

# Premier Software Development Competition

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## Challenge

Premier, Inc. is a leading healthcare alliance dedicated to improving the health of communities by leading the transformation to high-quality, cost-effective healthcare. One of our core values is innovation, which includes both breakthrough opportunities and ongoing change. In an effort to provide an avenue for continuous improvement and development for our employee base, we are offering an exciting competition for college students to build an **Innovation Exchange**. This is a great opportunity to try out a new technology, solve a real problem, and demonstrate your passion for innovation to a leading healthcare alliance in the nation.

## Competition description

Have you ever overheard someone talking about a technology problem that you had the perfect solution for? For example, merging a spreadsheet, entering data manually, or needing a Web GUI to capture critical data from .csv files exported from multiple applications. Or have you recently learned about a new open source technology that you've been eager to try out, but need a real problem to solve? This happens in the workplace as well. We are constantly identifying areas for improvement and looking for ways to streamline processes by using tools, automation and innovation. The idea behind the **Innovation Exchange** is to create a place where we bring together people with different skill sets to solve problems and streamline processes.

We're ready with a real-world problem on which to test your programming skills for a chance to win an award, gain recognition as an innovator and sharpen your skills.

*These are the official rules of the Premier Software Development Competition (the "official rules"). In these rules "we," "our," and "us" refer to Premier, the sponsor of the competition. "You" and "yourself" refer to the eligible participant.*

**ENTRY IN THIS CONTEST CONSTITUTES YOUR ACCEPTANCE OF THESE TERMS AND CONDITIONS.**

## Entrant eligibility requirements

- **You** must be actively enrolled in an accredited college or university during the competition period. The competition is open to students of all levels (bachelor's, master's and PhD), U.S. students only.
- **You** are not a resident of Cuba, Iran, North Korea, Sudan or Syria; and U.S. export regulations prohibit the export of goods and services to Cuba, Iran, North Korea, Sudan and Syria. Therefore, residents of these countries/ regions are not eligible to participate.
- **You** are not an employee, intern or contractor of Premier, Inc. or a Premier subsidiary at any time during the competition period.

## Important dates

**Competition launch:** September 15

**Deadline for submissions:** November 16

**Notification to finalists:** December 1

**Finalist presentation day:** December 6

**Announcement of the winners:** December 12

## Teams and participants

A team consists of two people with a maximum of four. Each team must have the following established roles:

Team member role	Primary responsibility
Designer/architect	Software infrastructure and performance testing.
Project manager (PM)	Keeping the team on track, making sure they are fulfilling the expectations for their roles, meeting competition milestones, and submitting all code on time. The PM is the primary contact for all external communications for the team.
Developer	Software design, coding, testing and implementation.

The Project Manager must provide a valid email address, shipping address and phone number. This information is required for us to distribute awards to winning teams, provide competition details and communicate any changes to the competition format. All monetary awards will be distributed to the team's PM.

To participate, you must register your team at <http://premiersdc.github.io/>

Each team can only submit one entry. Individuals cannot be on more than one team.

## General standards

- Each team member is expected to make helpful suggestions and collaborate on solving technical challenges during the competition on Premier's Github Competition blog, ask questions and help fellow teams with their competition submissions.
- We expect all contestants to share information on how to solve issues and collaborate with each other on contest challenges even if they are on neighboring teams.
- Upon entry of a submission to this competition, you confirm that your submission meets the requirements set forth in these competition rules and that you/your team has obtained any and all consents, approvals or licenses required for you to submit your entry.
- Your entry must only contain material (including source code, both open source and third-party sourced) that you own or have the permission from the copyright/ trademark owner to use. Even material released under common open source code licenses and other similar licensing may need permission or acknowledgment as per the specific license.
- We will disqualify any participant, in our sole discretion, who has not followed the guidelines and expectations of the competition contained herein.
- To the extent permitted by law, each contestant indemnifies and agrees to indemnify us at all times from and against any liability, claims, demands, losses, damages, costs and expenses resulting from

any act, default or omission of the contestant and/or a breach of any warranty set forth herein. To the maximum extent permitted by law, each contestant agrees to defend, indemnify and hold us harmless from and against any and all claims, actions, suits or proceedings, as well as any and all losses, liabilities, damages costs and expenses (including reasonable attorney's fees) arising out of or accruing from: (a) any entry or material uploaded or otherwise provided by you that infringes any copyright, trademark, trade secret, trade dress, patent or other intellectual property right of any person or defames any person or violates their rights of publicity or privacy; (b) any misrepresentation made by you in connection with the competition; (c) any non-compliance by the contestant with the official terms; (d) claims brought by persons or entities other than the parties to these official terms arising from or related to your involvement in the competition; (e) acceptance, possession, misuse or use of any prize or participation in the competition, related activity or participation in the competition; (f) any malfunction or other problem with the Competition site; or (g) any error in the collection, processing or retention of entry information.

- To the extent permitted by law, the rights to litigate, to seek injunction relief or to make any other recourse to judicial or any other procedure in case of disputes or claims resulting from or in connection with this competition are hereby excluded, and any contestant expressly waives any and all such rights. If such exclusion or waiver is not permitted by law, the contestant agrees to submit to the exclusive jurisdiction of the courts located within Mecklenburg County to resolve any legal matter arising from the dispute or claims. You agree that these official rules are governed by the laws of the state of North Carolina, USA. You further agree that we will not be liable for any errors, ambiguities or other inaccuracies caused by us in the design, execution, judging or other aspects of the competition.
- In order to be eligible for awards, the submitted application must meet a minimum of 80 percent of technical criteria listed below.

### **Technical criteria required for each submission:**

1. Build a stand-alone software application that gives anyone the ability to describe a problem through a form in the application. The application must have a button that enables quick printing of the entire submission on a single 8.5" x 11" page using a 12-point font.
2. The application must have a registration page to register new users into the system and provide general authentication capabilities (update password, password verification, forgotten password, and password reset options).
3. The application form must capture the problem submitter's name, the title of the problem, the date the problem was submitted, and a description of the problem in 1,000 words or less.
4. If the person registering to use the application is an innovator/developer the application will require that they pick/list skills that they have developed. For example: the Developer can list the programming languages and technologies that they are skilled at separated by commas during their registration, similar to linked in.
5. The registration process must allow people who are registered to update their registration profile.
6. The form must capture how much time is saved if this problem is rectified; time saved is identified by the submitter. Registration should not take more than 2 minutes to complete if the submitter has all the information to submit a problem.
7. The application must use a keyword search to look for duplicate submissions on the title and flag them as duplicates upon submission or after submission. The search results must be easily consumable.
8. Search results must return in less than 30 seconds per 200 submissions.

9. Submitters should be able to use the application to register themselves as developers, innovators or both. The application should capture the skills of the submitter upon registration.
10. The application must give any registered user the ability to rank any submitted problem. Applications with the highest rankings should appear on the application's Top 10 Biggest Problems page.
11. On the first page of the graphical user interface (GUI), the application must provide a Top 10 Biggest Problems list sorted by ratings.
12. The application must give the developer/innovator the ability to submit the solution through the application. The problem submitter can accept the solution, and if he or she determines that the solution fixes the problem, the submitter can award points at any time to the developer/innovator who provided the solution.
13. The application must have an administration GUI that will allow administrators to drop unwanted posts, drop unwanted developers/innovators, and remove problems from the system.
14. The application's administration GUI must have the ability to send email blasts to all registered users to support campaigns.
15. The administration GUI must have the ability to add new registered users to the administration group.
16. The administration GUI must have the ability to update the front page with text of 50 words or less to promote a campaign (HTML textarea preferred).
17. The application must provide the ability for registered users to comment on problems/solutions submitted using a Facebook/blogging post/tweet interface. The comments will appear on the first page of the application along with the problem or solution being commented on. Registered users will have the ability to view all comment posts by date and registered user.
18. The administration GUI must provide the ability to run ad hoc reports, namely: how many users logged in to the system daily, how many problems were submitted, how many solutions were submitted, and total problem submissions/solutions submitted by date.
19. Performance guidelines: Each application GUI pane must take less than 10 seconds to render, and each page refresh must take less than 5 seconds to render.
20. Each application must not have noticeable memory leaks. This means that if the application restarts in the middle of an action, we will disqualify the application.
21. Teams must provide detailed installation documentation for their application. All applications must have a single installation script.
22. The application must install in less than 10 minutes.
23. We will accept virtual machines with the application running on them, but we will also run the installation script in a fresh VM to verify that the application can be stood up via the installation script.
24. All application code must be distributed to Premier via a public GitHub code repository.
25. All application SQL code must be distributed to Premier via a public GitHub code repository.
26. Virtual machines can be UNIX/Windows. A maximum of two processors x86 64bit and 8 cores per VM is allowed – with a maximum of 8GB of RAM and 100GB of space. One VM for the application and another for the database are preferred if applicable. Hadoop technology can be used as a data manipulator/search process as well.
27. The team must demonstrate that all unit tests run will cover over 75 percent of the code delivered. This test will be run before we can accept your submissions. We will also run the PMD and Static Code analysis tools on the code. In a case that a team has a comparable submission, we will use static analysis of the code to determine a winner, so keep your code clean and free from duplicated data.

28. Virus protection will be run against the VM. If there are any viruses detected we will disqualify your submission and we can possibly press charges if intent to harm our network was determined.
29. Acceptable competition technologies: UNIX, PHP, Java, SQL, Bash/Ksh shell, Python, Spring, Groovy, Grails, C/C++, C#. All open source technologies are acceptable as well.

### **Technical optional criteria for each submission:**

1. The application may have the ability to connect to LDAP/Active Directory as an authentication source.
2. Problem submitters receive give-away points to distribute to any developers/innovators working on problems.
3. The application may have a gamer's icon delivery system and a point system. Developers/innovators can achieve icon decals for the number of problems solved on the platform. The front page will display the top 5 developers/innovators with the most decals and top 5 problem submitters that have solutions to their problems, sorted by problem ranking order and then number of problems submitted with solutions.
4. The application will keep track of all points given to register developers/innovators.
5. The application will give all registered users the ability to search the tool for developers/innovators who have a number of points. The points can be used to stage challenges based on gamer or points thresholds.

### **Judging process**

1. All submissions are reviewed by the competition committee.
2. Installation scripts will be run on a clean VM to verify that the application can install in less than 20 minutes.
3. Specs requirements are reviewed for all virtual machine applications submitted.
4. The competition committee will judge the submissions on the following criteria:
  - a. User experience and workflow
  - b. Whether the functionality met the goals outlined
  - c. Application performance outlined in the goals
  - d. The finalist presentation

### **Program committee**

The Premier Software Development Competition is chaired by Gerald Gordon (lead engineer at Premier), Tim Murphy (program manager at Premier), Amber Harrison (specialist in HR recruiting at Premier), Chris Martin (sourcing specialist at Premier), and John Rutherford (associate engineer at Premier).

Executive champion: Todd Wilkes (vice president of enterprise solutions development at Premier).

This committee plans and executes the competition.

## Awards

- The Top 10 submissions will be the finalists of the Premier Software Development Competition and will be asked to present their application to the competition committee.
  - Presentation options:
    - In person
    - Online medium
  - All participants are responsible for travel expenses incurred.
- Winning teams will receive a check for \$2,700 for first place, \$1,380 for second place and \$690 for third place if they win the competition.
- All finalists will be offered an opportunity to apply for Premier's internship program.
- You may not designate someone else as the winner. If you are unable or unwilling to accept your prize, we may award it to the next highest scoring team.
- If you accept your prize, you will be solely responsible for all applicable taxes related to accepting the prize.
- We are not responsible for any dispute regarding prize dispersal.

## Notifications

- If you/your team are selected to advance, we may notify you by sending an email to the PM listed in the registration.
- If we require you to affirmatively accept an invitation, and the notification is returned as undeliverable, or you are otherwise unreachable, we may disqualify you/your team.
- If you are selected as a winner, we may require you to sign an Affidavit of Eligibility, Liability and Publicity Release and W-9 tax form (for U.S. residents).

## Premier's use of your entry

Other than what is set forth below, we are not claiming ownership rights to your entry.

### However, if you agree to the following, you:

- Are granting us an irrevocable, royalty-free, worldwide right and license to: (i) use, review, assess, test and otherwise analyze your entry and all its content in connection with this competition; and (ii) feature your entry and all its content in connection with the marketing, sale or promotion of this competition (including but not limited to internal and external presentations, trade shows and screen shots of the competition entry process in press releases) in all media (now known or later developed);
- Agree to sign any necessary documentation that may be required for us and our designees to make use of the rights you granted above;
- Agree to assist us in the creation of case studies or white papers (together "Studies") detailing your entry or entries. Studies will not include any confidential participant information;

- Understand and acknowledge that we may have developed or commissioned materials similar or identical to your submission and you waive any claims you may have resulting from any similarities to your entry;
- Understand that we cannot control the incoming information you will disclose to us in the course of entering, or what we will remember about your entry. You also understand that we will not restrict our work assignments of those who have had access to your entry. By entering this competition, you agree that use of information in our unaided memories in the development or deployment of our products or services does not create liability for us under this agreement or copyright or trade secret law;
- Understand that you will not receive any compensation or credit for use of your entry, other than what is described in these official rules.
- Please note that during and after this competition, your entry may be posted on the Web.

### Competition resources

- Getting started with bootstrap JavaScript technology: <http://getbootstrap.com/getting-started/>
- Create custom virtual machines: <http://susestudio.com/>
- Application development environment with application server: <http://grails.org/>
- Getting started with JMeter: <http://jmeter.apache.org/usermanual/get-started.html>
- Virtual environment setup using Vagrant: <http://swaeku.github.io/blog/2013/03/09/installing-vagrant-on-ubuntu-12-dot-10/>
- Getting started with Puppet for configuration updates: <http://puppetlabs.com/about>
- Premier Software Development Competition official Web page: <http://premiersdc.github.io/>