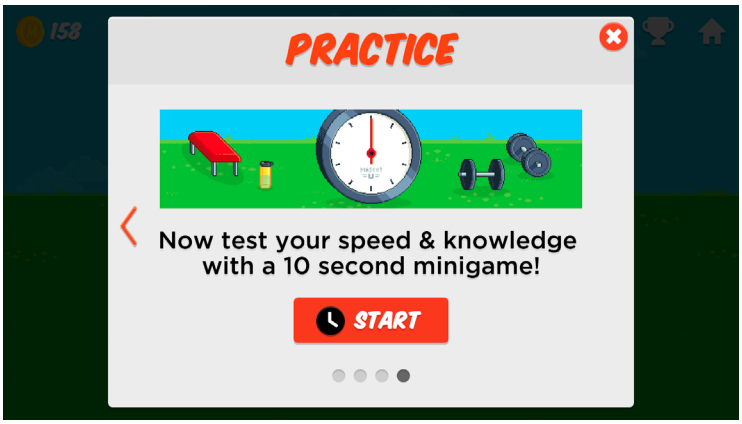
Playing Ramp it Up

The best way to experience Ramp It Up is by playing it. It is available on our website, www.playrampitup.org and on the Apple and Android App stores.

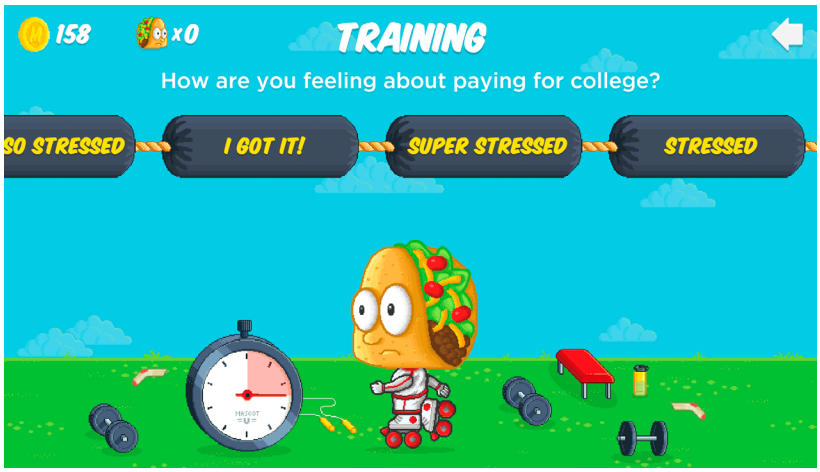


The first time a student plays Ramp It Up, they go through a training to onboard them to the gamified app. The onboarding consists of a sequence at the start of the app explaining the purpose of the app and popups that showcase all the different parts of the app on the home screen. The only button students can press is the "Jump" button which takes them to a game mechanic within the app. In that game, students tap the screen quickly to jump further and avoid all sorts of obstacles, like flying Whales. The difficulty of the game mechanic is increased during a tutorial of three "jumps" where students tap the screen to propel their character the longest distance. They progress through the jump until they hit an obstacle or lose power causing them to lose a "life." Players are introduced to more powerups, obstacles, and coins throughout the tutorial. After they have completed their first three lives, they are pulled into the educational part of the app, the training "Gyms."

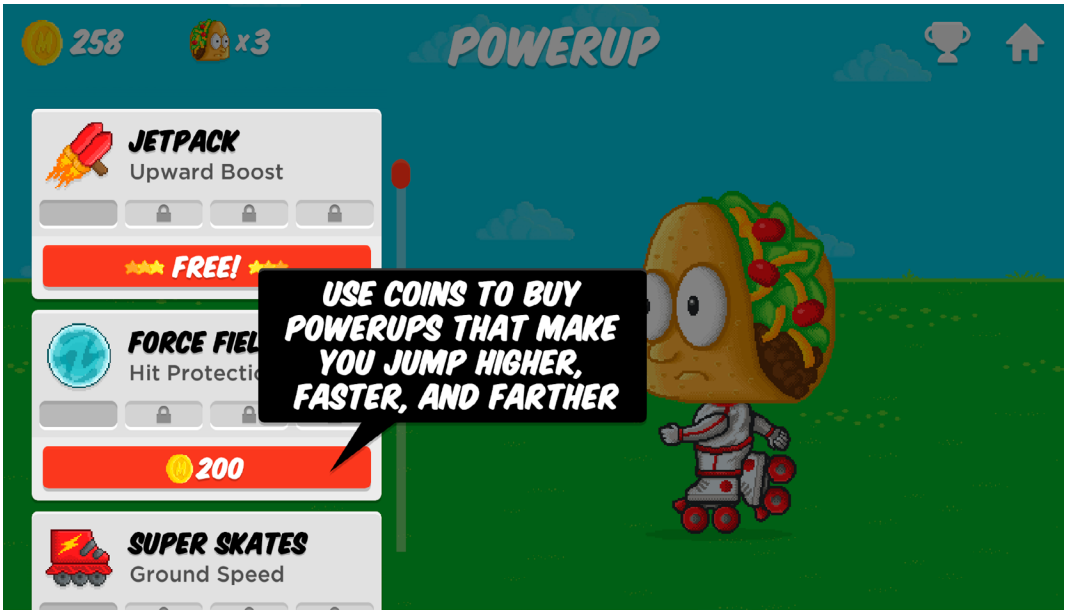




After youth have completed the training, they are able to play through all three portions of the app (Jump, Powerup, and Gyms) in any order they wish. If they spend their time Jumping or getting Powerups, however, they will soon run out of lives or coins and be forced to complete more trainings at the Gym to accumulate additional lives for additional opportunities to Jump. The app pushes students towards the desired action – that is, learning more at the Gyms.

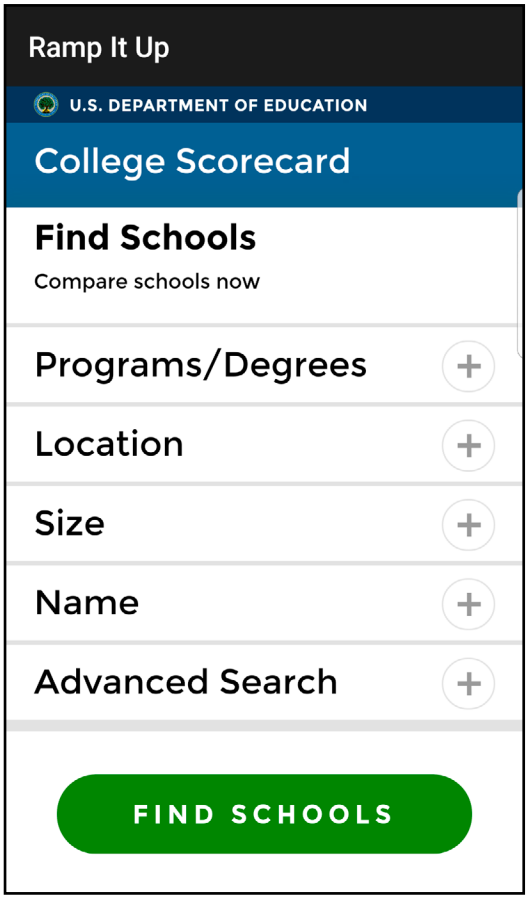


The first Gym provides information on the availability of financial aid and is designed to reduce stress about the cost of college. Youth click on a training within the gym and are shown three screens that provide the educational component of the training. Each message is a short sentence accompanied by a voiceover and a graphical illustration of the same concept to reinforce messaging and appeal to diverse types of learners. After a student has completed the first training, they are asked to play a "mini-game" where they are tested on the concepts they just learned. Students who fail the mini-game by answering the concept test incorrectly are brought back to the beginning of the educational screens. Those who answer correctly are able to advance through the app. Every time a student finishes a training they are rewarded with additional lives which they can use for play in the Jump portion of the app. Students also earn coins which they can use to upgrade their character in the power-up portion of the app.

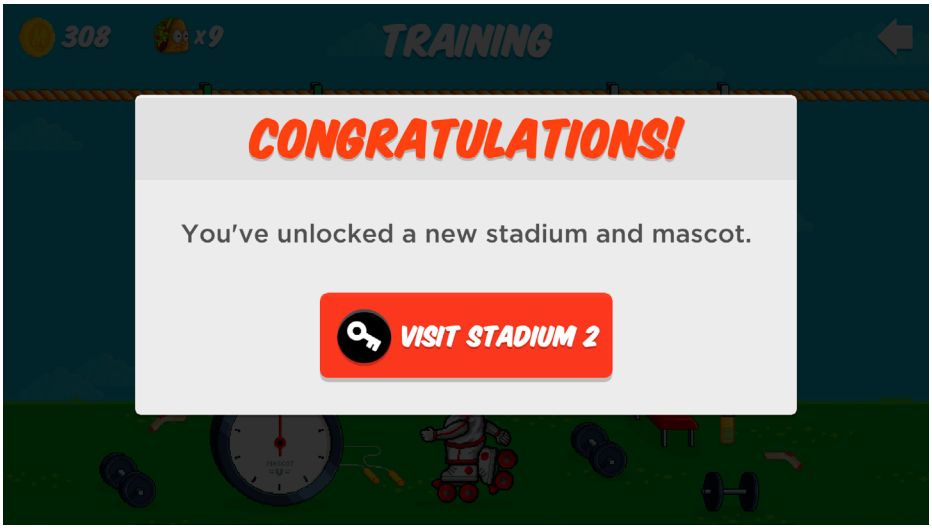


The final part of the training brings players to a power-up screen where they can use their coins to pay for additional abilities for their character. These upgrades make the Jump portion of the game significantly more fun as students can jump faster, higher, become resilient to obstacles, or attract more coins.

After a student has completed all the trainings at the first Gym, they unlock the second Gym which is focused on FAFSA availability and gift aid. In this Gym students are introduced to and are connected directly to online resources about FAFSA, including websites sponsored by the US Department of Education Federal Student Aid Office and other entities. After students go through their three-screen training, they are provided with a mission to find information on a linked website. Students press a button and an in-app browser opens. This design allows students to view resources on Department of Education and other government sites, YouTube, and many more without leaving the gamified app environment. The app tracks how long a student is viewing each of these resources and asks them to rate the site and also asks them knowledge-based questions which can be used to assess how much the students actually learned from the websites and resources. The game play becomes more difficult as students advance through the app and unlock new Gyms. The resources made available in-app require more navigation and players are asked to input information about colleges they are thinking about attending. This mirrors the increased difficulty in the Jump game within the app.



Students "win" RIU by making it through all four gyms. They are able to view a list of resources that they've visited and email the resources to themselves and others.



B. Commonwealth's Approach to Development and Design

To develop RIU, Commonwealth engaged in a three-year user centric process to develop and test the gamified app's content, process, and form. Working directly with users at every stage allowed for a deeper understanding of our target demographic's goals, knowledge, and needs.

User Inputs in Ramp It Up Design

Prior to app development, Commonwealth established the Gamification User Advisory Council (GUAC) for the project which consisted of 8 weeks of co-design and experience testing with 27 students from across the country who provided live feedback on:

- Experiences, hopes, and fears with the college financial readiness process,
- Usage of websites and college financial readiness tools, and
- Game play and mobile apps.

The GUAC approach enabled us to better understand key challenges in the financial aid process from the students' perspective. It also allowed us to collaborate with students on the design and purpose of the app. Next, we worked with game design experts[2] to develop several prototype versions of the gamified app, each of which were thoroughly tested with students.

We went through several iterative rounds of app development, responding to student feedback and addressing technical issues that were identified through the testing process. Version 1.0 of the app was workshopped with students in Boston and Philadelphia[3] who provided feedback about the content, flow, and mechanics in the app. In addition, we identified gameplay metrics to track the effectiveness of the app in consultation with Dr. Michael Staten[4] to form the basis of the backend database system to track app usage for the evaluation. Version 2.0 of the app was developed in response to students' design feedback and added a robust backend database. Several additional updates were incorporated over the course of the development in response to changes in the financial aid or technical landscapes.

Using Gameplay Data

Building a gamified app with a robust back end database allows administrators to track usage and action-taking. RIU has a significant database that tracks players' usage of the app. For example, the app records what player is logging in, how long they're playing the app after each log-on, what they're doing while they're using the app, how they're responding to in-app questions, and the length of time they're spending reviewing and using external resources which are made available to players within the app experience. This database function enables Commonwealth to compare the accuracy of self-reported survey data and to glean insights about which components of the app need to be adjusted or redesigned based on how students are using the app.

2. Dave Peth of Symbolic Studios consulted on app design and content and Curious Media led app development.
3. Over 75 students live user tested RIU in groups held in Boston, MA and Kensington, PA through the Kensington Health Science Academy in February 2015.
4. Dr. Staten is the Take Charge America Endowed Professor and Director of the Take Charge America Institute for Consumer Financial Education and Research as well as the Assistant Dean for Careers, Commerce and Industry at the University of Arizona.

C. Testing the Effectiveness of Ramp It Up[5]

In coordination with activities and analyses that were funded by Treasury, Commonwealth also analyzed the effectiveness of RIU. Final results from the Commonwealth-funded evaluation of the RIU pilot are available at www.buildcommownealth.org. The evaluation report details the testing methodology and analyses used, along with many insights, including estimates of the impact of RIU on students who participated in the pilot. The evaluation of RIU was designed to test the approach of using a gamified app to improve youth financial capability. The gamified app was based on the theory that youth interventions about financial capability need to address stress and other socio-emotional barriers,[6] knowledge gaps, and resource access. RIU was designed to create a fun and gamified environment that de-stresses students allowing for more robust engagement, learning, and adoption of existing available resources about planning for higher education.

To test the effectiveness of RIU, we examined differences in attitudes and outcomes before and after access to the gamified app. The primary evaluation areas focused on the three areas we identified during our research process as affecting future college outcomes.

- **Stress and confidence related to college financial decisions**- RIU should improve students' confidence in their ability to attend and pay for college as well as to navigate the associated systems.

- **Knowledge changes and learning outcomes**- RIU should provide students with the vocabulary to understand college financial resources and know the main concepts related to college financial aid that they should be prepared to address.

- **Use of resources and action-taking**- RIU should improve the number of resources students are using and the actions they are taking to engage with those resources.

Positive changes in these evaluation areas indicate that the app is effective in shaping students' college financial decisions and outcomes. We worked with an external evaluator who designed and planned the robust evaluation.[7] There were several drivers of the evaluation design:

- **Underserved Population:** The sample population was reflective of known demographic variables that affect the likelihood of students to attend college and focused primarily on schools that serve largely low-income populations and students who are prospective first-generation college-goers.

- **Universality:** Gamified apps have the potential to have a larger addressable population than many other types of interventions because gamified apps create a larger number of potential users than typical resources for building financial capability. To test with this wider, universal program, the unit of research was the classroom (not individual students). We tested with complete classrooms to reduce selection-bias. Classrooms of students were selected from locations across the country.

- **Voluntary:** Gameplay is most effective when youth are allowed to make their own decisions on when to play the game. As such, although the gamified app was framed as a classroom homework assignment, youth could play the app (or not) at their own pace. We over-selected for treatment group classrooms to allow for a large enough treatment group that took the offer and played RIU.

- **Environment:** High schools across the country provide a variety of support services for youth considering their post-secondary options. In general, these can be classified into "high-touch" schools that have significant resources to help students navigate their next steps and "low-touch" schools that have few additional resources available. We tested RIU in both types of environments to analyze the role of the environment on the impact of RIU.

5. Treasury did not provide funding for certain aspects of the information collection and data analysis.
6. Palmiter, David J. , and Dawn Wilson. "Teens and Stress: How to keep stress in check." American Psychological Association. Accessed May 05, 2017. http://www.apa.org/helpcenter/stress-teens.aspx. School is a primary source of stress for teens followed closely by choices about their life post-graduation.
7 . For detailed explanation of the evaluation, please see the evaluation of Ramp It Up, available at www.buildcommonwealth.org

Considering these constraints, we tested RIU as part of a matched-comparison group study with schools placed in control or treatment groups. Students in both groups were measured according to the same schedule through several methods:

- **Surveys:** We tested self-reported attitudes and actions as well as knowledge of financial capability concepts at baseline, 1-week post-intervention, and 1.5 months post-intervention to test decay.
- **App Data:** We gathered student-level data on app usage, in-app responses, and time spent using or reviewing outside resources.
- **Focus Groups:** We gathered additional feedback via focus groups of high school program administrators and students.

D. Working with Youth

Designing and testing interventions with youth requires working with organizations that have trusted relationships with them, as well as abiding by the legal protections put in place to protect minors.

Testing in Schools

Testing and deploying gamified apps and other learning tools in schools has significant advantages. Students generally trust their teachers and schools, where they are a captive audience accustomed to learning new topics. Furthermore, a wide variety of students can be reached through schools.

However, there are significant constraints to testing with schools. Schools typically have considerable time and resource constraints. Teachers are limited by rigid classroom schedules and by requirements for standardized testing. Such factors may make it difficult for teachers to carve out classroom time to participate in research studies. Some schools do not have the technological resources to test apps, such as access to computers, tablets, or WiFi networks in classrooms. The limitations can make testing mobile apps complicated. This reality reduces the number of viable test locations and makes it even more difficult for schools to participate in research studies or pilots of apps.

Working with Teachers

Commonwealth designed RIU to require little to no teacher training. As part of the pilot, teachers handed out a pre-made flyer[8] to students that explained RIU and had directions on usage. Teachers used brief talking points about RIU. We provided a website[9] with a demo of the gamified app for teachers who were interested in learning more about how RIU worked. We also provided a high-level explanation when we first introduced the study to the teachers.

We worked with teachers to distribute the gamified app through their classrooms and administer the evaluation of RIU. Teachers were provided extensive guidance about the evaluation and testing schedules and were trained on the purpose, activities, and requirements of the evaluation. This was conducted through interactive webinars and phone calls. Teachers were supported during the evaluation with personalized trackers that indicated which students had completed various parts of the study as well as real-time follow-up support.

RIU does not require a trained expert to use with students. RIU is designed for teachers of all levels of knowledge on financial decision-making, including those with in-depth knowledge of personal finance or college access and by those with little prior experience in the subject.

Finally, many schools are managed at both the school district and individual school levels. Due to the fragmented nature of school administration researchers may need to obtain multiple levels of approvals before launching a product pilot or other research with schools and students. It may be necessary to obtain approval and buy-in from multiple parties including the school board, the local principal, and teachers.

8. Please see the marketing materials created for teachers and students available in Appendix B.
9. The website is available at http://www.playrampitup.org/.

Legal Considerations

Researchers must obtain many approvals to work with young people under 18 in addition to the general requirements of any research.[10] Generally, schools require Institutional Review Board (IRB) approval for a study prior to agreeing to participate in it. IRB approval ensures that no harm is being done to any subject in the test and is generally granted from a university or other large research organization. The IRB consent requires parental consent. Typically, consent forms must be made available in multiple languages. Receiving consent forms back in a classroom environment takes significant work on the part of teachers. This can be a hurdle for full classroom participation.

Some school districts require that school board provide approval before allowing any research to be implemented in schools. Often, it is also necessary to have approval from the local principal or other school representative. These agreements may face scrutiny by district lawyers and as such require additional time to implement.

App developers face a second set of legal challenges. All apps require Terms of Use and Privacy Policies that protect user data and set out appropriate uses of the app.[11] Organizations that administer an app that collects and stores personally identifiable information are required to secure user data in locations that have significant safeguards for data breaches. There are rules and regulations for users under 18 and under 13 that developers must comply with to determine if and how they ask for personally identifiable information or user logins.[12]

SECTION III: Commonwealth Insights

A. Designing Gamified Tools

Based on Commonwealth's years of experience building financial education games and gamified financial tools, including Ramp It Up (RIU), we have identified several best practices for designing gamified apps. These practices form the foundation for creating user-centered gamified tools that can engage financially vulnerable people, reduce their stress around financial topics, and help them build financial capability.

Create a System of Game Elements

Gamification is a way to use game-like features to encourage a specific behavior outside the gamified context. To be successful, game elements must be applied systematically and thoughtfully, rather than in isolation or as mere "add-ons." The game designer must first identify what actions or activities to encourage - for example, walking 10,000 steps a day or creating a FAFSA account - and then select game components that work together to drive the player to achieve the specified outcome. There are many game-like components available, including challenges, badges, goals, points, new "unlocked" features, and levels. The key is to combine these components in a way that influences the specific behavior. Simply adding a leaderboard or a system for awarding points through the app display is not systematic and is not likely to influence the player's actions. The combination of selected game components must work together and reinforce each other to encourage the behavior and provide continuous feedback to the player. The game system needs to be a companion that motivates and rewards targeted behaviors as a player moves through the game experience.

The combination of selected game components must work together and reinforce each other to encourage the behavior and provide continuous feedback to the player.

10. Schools are often unable to provide individual student records or are required to set up significant safeguards including parental notification and permission forms to ensure compliance with the Family Educational Rights and Privacy Act (FERPA), and Protection of Pupil Rights Amendment (PPRA). FERPA governs the availability of personally identifiable data to third parties while PPRA limits survey questions to students.

11. All apps require privacy policies to be enacted. This requirement is the sum of multiple pieces of legislation. Please visit https://termsfeed.com/blog/privacy-policy-mandatory-law/#In_United_States for more information about the applicable legal requirements. In addition, Terms of Use allow you to govern safe and effective usage of your app and may be required to address the possibility of children using an app outside of the intended use case. For more information about Terms of Use please see https://termsfeed.com/blog/5-reasons-need-terms-conditions/.

12. App developers who have a userbase under age 13 are required to comply with the Children's Online Privacy Protection Act (COPPA) while those who target between ages 13-18 should note that some jurisdictions have enacted more stringent rules and regulations on this topic. For example, the State of California has enacted the Student Online Personal Information Protection Act (SOPIPA) which prohibits the sales of student information. For more information on COPPA visit https://www.ftc.gov/enforcement/rules/rulemaking-regulatory-reform-proceedings/childrens-online-privacy-protection-rule and for more information on SOPIPA visit https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB1177

Strive for Voluntary Gameplay

Intrinsic motivation—in which internal rather than external rewards drive behavior—leads to better learning outcomes. The more often that players voluntarily start playing and eagerly coming back for more play simply because they want to, the more opportunity exists for learning. Game designers should aim to build an experience where users *want* to continue playing. The experience should combine levels of difficulty and fun that keep users engaged and facilitate learning. Gameplay should challenge players enough so that they are not finding it far too easy or far too difficult. It should be enjoyable enough to reduce stress while still making room for growth and learning new concepts.

Game designers should aim to build an experience where users want to continue playing.

Mandating or otherwise "extrinsically" motivating gameplay can have negative effects on game players' experiences and/or interfere with learning. While not always achievable in context—particularly in a research study setting in which a requirement to participate can be necessary—voluntary gameplay is nonetheless a design principle to aspire to.

Make it Authentically Fun

Well-executed gamification requires a knowledge and understanding of video game design. All video gameplay triggers the release of dopamine[13] which has a positive impact on the player's brain and primes the player for learning.[14] Based on this evidence, Commonwealth believes that gamified tools need to feel like video games to be effective. Game designers can look to high-quality mobile games for inspiration. The good news is that thousands of titles are available for free. Game designers can also talk to users about what makes games fun and appealing. A tool that is educational, animated, and colorful is not necessarily fun or even a game; understanding the player perspective and what makes something fun, exciting, and appropriately challenging is essential.

Understanding the player perspective and what makes something fun, exciting, and appropriately challenging is essential.

User-Test Early and Often

User-testing throughout every stage of design and development allows designers to understand how they are faring on the above three principles and enables them to evaluate, iterate, and make ongoing improvements as necessary to better serve the user. At Commonwealth, we user-test with LMI users (our target demographic) at several stages during development: at "first playable" (a bare-bones version after initial development), "alpha" (an improved version later in development), "beta" (a nearly complete version just prior to launch), and final. Our design and development team conducts iterative cycling around each set of testing to evaluate and incorporate feedback during the next development stage. Toward the beginning of development, most of the feedback we collect is qualitative (i.e. asking players questions about the design and content) and less is quantitative (i.e. data on users' actions within the gamified app). As development moves toward a final product, feedback becomes more quantitative.

Identify Key Metrics for Design and Feedback

Before and during development and testing, it is important to identify methods and measures for obtaining feedback from users. These measures should be able to capture key information without being overly burdensome or time consuming to complete. At Commonwealth, we use a combination of ratings, a net promoter score, and pre- and post-testing to gather feedback. The rating system asks users to rate how fun the gamified app is on a scale from 1 to 5. A net promoter score is based on whether users would recommend the gamified app to a friend. Pre- and post-tests assess learning outcomes resulting from gameplay. The right tools and metrics for feedback may vary based on the specific features and needs of each gamified app, and these should also be tested with users during development.

13. Koepp, M. J., R. N. Gunn, A. D. Lawrence, V. J. Cunningham, A. Dagher, T. Jones, D. J. Brooks, C. J. Bench, and P. M. Grasby. "Evidence for striatal dopamine release during a video game." Nature 393 (May 21, 1998): 266-68. Accessed May 5, 2017. http://www.nrciol.org/cores/mialab/fijc/files/2002/120402_koepp_nature_1998.pdf.

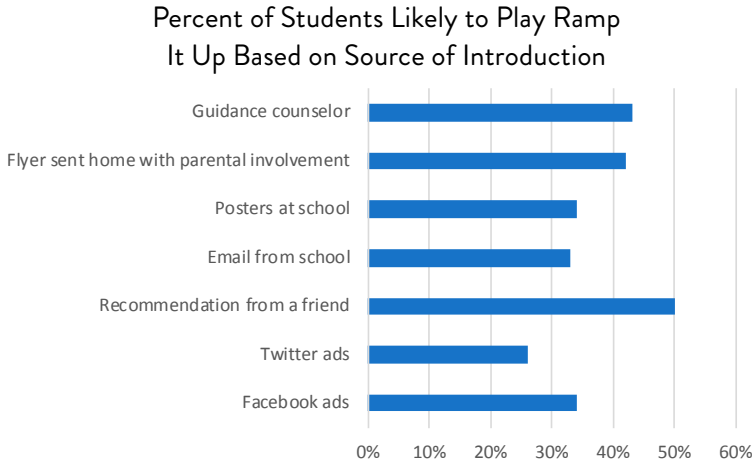
14. "The Role of Dopamine in Motivation and Learning." Neuroscience News. November 24, 2015. Accessed May 05, 2017. http://neurosciencenews.com/dopamine-learning-reward-3157/.

B. Distribution of Gamified Youth Financial Capability Apps

Creating a great gamified app is only the first step. To be effective, the app must also be distributed in a way so that youth will locate it and play it. When exploring options for a RIU distribution plan, we surveyed and interviewed youth about their technology habits and the sources of information they typically use to learn about and understand procedures for financing a college education. We also interviewed potential distributors to get their perspective and to understand their needs. We discovered that there is no one single effective approach for distributing gamified apps. Rather, the most effective distribution channel depends on how the gamified app is intended to be played. For example, it depends on whether the gamified app is meant to be played by youth on their own (self-directed play) or as part of a broader school-based curriculum (curriculum integrated). Potential distributors of gamified apps also have different needs and preferences, ranging from turn-key apps to apps that are highly customized to the needs of the distributor.

Insights from Youth

A key component of any distribution strategy is 'virality' – that is, the likelihood that players will recommend the app to another person. When surveyed, youth responded that the most likely factor to prompt them to learn about a new gamified app was a recommendation from a peer. In focus groups sponsored by Commonwealth about RIU, youth shared that they would not recommend a gamified financial capability app to their friends via online channels because advocating for gamified financial capability apps did not match their use of social media or their online personas. Instead, youth indicated that they would typically refer their friends to gamified financial capability apps via in-person conversations or through direct messaging or private online chats. Therefore, opportunities for in-person interactions may be an important component of strategies for distributing gamified youth financial capability apps.



Likelihood of Playing Ramp It Up by Source of Introduction

When surveyed, youth reported that they had previously found and used financial information shared via trusted relationships with educators. For example, 80% of students responded that a guidance counselor, and 76% said a teacher, had provided them information about the FAFSA.[18] In addition, students responded that they were more likely to use a resource if a trusted source – such as a guidance counselor or teacher -- provided the information to them directly or in-person. App distribution strategies that involve directive interventions (such as information sent directly home and prompted conversations at school) that encourage interactions between youth and trusted sources may be very effective.

C. Play Environment

The appropriate distribution channel also depends on how a gamified app is intended to be played and on the factors the sponsoring organization uses to measure the app's effectiveness. For example, success could be measured by such metrics as the number of downloads and initial playtimes, or by student engagement with other available materials.

Self-Directed

Self-directed gamified apps allow youth to play at their own pace and teach themselves materials outside of a formal atmosphere. This type of app can be distributed through scalable, low-touch methods such as online platforms or in-person programs. Marketing via online advertisements, social media campaigns, physical advertisements, and additional content on youth-focused websites work well for this type of app.[19]

18. "Ramp It Up Survey" Commonwealth. November 2016. Unpublished.

19. Insights about the distribution of gamified apps from partners is based on a series of interviews conducted with a variety of organizations who were identified as high potential distribution channels. Insights from these conversations will be referenced throughout this section as "Ramp It Up Interviews" Commonwealth. August 2016. Unpublished.

Government websites, college financial and admissions websites, and financial institution websites are well suited for distributing gamified apps online. In particular, youth visit college and university financial aid websites and are typically informed in-person about the FAFSA website.[20] Therefore, these types of websites could be effective platforms for sharing RIU and other app-based information on college decision-making.

In-person contact is another effective method for distributing self-directed gamified apps such as RIU. Groups that do not offer comprehensive college readiness programs but are interested in college success may be strong distributors of this type of app. For example, youth employers, city-wide summer youth employment programs, schools (outside of classrooms), or after school programs could successfully distribute self-directed gamified apps using such strategies as posting flyers, sending emails, or sharing the apps as part of their normal programming.

Integrated into Curriculum

The final distribution method we explored is to integrate the gamified app into a classroom curriculum. This method would enable students to review the gamified app and related materials and ask teachers or administrators for help and advice as they use the app. High school financial capability classes, after-school college readiness programs, guidance counselors, children's savings account programs, or programs promoting business or entrepreneurial skills that have strong relationships with youth are well-positioned to integrate gamified apps into their curriculum.[21]

D. Distribution Channel Needs

To learn more about what would motivate an organization to distribute RIU or similar gamified apps, we interviewed representatives from a number of organizations. We also asked students for feedback and suggestions on the types of organizations that would be most effective in distributing the app. We discovered that some organizations prefer customized apps that are unique and specific to the populations they currently serve, while other organizations prefer standardized or turn-key packages.

Highly Customized

Some potential gamified app distributors are interested in highly-customized apps that they could own and operate exclusively and that refer app users only to specific pre-approved materials. For example, organizations such as federal agencies might not choose to distribute and link information to external sources and therefore may prefer customization and control. On the other hand, private sector firms may seek a business advantage by holding exclusive rights to the app and/or its contents. Financial institutions, colleges, or very large college readiness programs are likely to seek both customized content and reporting metrics. This category of organization will want to integrate their own materials and therefore will need to customize the content. These organizations will also need to report on the effectiveness of the gamified app to senior managers and funders. Quantifiable metrics such as access, use, and impact are an important part of the customization package for large distribution networks.[22]

Turn-Key Solutions

On the other end of the spectrum, some organizations prefer to have turn-key packages including the gamified app, marketing materials, curriculum suggestions, easy to read data fields, and troubleshooting guides. Turn-key versions of a gamified app typically allow a wide variety of staff to easily implement the same program.

Teachers, guidance counselors, and some after school programs indicated that they would be more likely to use a gamified app if it was presented along with a classroom curriculum, teacher guides, and marketing materials.[23] [24] Teachers shared that they were more likely to use gamified apps that help them satisfy classroom educational requirements. Teachers also mentioned gamified apps would be more appealing if they could be used as part of a series of resources that addresses multiple topics. Some organizations indicated that clear user instructions and troubleshooting guides should be included in the package of materials accompanying the app. Many organizations we interviewed stressed that they would not want to modify the app or the accompanying curriculum.

20. Over 80% of youth reported hearing about the FAFSA from teachers or guidance counselors in person. "Ramp It Up Survey" Commonwealth. November 2016. Unpublished.
21. "Ramp It Up Interviews" Commonwealth. August 2016. Unpublished.
22. "Ramp It Up Interviews" Commonwealth. August 2016. Unpublished.
23. Examples of marketing materials used to test Ramp It Up are available in Appendix B.
24. "Ramp It Up Interviews" Commonwealth. August 2016. Unpublished.

E. Key Findings from Distribution Research

Our research with potential distributors who had long-term relationships with youth and their families yielded key insights on how gamified apps would be best positioned to succeed.

We spoke to many potential distributors of a gamified app and asked them how they would use the app as well as what they would need to make the app successful. We found that each type of distributor would provide different benefits and challenges for an app creator. The details of these findings can be found in Appendix C.

Distribution Organizations are Interested

Many organizations we spoke with expressed a strong need to expand their youth financial capability curriculum and noted that technological solutions were appealing. Many organizations who support financial capability and related topics acknowledged the value of financial readiness on long-term career and life choices.[25] The concept of a gamified app that addresses personal stress was particularly appealing for them. One potential distributor said, "I did not want to stop playing [the app] but had some other work to do! It would be great to incorporate this into our high school program as part of our … series of workshops. It's very informative and accomplishes everything we set as goals for our second workshop this spring."[26]

One potential distributor said, "I did not want to stop playing [the app]."

Evidence of Success

Every potential app distributor we interviewed was interested in knowing about the effectiveness of gamified apps such as RIU. Among the most common requests, non-profit and mission-oriented groups that work on financial issues asked for evidence of effectiveness in the form of measures that are focused on the degree to which the gamified app creates mindset change, knowledge change, and action-taking. On the other hand, for-profit entities and groups that focus primarily on topics other than financial capability building were interested in measures of effectiveness such as consumer desirability, uptake rates, and length of usage. We found that studies that demonstrate impact and desirability of a gamified apps enable organizations that have not yet used gamified apps in their programming to trust the value of sharing information via an app platform. In addition, we learned that organizations typically have reporting metrics which they already use for funders or other purposes. Creating studies that demonstrate how gamified apps impact students, and which students they impact, will expand the potential number of distributors.[27]

Limited Willingness and Ability to Pay

Potential distributors are in two major groups -- those with large networks and centralized purchasing, and those that make individual purchasing decisions. Groups with centralized decision-making, where a decision to use a gamified app affected numerous distribution points (such as financial institutions or large university systems), are more likely to fund the administration and distribution of the app centrally with access occurring through multiple locations, for example, a bank with multiple branches. On the other hand, organizations that make decisions on a localized level typically had smaller amounts of discretionary funds (generally below $10 per intervention) and were unlikely to pursue purchases of any resource that required joint coordination. For example, teachers often need to work together to request larger dollar purchases from an administrator. We found that RIU was of higher interest to entities that directly focused on financial capability and inclusion because it was viewed as being critical to achieving their mission.[28]

Another option could be to charge parents and youth a fee for using gamified apps, however this approach may reduce the possibility that LMI youth would be able to access gamified apps. We believe end users should continue to experience gamified apps as something free and easy to use since additional barriers would likely reduce the overall usage. For example, apps that have a cost per unit and then charge in-app purchases would be difficult to implement for youth financial capability.

25. "Ramp It Up Interviews" Commonwealth. August 2016. Unpublished.
26. Conversations with Distribution Partners, name withheld.
27. "Ramp It Up Interviews" Commonwealth. August 2016. Unpublished.
28. Ibid.,

SECTION IV: Insights for Federal Agencies

Federal agencies have an important interest and role in promoting college financial readiness. Broader college attendance and completion is a public good; a better educated population drives national productivity and fuels prosperity at the individual and community level. To enable more Americans to pursue post-secondary education, federal agencies already provide a range of resources to help young people and their families determine how to pay for higher education, including the Federal Student Aid website, College Score Cards, College Navigator, and programs to enable saving money for college.

However, our research suggests that some government resources are not being used to their full potential. Fortunately, federal agencies can take action to make their resources more widely used – by testing innovative ways for distributing the information and increasing the public's access and use of the resources.

A. Accelerate Innovation in College Financial Readiness through Investment, Convening and Learning

We believe it is useful for the federal government to convene experts and influencers to share knowledge and spur innovation around college financial readiness. As a critical actor in the college financing system, the federal government is uniquely positioned to attract and assemble diverse thought leaders from varied sectors. Leaders in education, college access, financial technology (fintech), financial services, and even the video game industry can help inform federal policymakers – and one another – about the most pressing challenges and opportunities in the college financing system. Critically, federal agencies may be especially well equipped to facilitate "cross fertilization," where the expertise of one field or industry becomes visible for the first time to leaders in another.

The federal government is uniquely positioned to attract and assemble diverse thought leaders from varied sectors.

As an example, Ramp It Up (RIU) emerged from cross-sector conversations among financial aid specialists, game designers, and a non-profit financial innovator. Sponsoring such conversations has the additional benefit of signaling that improving college financial readiness is a policy priority and a matter of broad social importance. This can motivate and provide validation for creative actors working in isolation on these issues. Convenings do not need to be large gatherings; smaller groups of solution-minded leaders with the goal of developing practical solutions can be powerful.

Beyond their power to convene, federal agencies should continue to invest in learning about promising innovations through funding sources such as the Treasury Financial Empowerment Innovation Fund. Youth financial capability and college readiness are significant challenges with long-term social consequences. Private and philanthropic capital may not be sufficient or well suited to identify and power a full range of solutions. Recent history illustrates this point. The creation and evaluation of RIU, as well as other projects supported by the Innovation Fund, would not have been possible without Treasury's support.[29] The federal government's investment in areas like youth financial capability and college readiness may also influence other potential investors, researchers, and innovators to support the development of new solutions.

Finally, federal agencies could simplify testing and evaluating innovative strategies, like RIU, by ensuring that Paperwork Reduction Act (PRA) requirements do not deter government-funded innovation and research. For interventions that fall outside traditional research methods (e.g., small surveys or focus groups), PRA requirements may not be the right framework for evaluating the public benefits and costs of the research. Furthermore, approval under the current PRA process can require significant investments of time and resources, even when the ultimate outcome (i.e. approval to conduct the research) is unclear.

29. "Innovations in Financial Services." Resource Center. April 11, 2017. Accessed May 05, 2017. https://www.treasury.gov/resource-center/financial-education/Pages/Finemp.aspx.

B. Explore Secure APIs to Enable Private and Government Tools to be Integrated, Personalized, Actionable and Broadly Distributed

RIU integrates real-world action taking with a gamified system to increase engagement with existing information resources. This type of app can become a new distribution point for government information and resources which enable users to take an action where they are (i.e. playing the app). This integrated approach could be useful in other contexts through the use of secure application programming interfaces (APIs).

APIs enable integrated, personalized, actionable, and broadly distributed apps, and other decision-making and information-sharing tools, by facilitating the secure exchange of data consumers need when making decisions. APIs are frequently used by system and app developers across industries and sectors. The federal government lists over 14,000 datasets accessible by APIs on Data.gov.[30] A few examples will help illustrate the potential of APIs to help youth and families become financially prepared for college.

Fewer than half of high school graduates typically complete the Free Application for Federal Student Aid (FAFSA), an essential step to receive college financial aid. This low rate represents a critical missed opportunity for millions more young people to discover resources to help make college affordable.[31] To lift FAFSA completion rates, the Department of Education could integrate the FAFSA form into a range of more popular, accessible applications through an API. Doing so would eliminate the need for FAFSA applicants to visit a separate website or open a new web browser window, and would enable them to take immediate action from within another online experience. For example, data collected through an app such as RIU could be securely transferred to pre-populate a FAFSA form and by doing so, streamline the process of completing the application. Alternatively, a "Quick FAFSA" could be created as an add-on to popular tax preparation tools or a stand-alone app that uses information that has already been entered and doesn't require navigating to a new site. Such tools would serve as additional distribution points for the FAFSA as well, broadening the reach of this resource to a wider audience.

This approach could be applied to other governmental websites and datasets. RIU includes links to the Department of Education's College Scorecard[32] and Department of Labor's CareerOneStop,[33] websites in the app. An API could enable deeper integration, such that data from these websites might be displayed and integrated directly in the app experience, rather than offered as an external resource. Using APIs could expose youth and their families to more of the government's college financial readiness resources, and increase their use of and engagement with these resources.

Using APIs could expose youth and their families to more of the government's college financial readiness resources, and increase their use of and engagement with these resources.

In addition to accessing government websites, data, and student aid applications, the act of saving money is an important way to build college financial readiness, as even modest savings often play a critical role in bridging gaps left by loans, grants, and other forms of aid. Researchers have also found that savings has other powerful effects: low to moderate income children with dedicated education savings of as little as $500 are five times more likely to graduate from college compared to students with no savings.[34] The US Treasury Department already plays a vital role in providing high quality savings offerings. Its retail securities, like U.S. Savings Bonds, are safe, trusted, universally available, and interest-bearing vehicles for long-term savings. Treasury could broaden the distribution of long term savings vehicles through its retail security platform by integrating with other applications through APIs. By exploring ways to integrate the purchase of retail securities into other financial moments, such as redeeming credit card rewards or conducting mobile banking, more families could easily and more often take action to save for a child's future education.

30. Data.Gov, Data Catalog, managed and hosted by U.S. General Services Administration, Technology Transformation Service. https://catalog.data.gov/dataset?q=aapi+api+OR++res_format%3Aapi#topic=developers_navigation
31. Morgan, Elizabeth , Courtney Argenti, Bill DeBaun, and Sara Melnick. FAFSA Completion Rates in 68 U.S. Cities for the High School Class of 2015. Report. Accessed May 5, 2017. https://www.insidehighered.com/sites/default/server_files/files/NCAN%20city%20report.pdf.
32. College Scorecard. Accessed May 05, 2017. https://collegescorecard.ed.gov/.
33. "Careers and Career Information ." CareerOneStop. November 07, 2014. Accessed May 05, 2017. http://www.careeronestop.org/.
34. Elliott , William , Hyun-a Song, and Ilsung Nam. Small-Dollar Children's Savings Accounts, Income, and College Outcomes. Working paper. Center for Social Development, George Warren Brown School of Social Work, Washington University in St. Louis. 2013. Accessed May 5, 2017. https://csd.wustl.edu/publications/documents/wp13-06.pdf.

C. Design All College Financial Readiness Websites to Foster Engagement

Students struggle to navigate the college financial landscape and financial concepts more broadly. Yet federal agencies have extensive online resources to help students understand both topics. Our research findings show that one challenge is that students are not engaging with these online resources. Prior to playing RIU, only 65% of students reported trying to find information online about how to pay for college. Additionally, after playing RIU, only 32% of students reported creating an account or signing up for emails from websites they visited.

A goal of RIU is to address that engagement gap by driving traffic to valuable existing online resources. However, this is only the first step. Ultimately, websites must do more than receive visitors – they must encourage visitors to learn, take action, and benefit from the information and tools they offer. In a word, they must engage their users. For online resources to achieve these goals, the sites themselves must be designed from the ground up to foster engagement. To choose one example, surveys of RIU users found that 93% of students access the Internet through a smartphone. Government websites should be designed with facts like these in mind.

Websites must do more than receive visitors – they must encourage visitors to learn, take action, and benefit from the information and tools they offer.

While there is no single formula to design engaging online resources, widely accepted best practices for effective websites include:

Putting users at the center of the design process

- Identify the audience, message, and behaviors the resource is intended to impact
- Include users in designing and testing the resource

Creating a high-quality user experience

- Present content in small, easily digestible chunks and limit content on a single page
- Communicate tasks as a series of steps or stages and allow users to track progress
- Use text, videos, visuals, and diagrams to accommodate different learning styles
- Provide mechanisms for feedback from site users

Accommodating the diverse ways users access the internet

- Design sites for desktop, tablet, and mobile compatibility
- Ensure consistency of user experience across operating platforms and devices

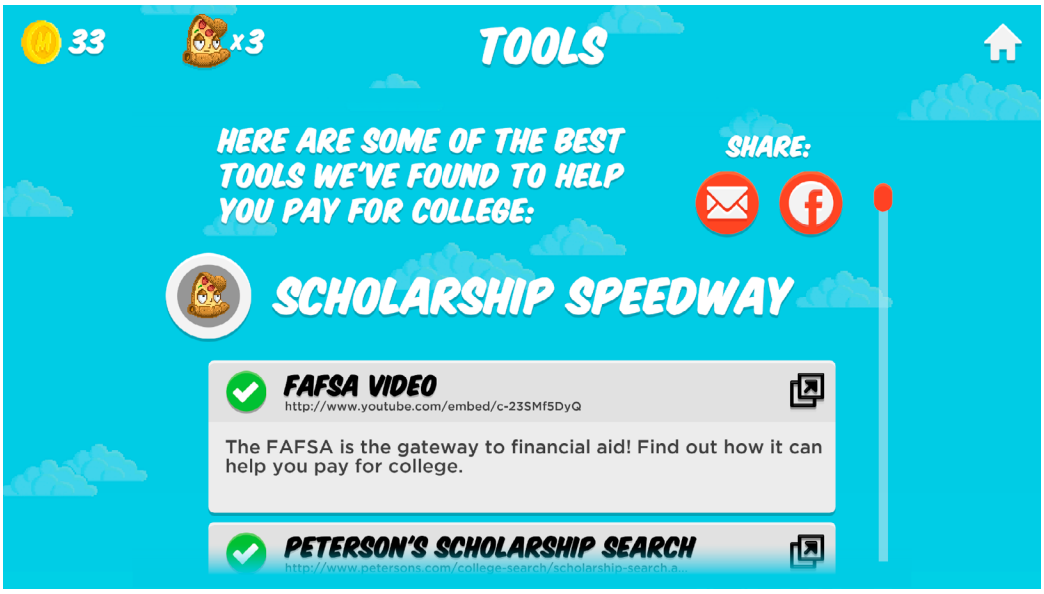
Government websites already balance competing demands and comply with a range of requirements. To the extent the designers responsible for these online resources can also prioritize thoughtful and engaging design, the federal government can realize a further return on its investment in these tools – and further improve students' ability to find the information they need to build financial capability and college financial readiness.

D. Use Gamification to Make Government Resources Stand Out

Recognizing the promising findings from the early evaluations of RIU, and building on the previous recommendations, federal agencies should examine the potential of applying principles of gamification as they deliver information and resources on college financial issues for students and families. We believe further use of game elements may be particularly appealing for government web sites for several reasons. In contrast to private firms, public sector agencies often lack the resources, specialized expertise or marketing budgets to make their tools and services stand out to the public. At the same time, many people do not expect government tools or services to emphasize fun and engagement. Game mechanics offer a cost-effective means to compensate for limited marketing, all the more so by running counter to popular expectations about the tone and feel of government websites. Because college financial readiness influences many young people, a gamified approach runs less risk of offending or confusing users. Applying gamification to government products or websites would be a novel and surprising way to change the perception of these resource and likely increase their effectiveness, especially for youth.

For example, the Treasury Department could explore gamification engagement strategies in the way it markets Treasury retail securities, which are valuable vehicles for long-term savings (including for higher education). Such an approach might present youth savers with a chance to "collect" prominent figures from American history who have appeared on U.S. Savings Bonds. Savers might track their progress toward a saving goal on an app or website, and request help from friends or family members to help them save money and build a full set of historical figures or plug a critical gap in their collection of savings icons. Treasury might introduce new historic figures over time to sustain interest, all in electronic format and at very low cost, while simultaneously celebrating American history. This example illustrates how gamification can add a layer of fun and excitement while maintaining a consistent and credible brand.

Similarly, the Department of Education could develop a gamified approach to encouraging students to complete the FAFSA, a natural and innovative evolution of the current online tool. For example, the steps to completion could be set up as a quest or journey, such that progress feels less like marking off a checklist and more like an accomplishment on the way toward an exciting goal. The completion of each step could provide the immediate reward and positive feedback of some marker on progress, perhaps even the means to share that progress with family and friends via social media.



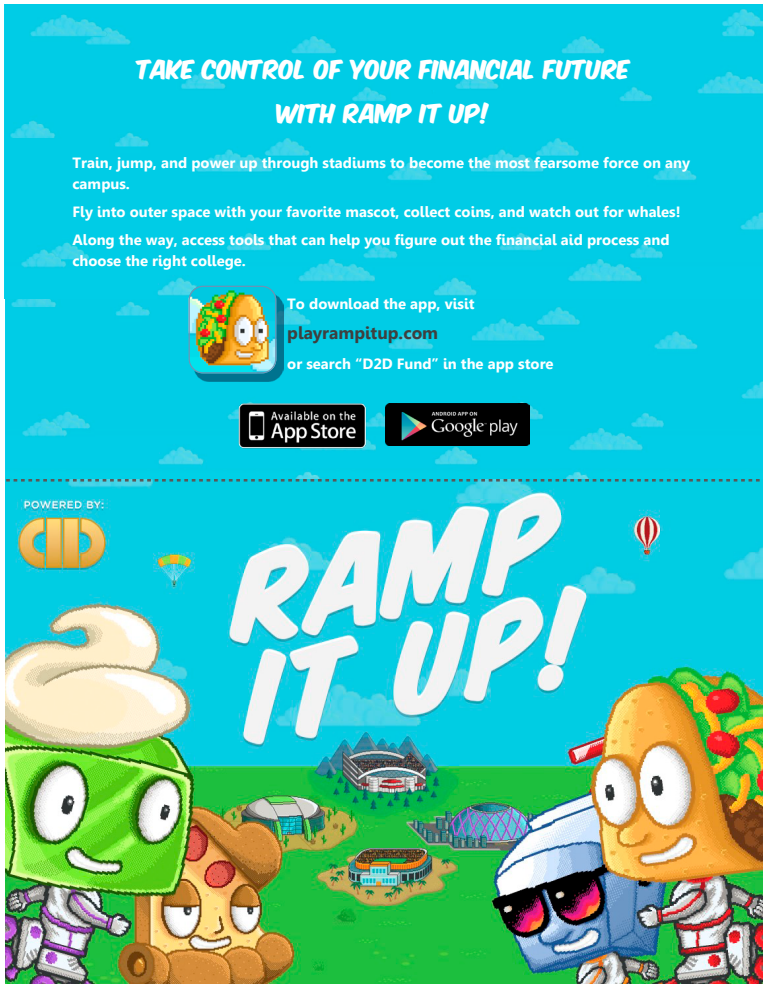
Appendix A: Acknowledgements

Commonwealth is grateful for the funding provided by the U.S. Department of the Treasury's Financial Empowerment Innovation Fund and, in particular, for the guidance and patience of Jim Gatz, Deputy Director for Financial Security, Office of Consumer Policy. This project and report would not have been possible without their generous support.

A project of this magnitude and length required the skills and knowledge of many individuals and organizations. For the production of Ramp It Up, Commonwealth would like to thank: Dave Peth of Symbolic Studios for his help with design; and Curious Media for the app development. For their partnership and permission to test with their students: the Propel Charter School Network; $tand By Me and its affiliated schools; Arizona Serve and its partner schools; the Tucson International Academy; and the Capital One student banking program, with special thanks to LaKia Williams and her team of student bank branch leaders. From the beginning, Commonwealth was supported by the expertise of Professor Mike Staten of the University of Arizona who assisted in designing the pilot and evaluation. At Commonwealth, this project was led by Amanda Hahnel, Associate Innovation Director.

Finally, Commonwealth would like to acknowledge the students who participated in the pilot of this gamified app, as well as their families, for their consent. We are indebted to you for testing our product and providing feedback and insight.

Appendix B: Marketing Materials



BEST HOMEWORK EVER: PLAY RAMP IT UP!

Your class is participating in an awesome study of a **new mobile app** that teaches students about their different options to pay for college. We are sure you've heard that going to college is a good option (but not the only one) for students who graduate high school, and you've probably also heard that it can be very expensive to go to college. Good news is, it doesn't have to be! The awesome people at **Doorways to Dreams Fund** made this app, and they want you to be **the first students to try it out** and tell them what you think!

YOUR ASSIGNMENT:

STEP 1: Download the game on your phone or tablet, or find it online!

- Search "D2D Fund" on iTunes or Google Play and download "Ramp it Up," the one with the taco face on the icon!

OR

- Go to **www.playrampitup.com** and play on your computer!

STEP 2: (REQUIRED!) CREATE AN ACCOUNT!

Make sure you use **the same email address** that you used when you filled out the first survey, otherwise **you won't get credit for the assignment**. If you can't remember which one you used, ask your teacher! Also, write it down here so you don't forget:

EMAIL: _____

STEP 3: Play Ramp It Up!

You have one whole week to get through all **FOUR** stadiums, so play at your own pace. No need to finish all at once (but if the game is so fun you just can't put it down and you finish in one go, that's cool too).

We are going to ask you some questions about what you thought of the game, so make sure you are ready to give us your honest feedback during the next survey! Did you hate the game? Did you think it was the best game of all time? We want to know!

We really appreciate your feedback and want you to know that by being a part of this study, you are helping us make this game an amazing tool for future students to find resources to pay for college.

THANKS, YOU ARE AWESOME!

Exhibit A: Homework Flyer

Note: Commonwealth changed its name during the process of this study, and was known as Doorways to Dreams (D2D) Fund at the time these flyers were made.

Ramp it Up! Home About Partners For Students Play Contact

"I only have one person in my family that goes to college and no one else even attempted. I actually want to go to college and I like the fact that [Ramp It Up] showed me how to do that."

"[After playing Ramp it Up] you are not as stressed out as you were about financial needs and all that."

Jump ahead in the college game with Ramp it Up!

iOS Android Web

How it Works

Learning how to pay for college is overwhelming. Take a step back with this retro-themed educational game and familiarize yourself with the very basics of college financing!

Students de-stress about paying for college by:

LEARNING
Discover concepts and terms about paying for college!

EXPLORING
Navigate websites about your favorite schools and future careers!

TAKING ACTION
Create a FAFSA account, find scholarships, and apply for financial aid!

CONTACT US:
114 Western Ave.
Boston, MA 02134

e: info@buildcommonwealth.org
p: (617) 541-9066

Read our Terms of Use and Privacy Policy.

commonwealth

Exhibit B: Website

APPENDIX C: Distribution Research Findings

Channel	Engagement Strategy	Distributor Needs	Description of Integration	Benefits	Challenges	Additional Insights
Teachers	Curriculum Integrated	Turn-Key Solutions	Teachers embedding into classroom activities	Trusted resource; Ability to reach all types of students; connected to educational goals	Fragmented channel; significant time/resource constraints faced by educators; low ability to pay	Development of multi-stage tools necessary along with curriculum to make it worth the time and effort to embed.
Guidance Counselors	Light Curriculum Integration	Turn-Key Solutions	Guidance counselors using as an additional source of information	Trusted resource; Ability to connect with students	Minimal time available; uneven distribution of guidance counselors to youth; low ability to pay	
College-Oriented After School Programs	Curriculum Integration	Dependent on Program	Programs offering as part of their curriculum	Trusted resource; Ability to drive student action taking; capability to adjust and manage tool	Not offered to many students; set education philosophies; focus on college readiness	Limited reach to youth; Significant research in program effectiveness helpful for funders.
Non-Related After School Programs	Self-Taught	Turn-Key Solutions	Offering as a supporter of larger efforts	Significant reach; existing relationships with students	Non-trusted resource for this information; poor mission fit	No long-term relationships about financial information
Business Oriented After School Programs	Curriculum Integrated	Dependent on Program	Integrated as part of learning mechanism about program goals	Significant reach; existing relationships with students	Perceived mission fit from students and families	Requires local adoption of programs and products.
Summer Youth Employment Programs	Self-Taught	Turn-Key	Financial literacy training on paychecks	Strong mission fit; youth have ability to take action; broad view of goals with students	Short engagement period; staff and resource constraints; small number of youth	Requires easy training of those who engage with students as staff often rotate year to year.
Youth Employers	Self-Taught	Customized	Financial literacy training on paychecks	Youth have ability to take action	Often fluctuating relationships; often not trusted relationships	
Children's Saving Account Providers	Dependent on Program	Dependent on Program	Offered as part of programmatic goals	Mission fit; wide reach when implemented; trusted resource; ability to take action; integrated models	Not yet widely available; May depend on engagement strategy (youth vs. parents)	Most programs are looking for easily distributable resources that have clear use instructions.
Financial Information Websites (non-governmental)	Self-Taught	Customized	Provided as a resource to drive traffic to websites.	Business model fit (driving traffic is mutually beneficial); ability to collect feedback to improve resources	Direct to consumer marketing is less popular than direct interaction; Difficulty integrating with other resources	
Financial Information Websites (governmental)	Self-Taught	Customized	Provided as a resource to drive traffic to websites.	Mission fit; trusted resource for families and youth; ability to tie together multiple resources; ability to collect feedback to improve resources	Direct to consumer marketing is less popular than direct interaction; Difficulty integrating with non-governmental resources	
Financial Institutions	Self-Taught	Customized	Offered as part of financial capability curriculum prior to borrowing.	Ability to take action; business model fit; development of trust	Often not a trusted resource; narrow focus area of appropriate information; private financial institutions often serve a small population of borrowers	Would need to fit into financial institution brand.
Higher Education Providers	Self-Taught	Customized	Offered as part of financial capability curriculum prior to borrowing.	Often key resource students use to understand college financing; mission fit;	Fragmented market; May have difficulty updating app	Interest in making it customized to that universities financial system