

**CMPSCI 520**  
**Project 2.0 (HW#1): Developing a background**  
**Assigned: September 15, 2008**  
**Due: October 3, 2008**

Each person will be assigned to a 3-4-person group. These groups will carry out requirements, design, construction and testing of a PayPal™ Challenge entry. While the deadline for **official** entries (November 21, 2008 – see attached information) makes it unlikely we will field an official team, we will still use this framework. Before forming groups, **each individual** should familiarize her/himself with the PayPal™ Challenge material attached.

I am happy to allow groups to self organize. If you have a group in mind, please email me on or before September 21, 2008. Otherwise I will assign people to groups by September 22. Since official groups are limited to a maximum of five (5) students, you (or I) will need to form a group and then select a lead person to officially register at:

<http://intranet.edventurepartners.com/casestudies/paypal08/default.asp>

This will allow the group to access the necessary resources.

If a group makes sufficient progress, I can consider allowing the group to officially participate. If more than one group wants to officially compete, I will have to decide among them (or find an additional faculty advisor). **Official participation is not required and will be for extra credit.**

Summary of actions and deadlines:

1. Propose a group on or **before 9/21/08** and I will assign groups on 9/22/08
2. Chose a group leader who must register with the PayPal™ Challenge **before 9/30/08.**
3. Develop a proposal for a *PayPal™-centric* application that addresses the needs of college students (see attached) **on or before 10/3/08.**
4. Identify stakeholders and email me **on or before 10/3/08.**

Project 2 will take place in three additional phases: Requirements Analysis and Specification (Project 2.1) due 10/24; Design (Project 2.2) due 11/14; Implementation, Test and Demonstration (Project 2.3) due week of 12/15/08. Note, again, that if you want to have an official entry, the implementation would have to be complete on or before 11/21/08.

Note: I am willing to consider a project other than the PayPal™ Challenge (e.g., the IBM® SOA Sandbox ), but **make this request by 9/30/08.**

# **PayPal College Challenge**

**Cash Prizes. Executive Audience. Internships. Jobs. Distinction.**  
**<http://www.edventurepartners.com/paypalcontest>**

## **Innovate. Build. Win.**

*PayPal* invites you to participate in the *PayPal College Challenge 2008*, a creative, real-world, team-based contest rewarding innovation, business sense, and, of course, world-class design and development.

The goal is simple. Take an audience you know well--your peers--and build a *PayPal-centric* innovation that improves the lives of college students in North America, or around the globe.

What is an innovation? That is entirely up to you. Maybe it is a new *PayPal* product or service. Or, maybe it is a new way of integrating *PayPal* into college or campus life. Or, if you are inspired and bold, it might be a completely new paradigm in electronic commerce or payment.

In the end, this is about the real world, with real executive judges and real product demos. What you build needs to be a demo of a technically feasible product, based on *PayPal*'s publicly available APIs and interfaces, which can be profitably deployed to hundreds of millions of users around the globe.

## **Winning**

The top three teams, including their faculty sponsor and five team members, will be invited to attend an all-expenses paid trip to *PayPal*'s corporate headquarters in San Jose, California. While in California, the students will have the opportunity to pitch their project to top executives and engineers.

Up to ten student participants may be selected for an internship at *PayPal*. Additionally, the top three teams will receive cash prizes of \$3,000, \$2,000, and \$1,000, respectively. For more information, and full details, please consult the Web site: <http://www.edventurepartners.com/paypalcontest>.

## **Target Audience**

Your innovation should target college students. It can have a broad appeal, or target any significant niche of students, such as commuter students, residential students, international students or Greek organizations. Your demo can target your specific campus or appeal broadly to college students across campuses.

*PayPal* is interested in novel ideas and that resound with the college community. An idea that seems commonplace might prove to be compelling if, in your demo, it helps *PayPal* improve the lives of college students across the globe. *PayPal* wants to connect better with college audiences – and is looking to you for help in doing that.

## **The Demo**

The most important part of your *PayPal College Challenge* entry will be your demo which illustrates a novel way for *PayPal* to improve college life. In order for a demo to receive full consideration, it must be interactive rather than static and the product it suggests must be feasible to deploy in the real world. As a guideline, an idea that requires any modification of the *PayPal* API, Web-based tools, or Web pages is unlikely to be deployable. Also note that you may submit a fully functional application if you choose.

A truly inspiring idea for revolutionizing electronic commerce or payment might be feasible, even if it requires a modest enhancement to *PayPal*'s standard offerings. But, ideas of this proportion are truly rare. Any such idea should have a dramatic impact upon a very large audience, be illustrated with a killer-application of interest to college students, and carefully and concisely address the necessary enhancements in the accompanying presentation.

What you put together is up to you. Here are some ideas to get your creative juices flowing:

- **Parent toolkit:** Come up with an easy way for students to raise money from their parents.
- **eCommerce for students:** Your demo might use existing *PayPal* services to catalyze traditional eCommerce in a way that is relevant and important to college students.
- **Expense sharing:** Maybe you'll come up with a clever new way to track and settle shared expenses for housing, food, entertainment, and course projects.
- **Social networks:** Or, your demo might be a novel social networking application that either expands beyond *PayPal*'s existing *Facebook*<sup>TM</sup> and *MySpace*<sup>TM</sup> footprint or complements those applications.

- **Student cards:** Perhaps you can make it easy to integrate *PayPal* with your student cards or meal plans.
- **Birthday money:** You could create a demo that makes it easy for relatives to send you money for your birthday.

These are simply some suggestions for you. *PayPal* has a wide array of tools, APIs, and interfaces that you can leverage when building your demo. For examples of applications that have been built by *PayPal* engineers using these publicly available interfaces, checkout *PayPal* Labs as <http://www.x.com>. Other examples of applications that have been built by 3<sup>rd</sup> parties using *PayPal* include chipin.com, invoice.com, paydotcom.com, payloadz.com, and more that can be found here: [https://www.paypal.com/en\\_US/html/SolutionsDirectory/sd\\_em.html](https://www.paypal.com/en_US/html/SolutionsDirectory/sd_em.html).

In order to create a demo of a feasible product, you may need to learn about *PayPal*'s interfaces:

- APIs: [https://www.paypal.com/IntegrationCenter/ic\\_api-reference.html](https://www.paypal.com/IntegrationCenter/ic_api-reference.html)
- *PayPal*'s Authentication and Permissions Authorization service: <http://www.paypallabs.com/AuthAndPermissions.htm>
- Web site Payments Standard: [https://www.paypal.com/IntegrationCenter/ic\\_standard\\_home.html](https://www.paypal.com/IntegrationCenter/ic_standard_home.html)
- Instant Payment Notifications: [https://www.paypal.com/IntegrationCenter/ic\\_ipn.html](https://www.paypal.com/IntegrationCenter/ic_ipn.html)
- Mass Pay: [https://www.paypal.com/us/cgi-bin/webscr?cmd=\\_batch-payment-overview](https://www.paypal.com/us/cgi-bin/webscr?cmd=_batch-payment-overview)
- Mobile checkout: [https://www.paypal.com/IntegrationCenter/ic\\_mobile-checkout.html](https://www.paypal.com/IntegrationCenter/ic_mobile-checkout.html)
- Referral bonus program: <https://www.paypal.com/us/cgi-bin/webscr?cmd=web-referrals-mrb>
- Developer Forums (great for getting help): <http://www.pdncommunity.com/pdn/>
- Developer Center: <http://www.paypal.com/developer>

Note that your use of some of *PayPal*'s products, such as the authentication and permissions services, requires approval before being deployed against *PayPal*'s live services. If you choose to build a functional application, then note that your application may be limited to *PayPal*'s sandbox if it uses any of these products.

*PayPal* does not provide hosting services for your demo, so you will need to build and host your own demo. You'll submit a link and .zip of source files as part of your contest entry. If you have access controls in place, don't forget to include instructions on how to access.

You are encouraged to think through your user experience and to ensure that your demo clearly explains its value to your target audience, and that it remains self-explanatory and

easy-to-use. It's a good idea to get usability feedback from your peers before submitting a final entry for the contest.

## **Guidelines**

There are a few cautionary items to keep in mind throughout the development of your demo. They are as follows:

- You may download the *PayPal* logo from the *PayPal* College Challenge Web site, but do not alter the logo in any fashion. Refer to the document on the Web site titled "Logo Usage" for more information.
- Refer to *PayPal*'s legal agreements to ensure your demo does not violate any of *PayPal*'s terms or policies:
  - <https://www.paypal.com/us/cgi-bin/webscr?cmd=p/gen/ua/ua-outside>
- Gambling types of demos are prohibited.
- *PayPal*'s privacy policy limits the use of buyers' e-mails, phone numbers and addresses.
- Your application cannot collect user's *PayPal* or eBay credentials or solicit other sensitive information related to a *PayPal*/eBay account, such as a credit card number, bank account, security question answers, etc.

## **The PowerPoint Presentation**

Your team should put together a PowerPoint presentation that is not more than fifteen (15) slides in length, and which should address the following:

- **Demo link:** Very important to include!
- **Market opportunity and business case:** For example, "Over \$1M is transacted every day using the College-Card."
- **Differentiation versus similar offerings:** "Although PayPal already has a Facebook application, our application adds value because it focuses on groups."
- **Context** around things that may be obvious to your target audience that would not be to the judges. For example, "On campus X, we use a reloadable card system called the Stud-Card, which can be used to purchase student-related items ranging from textbooks to meals to photocopies."
- **Technical points of interest:** "Our application uses one of only 3 flux capacitors known to exist in the world."
- **Team member profiles:** "The entire team is descended directly from Alan Turing."
- **The one thing that you most love about your product:** For example, "The thing that we think really makes our application unique is that it sends an automatic thank you to the parent after they remit money."

## ***Finalist Presentations***

The three top teams will be invited to *PayPal*'s corporate headquarters in San Jose, California. While there, they will present their demo and PowerPoint presentation to executives and senior engineers.

## ***Judging Criteria***

Team's initial submissions are judged according to the following criteria:

- (1) The degree to which your demo serves the target audience
- (2) The level of innovation present in the idea, itself,
- (3) The completeness and quality of the demo as a tool for visualizing a *PayPal* product or service meeting the identified need, and
- (4) The quality of the written presentation will be judged in the following areas:
  - a. The business case for the innovation
  - b. Framing the new product or service in the context of *PayPal*'s existing line up
  - c. Overall professionalism of the document

Those who are selected as finalists to make a presentation to executives and engineers will be judged based on the same criteria, as well as the quality of their in-person presentations.

## ***Submission***

Student teams must submit the following required deliverables in order to be eligible into the contest:

- CD that includes:
- a. Link of demo or functional application
  - b. Written presentation in PowerPoint format (15 slide limit)
  - c. .zip of source files

The instructions and process for submission is detailed on the *PayPal* College Challenge Web site at [www.edventurepartners.com/paypalconest](http://www.edventurepartners.com/paypalconest) after registration.

## ***Eligibility***

Teams are composed of 1-5 students enrolled, part-time or full-time, in undergraduate or masters programs. Teams must have a faculty sponsor. Full eligibility details are available on the PayPal College Challenge Web site.

### ***Deadline***

Entries must be submitted, as described above, by 5:00pm PST on November 21, 2008.

### ***Full Details***

For all details, including rules, policies, and eligibility information, please consult <http://www.edventurepartners.com/paypalcontest>.

### ***PayPal History***

*PayPal* was founded in December 1998 by entrepreneurs Peter Thiel, Max Levchin and Elon Musk. Originally located in office space above a bakery in Palo Alto, California, they launched the *PayPal* service to the public in October 1999. In October 2002, *PayPal* became part of the *eBay* family, which now includes the *eBay* marketplace, *Skype*, and *PayPal*, as well as *rent.com*, *shopping.com*, *StubHub*, and *StumbleUpon*.

Early *PayPal* product development focused on building functionality to enable people to "beam" money to each other using handheld devices. It quickly became apparent that sending money instantly via the Internet had significantly more public appeal. Online users, especially in the *eBay* and business communities, immediately embraced the convenience of being able to send money with *PayPal*.

### ***PayPal Today***

*PayPal* is widely known as the safest, easiest way to get paid online. The service allows anyone to pay in any way they prefer, including through credit cards, bank accounts, buyer credit or account balances, without sharing financial information. It offers a host of products for use by non-profits, businesses, and individuals – standalone, or fully integrated into the marketplace.

*PayPal* has received more than 20 awards for excellence from the Internet industry and the business community at large, most recently the 2007 Online Safety Leadership Award by the Authentication and Online Trust Alliance, the 2006 Webby People's Voice Award

for the Best Financial Services Site and the Electronic Payments International Award for Best Non-Card Payment Product 2005.

### **Success by the Numbers**

*PayPal* has quickly become a global leader in online payments. Check out a few exciting sideline stats:

- ... \$1,834.00 per second (2007)
- ... \$64,000,000,000.00 per year (2007)
- ...33% growth (Right now!)
- ...161,000,000 accounts (2008)
- ...191 markets, 17 currencies (2008)