

## **The University of Texas at Austin EQUIP Questionnaire Response Non-Traditional Provider- MakerSquare**

### **I.A.1**

The program will offer graduates a non-academic credit certificate from both UT Austin and MakerSquare (soon to be known as Hack Reactor, see addendum).

### **I.A.2**

The MakerSquare curriculum places heavy emphasis on teaching the principles of computer science and modern software engineering. Students learn best practices and industry standards from day one and are well versed in debugging, testing, version control and iterative development. Graduates gain a strong understanding of both CS fundamentals (data structures, runtime complexity, MVC/code patterns, code interface design) and the entire web development stack (HTML and CSS, front-end JavaScript frameworks like Backbone and Angular, server development with Node, and databases with SQL and Mongo).

Learning Outcomes:

- Mastery of JavaScript and functional computer programming for the web
- Autonomous application of advanced computer science principles
- Demonstrable job search readiness (e.g. “soft skills”) for successful employment

Academic Transfer Credit:

- UT Austin will determine the equivalency of this non-academic credit certificate to college-level academic credit. The certificate is expected to be equivalent to no more than 6, and no less than 3 credits, at UT Austin.

Job Placement:

- Ability to attain full-time employment as a Software Engineer

### **I.A.3**

The program is offered as an immersive 17-week course. There are 4 weeks of mentor-supported pre-course delivered online prior to the first day of in-person instruction. The immersive portion lasts 13 weeks, divided into two terms. Currently, the program cannot be offered in an asynchronous or individualized format because peer-to-peer interaction is integral to the learning outcomes.

For the immersive portion, students meet Monday through Friday (9:00 a.m. until 8:00 p.m.) and Saturday from 9:00 a.m.- 5:30 p.m., totaling 792 hours of class time. Most of these clock hours are analogous to “lab hours,” where students are coding in pairs with mentor support. Additionally, there is lecture content.

Satisfactory academic progress is dependent on students fulfilling all requirements of the immersive course. In order to complete the course, students must sufficiently complete all the basic requirements of each sprint, submit daily algorithm challenges, build multiple complete web applications in teams, and pass a “summary assessment” testing for the comprehensive, integrated application of all concepts covered in the course. Students are required to attempt and complete all hours of the program to successfully pass and receive certification. Hours will not exceed 150% of the program’s stated length.

The instructional method and approach is face-to-face. Lab time (pair programming) makes up about 70% of the clock hours. During this time, students will split up into pairs and code together using MakerSquare’s coding methodology which involves both completing coding challenges and creating applications using the same tools and systems utilized by industry-leading technology companies. Throughout this time they will have access to teaching assistants who will help them in the event that they get stuck on a problem. This renders the curriculum highly experiential; however, outside internships are not part of the program. After successfully completing the program, job-seeking students will be offered individualized coaching and support in managing and optimizing their job search -- from resume/narrative review to negotiation support.

Face-to-face instruction sets the foundation for the concepts students will need in order to code and solve challenges and create software applications. The coding labs provide opportunities for students to practice acquired concepts, learn new skills, build applications that can be used immediately, and better understand the daily work of a software engineer. Students are also paired during these lab sessions to facilitate the sharing of knowledge between students and teach individuals how to communicate engineering concepts. This, along with the exercises and instruction, helps students when they apply for jobs and must explain technical concepts to employers.

#### **I.A.4**

After applying the Standard Student Outcomes Methodology to the outcomes data from MakerSquare Austin, Reactor Core finalized in an audited report that the campus has a 91.8% job placement rate for 2015 with average graduate salaries at \$65,000.

(source: <https://www.makersquare.com/outcomes/austin>)

The typical job title earned by MakerSquare graduates is “Software Engineer” and students very rarely take junior or internship roles. Due to the immersive nature and unique pedagogy of MakerSquare programs, the program has a much lower (varies depending on institution and enrollment factors) cost than completing a four-year Computer Science degree.

#### **I.A.5**

According to the Bureau of Labor Statistics, the projected percent increase in employment of software developers from 2014 to 2024 is 17%. This is more than double the average of other professions. In January 2015, Mashable listed the 15 most critical skillsets for developers, with JavaScript ranking second. The Reactor Core system of schools (including MakerSquare Austin and Hack Reactor, among others) graduates more software engineers every year than Stanford University, University of California, Berkeley and CalTech combined, using only a private-pay model. Employers (Microsoft, Intuit, Booz Allen Hamilton, SolarCity, and JP Morgan Chase to name just a few) rely on Reactor Core schools to fill their engineering teams.

#### **I.A.6**

After taking into careful consideration the purpose of the program, administrative costs incurred by UT Austin, and the cost of the program at MakerSquare Austin, we were able to lower the cost for students participating in EQUIP. Reactor Core has elected to offer the tuition at \$13,860 for the EQUIP pilot. This will allow more students on financial aid to avoid taking additional, burdensome loans.

#### **I.A.7**

MakerSquare is a for-profit entity.

#### **I.A.8**

The existing program is provided by the non-traditional provider, MakerSquare. Existing MakerSquare Austin classes that are not Title-IV eligible will continue to be offered on their regular schedule while this alternative version is offered through the experiment.

MakerSquare currently costs \$16,920 for the immersive course. The price is likely to increase before the end of 2016 as a result of hiring more staff to increase student support and curricular infrastructure. 160 students were enrolled in the immersive program at MakerSquare Austin in the most recent year (April 2015 - April 2016).

Based on the most recent year (April 2015 - April 2016), 21.8% of MakerSquare Austin students received a loan to cover all or some of the tuition for the existing program. Overall, 53.7% of students applied for some type of financing.

Profit information for the program is not publicly available. MakerSquare is willing to share profit information with the Department of Education, provided that the data will not be made public as a result of the disclosure.

### **I.B.1**

120 students are estimated to be in the program in the first year, but the program could be expanded if successful.

### **I.B.2**

MakerSquare schools do not currently collect income, prior academic experience, or student demographic information in a comprehensive manner. Student demographics for this program will likely be reflective of UT Austin's typical student profile. UT Austin Office of Admissions Research's latest available data for Fall/Summer 2015 is:

- Women: 54.4% | Men: 43.6%
- White: 41% | Asian: 23% | Hispanic: 22% | Black: 5% | Foreign: 5% | Multiracial: 3%  
American Indian: Less than 1% | Native Hawaiian/Pacific Islander: Less than 1%

The most recent number of Pell Grant recipients among UT Austin undergraduates was 26.8%. (Source: <https://pell-grant-graduation-rates.silk.co/page/TX-The-University-of-Texas-at-Austin>)

### **I.B.3**

34% of the class is estimated to be eligible for title IV aid, generalizing based on the data from 2009-2010 from our Office of Student Financial Services. 2% of the class is estimated to receive Veterans educational benefits, and less than 1% will receive both.

### **I.C**

Students may be eligible to receive Pell Grant funds as well as undergraduate Direct Subsidized Loans and Unsubsidized Loans. UT Austin is currently reviewing its capacity to offer Campus- Based Aid programs to Title IV eligible students.

### **I.D**

Graduates of the EQUIP program will be eligible for alumni benefits, which gives them access to a professional network and the Reactor Core hiring partner network.

Job-seeking students should expect to find full-time employment within six months of graduating. 1:1 job search support will be offered by MakerSquare. The 2015 job placement rate at MakerSquare Austin was 91.8%. The Reactor Core system of schools monitors and documents student outcomes with more rigor than any other outcomes reporting methodology in the industry.

After applying the Standard Student Outcomes Methodology to the outcomes data from MakerSquare Austin, Reactor Core finalized in an audited report that the campus has a 91.8% job placement rate for 2015 with average graduate salaries at \$65,000.

## **I.E**

MakerSquare will develop content, market the program, advise students, provide instruction, provide support services including post-graduation job search support, develop and administer assessments for students, and collect and validate information on student outcomes. The collection and validation of student outcomes will also be done independently by the QAE. UT Austin (CLEE and Texas Extended Campus) will offer some marketing support and scoped advising around transfer credits.

## **I.F**

Payment to the non-traditional provider will be provided based on the number of enrolled students. UT Austin will also recover costs related to marketing and administering the program.

## **I.G**

Reactor Core schools have historically never collected demographic/income data, and so specific longitudinal data is not yet available. Efforts to disambiguate outcomes for low-income learners are underway, but will not be ready prior to EQUIP selection. A researcher at Stanford University is currently studying the before and after income effects of attending Hack Reactor, another Reactor Core school running the same program, with the goal of investigating a causal relationship between graduation and increased earning; prior income is a data point in this study.

MakerSquare began running the Hack Reactor curriculum in February of 2015, and we hope to have longitudinal data on alumni earnings by Q2 of 2017.

MakerSquare has a long tradition of serving students of low-income. Currently, MakerSquare does not ask students for their financial information in order to protect their privacy.

## **I.H**

In 2009-2011, UT Austin provided 19% of low-income students with Pell Grants. The 6-year graduation rate for Pell grant recipients in 2013 is 70%.

## **I.I**

Historically, UT Austin has provided programs to support low-income students. However, those enrolled in this program will not be eligible for those benefits. MakerSquare will provide support services, including 1:1 and group coaching and job search support for students with demonstrated financial need.

## **I.J**

The Office of Financial Services will award aid in the same fashion it awards aid for all its other programs. It will review the financial information of the students and grant those with the highest need the highest amount of aid possible.

## **II. Quality Assurance Process**

### **II.A.1**

The program will use two quality assurance entities (QAEs): a quality assurance consultant and an independent auditor, thereby ensuring an independent and unbiased QA process.

Entangled Solutions will work as a quality assurance consultant; it will assist in defining the learning outcomes and career success metrics, as well as all necessary measurement processes (e.g., pre-enrollment and post-graduation surveys). Entangled Solutions took an active role in developing this application and will provide a complete design of the quality assurance process prior to program start.

The Entangled team has extensive experience related to accreditation, quality standards, non-traditional education programs, and joint ventures in Higher Education. In fact, Entangled Solutions was the first QAE to publish its assurance framework for EQUIP. Its commitment to the development of open outcome standards was warmly received by The Wall Street Journal, The Chronicle of Higher Education, EdSurge and Inside Higher Ed.

## Team and Experience

### Michael B. Horn

- Co-founder and executive director at Clayton Christensen Institute Author of outcomes-based *Quality-Value Index for Higher Education*
- Co-author, *Blended* and *Disrupting Class*
- Teri Cannon Higher education accreditation innovator and thought leader with WASC
- Accreditation lead for Minerva Schools

### Paul Freedman

- Creator of one of the first university-startup partnerships
- Active education technology investor, both as an angel and through Entangled Ventures

### Yury Lifshits

- Bootcamp founder and instructor with over 1,000 graduates across 30 cities
- Data scientist with Yahoo! Labs and Caltech

Moody, Famiglietti, & Andronico, LLP (MFA) will serve as an independent auditor for this program. It will perform program readiness review and annual reviews to verify data accuracy and the consistency of the quality assurance process.

MFA has no conflict of interest with either UT Austin or MakerSquare; it plays the primary QAE role for the purpose of EQUIP implementation. Entangled Solutions' role is to design the initial quality assurance framework and advise UT Austin and MakerSquare regarding future quality control improvements.

### **II.A.2**

As the QAE responsible for outcome management design, Entangled Solutions is in the process of creating a comprehensive quality assurance process for the proposed program. This process will be based on Entangled Solutions' recently published white paper, "Quality Assurance for Higher Education," in addition to Quality-Value Index for Higher Education, co-authored by Entangled's Principal Consultant, Michael Horn.

### **II.A.3**

The proposed program is involving two quality assurance entities (QAEs): Entangled Solutions and MFA. Entangled Solutions assists UT Austin and MakerSquare with their

design of the quality controls (quality assurance process), which will be driven in large part by the “Quality Assurance Questions,” while MFA performs regular independent audits. Entangled will make available its fully documented processes and quality requirements to MFA, as to allow MFA to use this process to evaluate outcomes. This “dual QAE” model results in an industry-leading quality assurance process that, simultaneously, maintains full independence of quality audits. In many ways, the dual QAE model is similar to regulations in Sarbanes-Oxley Act, specifically auditor independence.

As a part of creating a complete quality assurance process, Entangled Solutions is creating a program readiness checklist. MFA will review the proposed program guidelines and ensure requirements are satisfied by the checklist. This solution follows the general template of the dual QAE model; Entangled Solutions designs clear and transparent quality requirements, and MFA audits the program to ensure the requirements are met.

#### **II.A.4**

As the QAE responsible for independent outcome reviews, MFA will complete regular quality audits (no less than once per year) for the proposed program. Each audit will address the items outlined in the “Quality Assurance Questions” section of EQUIP requirements. MFA will assess whether the program follows the processes defined by Entangled Solutions by performing spot checks to verify the accuracy of the outcome data sheets submitted by the program team (UT Austin and MakerSquare).

MFA will make its regular audit reports (including potential quality concerns and risk analysis) publicly available, either on a dedicated webpage or via a special folder on a common document sharing platform (e.g., Dropbox or Github). In addition, every audit report will be sent directly to all relevant stakeholders, including UT Austin leadership, MakerSquare, accreditor, and Department of Education. To ensure broad access to the reports, the Program’s website is required to have a prominent link leading to a webpage or document folder containing all audit reports by MFA.

#### **II.A.5**

Each audit report by MFA is concluded with a “findings and recommendations” section. If the program meets all outcome targets outlined in Entangled Solutions’ quality assurance framework, MFA would recommend to continue the program operations. In situations with a minor performance miss (the term “minor miss” will be formally defined in the framework), MFA will include the corresponding observations in the audit report and provide an early warning to the program team. In situations with a major



performance miss (this term will also be formally defined in the quality assurance framework) and/or a repeat minor miss, MFA will notify all relevant stakeholders (including, but not limited to, UT Austin and MakerSquare) informing them that the program is “at risk.” At that point, the program will enter into a probationary review, whereby processes will be checked and a deadline related to bringing outcomes into an acceptable range will be established by MFA. If nonperformance and/or adverse actions continue, MFA will notify UT Austin, MakerSquare, and the accreditor and, ultimately, recommend to the Department of Education that the Program lose eligibility to a portion of (or all) Title IV funding. Throughout the process, Entangled Solutions will work with UT Austin and/or MakerSquare to improve/revise policies and processes, program structure, etc.

## **II.B**

In case the joint program is terminated, all students will be eligible for a transfer to a comparable program within the Reactor Core system. Affected students will be offered a tuition deferral option, wherein the first payment isn’t due until four months after graduation. If job-seeking students are not employed within six months, tuition will be forgiven. MakerSquare will also create scholarships for non-career-seeking students who can’t afford payments.

## **II.C**

MFA is an independently owned and operated audit organization; it does not and will not have an ownership stake in UT Austin or MakerSquare, nor does or will UT Austin or MakerSquare have an ownership stake in MFA.

Entangled Solutions is only involved in the design of quality controls. It does not play any role in regular independent audits and does not have any influence on MFA’s recommendations related to access to Federal Financial Aid.

## **II.D**

The institution has reviewed publicly available information about all partners of the program and has not found any indication of potential fraud risks. In case of any suspicion is raised in the future, the institution will reserve the right to conduct additional extensive background checks including, but not limited to, the review of financial records. All partners are committed to fully cooperate with any necessary checks.

## **III. Information Related to Specific Title IV Provisions**

### **III.1**

Yes

### **III.2**

Yes; the satisfactory academic progress waiver will be used due to the distinct program assessments MakerSquare use in an accelerated learning model. Assessments are more frequent, nearly every 2 days, than under typical satisfactory academic progress protocol which requires assessment at the end of a program or at payment intervals. In addition, students will be judged on their completion of the course according to the results of these assessments and number of hours spent on regular coursework -- not to exceed 150% of the program's stated length -- instead of the number of hours completed divided by the number of hours attempted.

### **III.3**

MakerSquare is not offered as a distance education program.

## **IV. Quality Assurance Questions**

### **IV.A.1**

All of the learning objectives are measurable (for complete list of learning objectives, see section I.A of this application). The method by which they are measured varies based on the learning objective. Students will complete graded coding challenges every 2 days for the first 6 weeks of the course in order to measure their ability to write full-stack Javascript applications. In the latter half of the course, Outcomes coaches and instructors conduct mock interviews, salary negotiation mock sessions, resume reviews, and provide students with a variety of other tests in order to measure their ability to communicate about their technical work, and effectively find a job.

Those graduating from a Bachelor in Computer Science generally become "Junior Software Developers." Those graduating from a Master of Computer Science typically become "Senior Software Developers." This program bridges the gap between the two by producing individuals with the skills and knowledge necessary to be mid-level "Software Engineers."

Statements about student outcomes capture requisite knowledge and skills. Jobs that students are placed into require most, if not all, of the skills being taught by the program. The job descriptions for roles that students accept upon graduation show this correlation.

#### **IV.A.2**

UT Austin and MakerSquare have involved employers, professional instructional designers, and recognized subject matter experts in the design and review of key learning claims of the program. As a part of regular audits, MFA may conduct external stakeholder “spot checks” to verify the parties were, in fact, consulted and subsequently approved the value and relevance of program’s learning claims.

#### **IV.A.3**

Students will complete graded coding challenges every 2 days for the first 6 weeks of the course in order to measure their ability to write full-stack Javascript applications. These are graded by both automated tests as well as manual grading. Throughout the rest of the course, instructors and Outcomes coaches will review student project portfolios, conduct mock interviews, salary negotiation mock sessions, resume reviews, and provide students with a variety of other tests in order to measure their ability to communicate about their technical work, and effectively find a job.

#### **IV.A.4**

In situations with a minor performance miss, MFA will include the corresponding observations in the audit report and provide an early warning to the program team. In situations with a major performance miss (this term will also be formally defined in the quality assurance framework) and/or a repeat minor miss, MFA will trigger a notification to all relevant stakeholders (including, but not limited to, UT Austin and MakerSquare) informing them that the program is “at risk.” At that point, the program will enter into a probationary review, whereby processes will be checked and a deadline related to bringing outcomes into an acceptable range will be established.

Ultimately, the best leverage regarding accountability is financial. If nonperformance and/or adverse actions continue, MFA will ultimately recommend to the Department of Education that the Program lose eligibility to a portion of (or all) Title IV funding.

#### **IV.A.5**

The overall program goal is to develop great software engineers. Through program instruction, continual assessment of student progress, and assistance to struggling students on an individual basis, the program ultimately prepares students to succeed as mid-level software engineers with robust technical and soft skills.

#### **IV.B.1**

Only students who are capable of excelling in the immersive program are granted entrance. In order to be eligible to enroll in the program, they must first pass an online technical challenge. Upon doing so, they must succeed in a technical interview wherein students are filtered based on both their technical aptitude, enthusiasm for programming, ability to communicate, and ability to work in teams. These tests determine their fitness for the overall program, reliably predict completion rates, and show that enrolled students can meet outlined claims.

Students will master the exact same technologies and skills that they will use in the field, perform mock interviews, and execute portfolio projects that are similar to what will be expected of them on the job. In order to complete the course, students must sufficiently complete all the basic requirements of each sprint, submit daily algorithm challenges, build multiple complete web applications in teams, and pass a “summary assessment” testing for the comprehensive, integrated application of all concepts covered in the course.

Mid-level software engineers who develop applications in Javascript are expected to be able to develop effective data structures, MVC/code patterns, and use the entire web development stack(HTML, CSS, front-end Javascript frameworks like Backbone and Angular, server development with Node, and databases with SQL and Mongo. The program includes assessments that measure the students’ skills in each one of these areas. In addition, software engineers are also expected to communicate intelligently about the technology they are developing; our paired assessments allow us to measure the students’ ability to have these types of conversations.

Student work is reviewed every 2 days during the first 6 weeks of the program and every week during the latter 7 weeks of the program. In addition, companies review student projects in the latter half of the program and identify students they would like to interview. Entangled Solutions will encourage processes where external experts are engaged in the design of assessments. Initially, all the necessary outcomes will be shared (anonymized) among the stakeholders (institution, non-traditional provider, QA Entity) as a documents folder. The major goal is to make the results public. In the future, it is possible to develop a cloud-based platform that provides necessary privacy controls and makes the results available for the public.

## **IV.B.2**

The program uses algorithmic challenges as the main type of learning assessments. Students submit code solutions for proposed problems and MakerSquare's grading software provides immediate assessment results (typically, on a pass/fail scale). There are multiple assessments measuring the same skill in order to verify reliability and validity. Additionally, all students undergo code review process performed by program instructors. The software-based grading insures fairness and reliability of assessment. Instructor-led code review can address challenges and issues beyond common mistakes. For job readiness assessment, students undergo mock job interviews that are designed to be identical to real world interviews and are judged using the same criteria.

## **IV.B.3**

Reactor Core has collected information on assessments from every single class that has gone through the program (over 500 graduates), so Reactor Core is able to do data analysis on each assessment and correlate it with the quality of the apps the students produce, their placement rates, and their starting salaries. In addition, students are given an assessment in the sixth week of the course that covers all the skills they've learned to that point; this additional data point allows MakerSquare instructors to do interesting analyses on the validity and reliability of previous assessments as well. Reactor Core is in the process of integrating all data into a single database so as to do even more of these analyses.

In addition, UT Austin and MakerSquare involve employers, professional instructional designers (with assessment design expertise), and recognized subject matter experts in the development and review of key assessments the program to ensure both face validity and content validity. The current assessments were created and based on technology industry standards and with feedback from employer partners of MakerSquare. As a part of regular audits, MFA may conduct external stakeholder "spot checks" to verify the parties were, in fact, consulted and subsequently approved the validity of program's assessments.

For student satisfaction assessment (e.g. Net Promoter Score), MakerSquare keeps survey records (such as recipient lists and asked questions) within the survey service of its choice (e.g. Survey Monkey, Typeform, or Google Forms).

For career outcomes assessment, MakerSquare maintains both student survey records and job offer letters received by its graduates shortly after graduation (for students that provided both the letter itself and all necessary sharing permissions).

MakerSquare is able to make changes to the content and pretty quickly understand how those changes impact the assessment scores of the students. As a result, MakerSquare has been able to ensure that the assessments actually measure the content in the curriculum. Assessments are based on industry standards and the skills most in demand in the market. As a part of regular audits, MFA may conduct external stakeholder “spot checks” to verify the parties were, in fact, consulted and subsequently approved the validity of program’s assessments.

Starting from the initial technical admissions interview, MakerSquare gets information used to predict the student’s ability to perform well and and gain competency. The admissions process has gone through several iterations of this initial assessment as well as every subsequent assessment and have correlated it to performance in other assessments as well as placement rates and salaries. This allows continual improvement for our assessments to make them as predictive as possible of competency and success. Career outcomes data of past programs at MakerSquare Austin system demonstrate that 91.8% of job-seeking graduates were able to use their acquired competencies to get the job in their field of study (software engineering) with a \$65,000 starting salary.

MakerSquare’s assessments for learning outcomes, career outcomes, and student satisfaction capture all major quality measures for the program. Additional measures, such as strong ability to repay student debt are achieved as a by-product of high placement rate and comparatively low tuition (less than 27% of median starting salary for MakerSquare graduates in Austin). Because this data is captured, MakerSquare can do analyses on the correlations between various assessments as well as other measures captured in the program in order to continually improve it.

#### **IV.B.4**

Assessment review is a component of the regular program audit and occurs at least once every 12 months.

#### **IV.C.1**

98.9% of students successfully complete all program assessments. Those who do not complete them get the option of retaking the program.

Entangled Solutions will work with the program to choose at least one assessment, and sometimes several assessments—be they traditional, objective assessments; portfolios of work; measures of social or emotional gains; or rubric-based grading of more

subjective, performance- based assessments—that are valid, reliable, and appropriate for the program of study at a postsecondary level and have value to external stakeholders.

Programs that require students to spend time in class—physical or virtual—will be required to administer pre- and post-assessments to students and to report individual student growth.

#### **IV.C.2**

Prior to the program start, MakerSquare will outline a system of checkpoints (milestones) covering the period of program enrollment to program graduation (i.e., enrollment → onboarding success → foundations completion → main component completion → career advancement or enrollment in a subsequent education program).

For each student, MakerSquare will record the achieved checkpoint sequence as well as the corresponding timestamps. Additional metrics (such as retention/completion rates and time-to- completion) can be easily derived from the aforementioned primary data. This report will be anonymized and submitted as a part of the regular audit process.

Specific metrics for pace and completion success are to be set by UT Austin and MakerSquare.

Relevant metrics include: retention rate, withdrawal rate, average time to completion, completion rate for 100% and 150% of expected program duration.

Below are the most recent statistics on the program.

- Retention rate? 98.9% graduation rate
- Withdrawal rate? 1.1% either withdraw or get dismissed from the program
- Average time to completion? On time
- Completion rate (within 100 percent and 150 percent of expected time)? 100% of those who graduate do so within 100% and 150% of the expected time.

#### **IV.C.3**

Employment outcomes, for MakerSquare Austin (data collected over 6 months from graduation date). These outcomes were measured through a combination of instruments such as student surveys and primary evidence such as job offer letters received by graduates:

- Job placement rates in field of study: 91.8%
- Average starting salaries: \$65,000
- Average length of time between completion of program and employment in field of study? 34 days
- MakerSquare will also track those students who choose an alternative path in continuing study or alternative careers.

#### **IV.C.4**

- Published tuition and fees versus earnings: 1:3.84 (MakerSquare Austin tuition in ratio to average starting salaries in Austin)
- Average net price versus earnings: The net price of the program is \$16,920 and there are no additional fees for students; the average starting salary for graduates is \$65,000 thus giving us the same ratio as above (1:3.84).
- Median student debt versus earnings: Of those who take loans, the average student debt is \$13,293.77. This makes the median student debt versus earnings ratio 1:4.9.

#### **IV.C.5**

The program will use two measures of student satisfaction:

1. Net Promoter Score (how likely are students to recommend the program to their friends and colleagues).
2. Objectives Achieved Score (how close are individual program outcomes to individual student expectations).

The program will collect qualitative feedback through a number of open-ended questions delivered via graduation/withdrawal surveys. Answers to these questions will continually guide program improvements.

In the past, students have said that pair programming, learning by doing, struggling and debugging, and putting their trust in the program has made them very successful. Some students have also said they struggle with imposter syndrome because they feel they are incapable of achieving success, do not fully understand pre-course work, and overly rely on their partners had a more difficult time going through the program.



Aggregate quantitative feedback (e.g., Net Promoter Score) will be made publicly available on the program website. Students will be encouraged to leave their qualitative feedback on publicly accessible platforms (e.g., Quora or Yelp).

#### **IV.D.1**

MakerSquare was founded in June 2013 in Austin and graduates developers with one of the highest placement rates in the country. It has graduated over 500 students, and MakerSquare leaders and co-founders were invited to the White House in 2014 to give advice to the Department of Veterans Affairs, The Office of Science and Technology, and The Office of the Vice President on high-quality technical education. It is certified by Texas Workforce Commission as a career school.

As a part of the regular audit process, MakerSquare submits a summary of its financial indicators/metrics (e.g., balance sheet information and prior year program profitability) ensuring their financial stability for at least 2 years. If MFA uncovers financial shortfalls, it may issue a “qualified opinion” and or question the programs ability to continue as a “going concern.”

#### **IV.D.2**

Individual student records, including student IDs, and personal identifiable information (PII) will be anonymized prior to the regular audit process and managed in compliance with FERPA.

#### **IV.D.3**

MakerSquare maintains a publicly available detailed guide on the admissions process. At the end of every admissions interview, every applicant receives written feedback message and, in case of being initially rejected, a clear self-study plan to prepare for the next enrollment attempt.

Additionally, MakerSquare would share with its partner university the full rubric of admissions criteria and provides access to applicant CRM.

As a part of the regular annual audit, MFA will verify that the success claims included in the program’s marketing collateral (including the admissions webpage) are consistent with the data collected during annual audits.

#### **IV.D.4**

There is a single price for the class which is clearly visible on the website and all communication. There are no additional fees. As a part of the regular annual audit, the auditor will verify that the tuition price, payment plans and available financial aid options are displayed in a clear and transparent manner.

#### **IV.D.5**

Program materials will fulfill the requirements of the Americans with Disability Act and section 508 of the Rehabilitation Act of 1973 (often abbreviated as "ADA" and "508") to make them accessible to people with disabilities in a way that is comparable to the access and use of information and data by people who are not individuals with disabilities.

#### **IV.D.6**

The content is improved based on feedback from the assessments the students take every two as well as their satisfaction scores during those two days and instructor feedback. After making a change to the content, the following class similarly provides its satisfaction feedback and their assessment scores are reviewed. If it is found that they are more satisfied and their assessments indicate a greater amount of comprehension, the changes are kept and a spot-check is performed to ensure that the placement rates and salaries also experience a modest increase. This is a process followed not just to improve the content and curriculum, but also the platform, students support and faculty engagement. Along with the end-of-program surveys for employers and students, MakerSquare and UT Austin intend to participate in lessons-learned exchanges and revise all aspects of the learning experience based on findings. This is part of an iterative process to continually incorporate feedback into lessons. Moreover, gathering and analyzing data about student experience and iterating on the learning experience in order to improve learning outcomes, effectiveness, and program quality is instrumental to MakerSquare pedagogy.

## ***Additional Information Requested by ED after the April deadline***

### ***What specific steps will the institution or the non-traditional provider take to ensure that this program promotes equitable access for students from low-income backgrounds?***

Reactor Core is committed to promoting access for low-income students, and the EQUIP opportunity is a major vehicle for that goal.

- Reactor Core will deploy a comprehensive marketing strategy to attract low-income learners. Messaging will promote the program as affordable for people who qualify for grants and loans; additionally, Facebook and Google ads will use geographic/demographic targeting whenever possible to get the word out to communities who may not be aware of strong financial aid support.
- Reactor Core and UT Austin will work to identify existing (current or previously-enrolled) aid-eligible students who may benefit from the program. Additionally, Reactor Core will engage in outreach with community partners in Austin who work with low-income, job-seeking individuals to get the word out. Some starting points include Launch Pad Job Club, Doing Development, Urban Co-Lab, Team Austin, Veteran Insider, Texas Department of Assistive and Rehabilitative Services (DARS), and the Texas Workforce Commission.
- The program has a strong industry-leading job placement / career support component, and students will have access to these services in order to support them throughout their career.
- The non-traditional provider will create a policy structured to mitigate taxpayer risk by offering a generous (whitelist) array of force majeure circumstances that can cancel the unpaid obligations in cases where a job-seeking student doesn't complete the program or find a job within 6 months.
- Outside of EQUIP, we plan to offer free/discounted preparatory programs for low income students. This optional program is designed to prepare students for admission to the immersive.

### ***What proportion of the tuition and fees will go to the postsecondary institution, and what proportion will go to the non-traditional provider? What proportion of the Title IV aid and other federal revenue will go to the postsecondary institution and what proportion will go to the non-traditional provider?***

For each class of students, UT Austin and Reactor Core/MakerSquare will calculate their operational costs for the program. In case when collected tuition is less than program's operational costs, it is shared proportionally to costs of each partner. In cases when collected revenue exceeds the operational costs, each partner receives the full reimbursement of the operating costs, and the remaining tuition is split.

No distinction is made between tuition financed by Title IV (and other government aid) and self-pay students. In other words, revenue is shared by both partners regardless of the funding source of each student.

## **Addendum**

### ***The Hack Reactor and MakerSquare Relationship***

In Spring 2015, Hack Reactor LLC acquired MakerSquare LLC and its campuses around the United States. All campuses have been operating under the parent company, Reactor Core. Over the last year, MakerSquare campuses completed the transition to adopting Hack Reactor's world class curriculum and instruction methodologies. The final stage of this transition will be marked in October with a branding change and going forward, all schools in the Reactor Core network will be named Hack Reactor. MakerSquare Austin will now become Hack Reactor Austin. Students and alumni will not experience any disturbance in the services they receive but instead, now have the opportunity to be part of a more cohesive community. Each campus will also continue to be held to the same outcomes standards we outlined in our standard student outcomes methodology.



April 14, 2016

Dr. Linda Neavel Dickens  
Senior Director of Institutional Accreditation  
and Effectiveness & Accreditation Liaison  
The University of Texas at Austin  
110 Inner Campus, STOP G1000  
Austin, TX 78712-1701

Dear Dr. Dickens:

The University of Texas at Austin [OPE ID: 00365800], in Austin, TX, is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). It is our understanding that the University of Texas at Austin is applying to participate in Educational Quality through Innovative Partnerships (EQUIP) with the program listed below.

**Full-Stack Web Developer Bootcamp Certificate Program** This non-academic credit program will be created in partnership with MakerSquare and Hack Reactor. The program teaches students the languages, frameworks, and computer science fundamentals needed to launch a career in web development or to prepare for master's level education.

SACSCOC has not at this time approved any program to be offered under this partnership through our Substantive Change approval processes. However, we agree to review and consider including the proposed program in the scope of the institution's accreditation should it be selected for participation in the EQUIP program.

Sincerely,

Belle S. Wheelan, Ph.D.  
President

BSW:rb

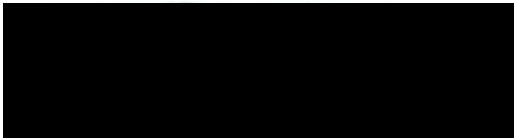


## Letter of Commitment

To Whom it May Concern:

Reactor Core intends to offer content and instruction as part of a proposed partnership between MakerSquare and the Center for Lifelong Engineering Education at the University of Texas at Austin once required approvals are secured as part of the U.S. Department of Education's Educational Quality through Innovative Partnerships (EQUIP) experiment.

Sincerely,



Roger Piskulick  
Chief Operating Officer