

UNIVERSITY of
HOUSTON

YOU ARE THE PRIDE

UNIVERSITY INFORMATION TECHNOLOGY

Digital Signatures Project Summary

August 8, 2013

Implement Secure Digital Signatures: Overview

➤ **Major initiative for UH & UIT for FY 2011/12**

“Digital Signature Project (\$247,500); The Digital Signature Project will make possible electronic authorization of official university business (e.g., purchasing, travel, leave requests). Eliminating the need for print signatures will increase operational efficiency and reduce the university’s reliance on, and investments in, paper. “

– Fiscal Year 2011 Plan and Budget

➤ **What is a Digital Signature?**

E-signatures are divided into two categories:

1. **Electronic signatures** - click and sign (i.e. type name); simple authentication
2. **Digital signatures** - utilizes public-key cryptography (PKC) / public-key infrastructure (PKI); complex algorithms using SSL certificates.

Implement Secure Digital Signatures: Objectives

- **More efficient business processes**
 - Electronic authorization of official university business (e.g., on-line contracts, purchasing, travel, leave requests)
- **Increased operational efficiency** and **reduced** reliance on, and investments in, paper and other related **expenses of printing**
- **Strong security for documents and messages where the identity** of an author, sender, or the contents of a message **must be verified** and validated, or authenticated
- **Legislative compliance** with the Texas Administrative Code (TAC) and the Texas Department of Information Resources (TxDIR)

Implement Secure Digital Signatures: Compliance Requirements

State of Texas Requirements incumbent upon UH:

- Offeror must utilize certificates for digitally signed communications obtained from a **source(s) approved as an acceptable PKI service provider** by the Texas Department of Information Resources (DIR)
- Texas Government Code § 2054.060 - Digital Signature
- TAC §202.75.2.E, Information Resources Security Safeguards
- TAC §203.25 – Acceptable PKI Service Provider
- TAC §203.44 - Acceptable Digital Signature Technology

Implement Secure Digital Signatures: Procurement

➤ Forsythe Technologies Procurement

- Consortium of Forsythe, SIGNiX & Symantec/Verisign
- Multi-Solution Approach
 - Certificate based – VeriSign MPKI – **Internal solution**
 - Non-certificate - SIGNiX – **External solution**
 - Customers:
 - » Houston Area Realtors
 - » Credit Unions
 - » Universities (Penn State)

Implement Secure Digital Signatures: Procurement

- 3 Year Contract Invoiced Annually - \$240,037.50
 - 2014 last year of contract
- Licenses included for:
 - Verisign/Symantec MPKI (Internal Solution)
 - 5000 User Seats (Faculty/Staff)
 - 2 Administrators
 - SIGNiX (External Solution)
 - 10,000 External Signers (Students/Parents/Alumni)
 - 50 Faculty/Staff users/admins
 - Annual Maintenance

Implement Secure Digital Signatures: Steering Committee

Committee Chair: Mike Glisson, Controller

UIT Security Representatives: Mary Dickerson, Brian Walker (Technical Lead)

UH Business Representatives:

- ❖ Administration & Finance, Office of the General Counsel, Purchasing
- ❖ College/Division Business Administrators

UHS – Business and IT Representatives from each campus

- ❖ UH Downtown: George Anderson & Erin Mayer
- ❖ UH Clear Lake: Cathy Bye & Margaret Lampton
- ❖ UH Victoria: Vangie Kolesar & Eric Mims

Electronic Signing Options Identified by DS Committee

1. Signature Capture Devices
2. Electronic document Signing w/DS certificate
3. Signlx – web-based solution for external signers

Identified Electronic Signing Options

1. Signature Capture Devices

- OGC and IA have confirmed acceptable use for situations where a scanned signature is approved
- Devices are inexpensive (~\$200)
- Ability to sign any documents from any device
- Meets needs of increased operational efficiency and reduced costs
- Is NOT considered a “Digital Signature” instead a “Digitized signature”

Signature Capture Device Example



Signature Capture Devices – Best Practices

- Currently no industry technical standards exist
- Factors to consider:
 - High enough resolution to produce a legible signature, both on screen, and in printed form.
 - Make sure the pad will be usable by all persons who may need to use it, especially by those with physical challenges or limitations.
 - If the pad is going to be mounted or permanently affixed to a surface, be sure to allow for enough clearance on all sides.

Signature Capture Devices – Best Practices – cont.

- Factors to consider (cont.):
 - Be mindful of use of the pad by left-handed persons, whose natural signature style often tends to be very different physically from that of right-handers..
 - Be wary of styluses that require the point be used within restrictive angles or pressures; these can often be frustrating for people to use.

Identified Electronic Signing Options – cont.

2. Electronic Document Signing w/DS Certificates

- Process intensive – requires setup of documents and restricts document changes
- Only works with PC devices and MS office documents (unless hardware tokens/FOBs are used)
- Does not work with Mac or Linux devices or Adobe documents (unless hardware tokens/FOBs are used)

Identified Electronic Signing Options – cont.

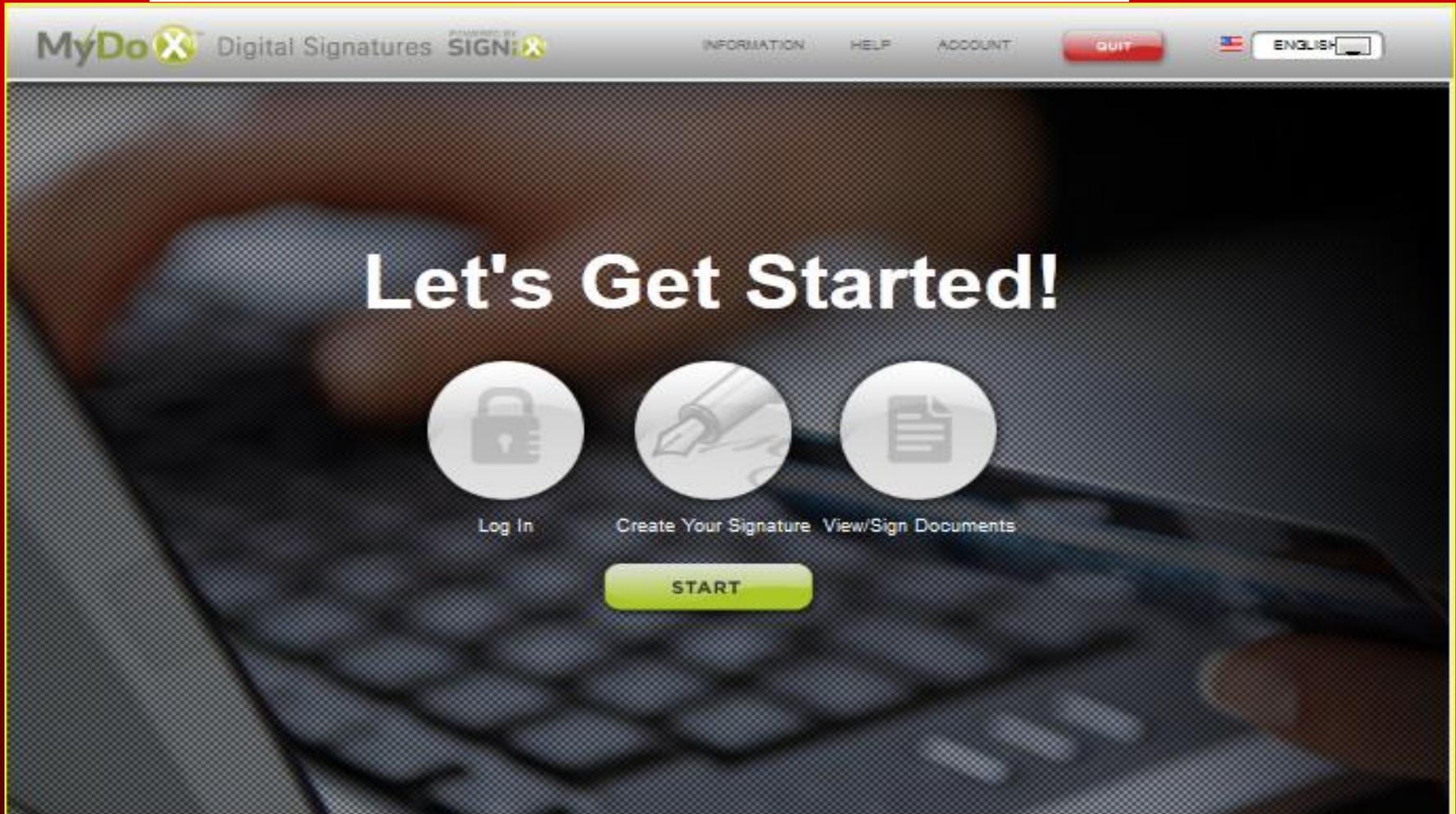
Electronic Document Signing w/DS Certificates

- Adobe Hardware Tokens/FOBs
 - Appearance is similar to a USB drive
 - Can be purchased for approx. \$20 each
 - User's certificate is stored on the token
 - Allow signing of any documents (MS Office, Adobe, etc.)
 - Work on PC, Mac, Linux

Identified Electronic Signing Options – cont.

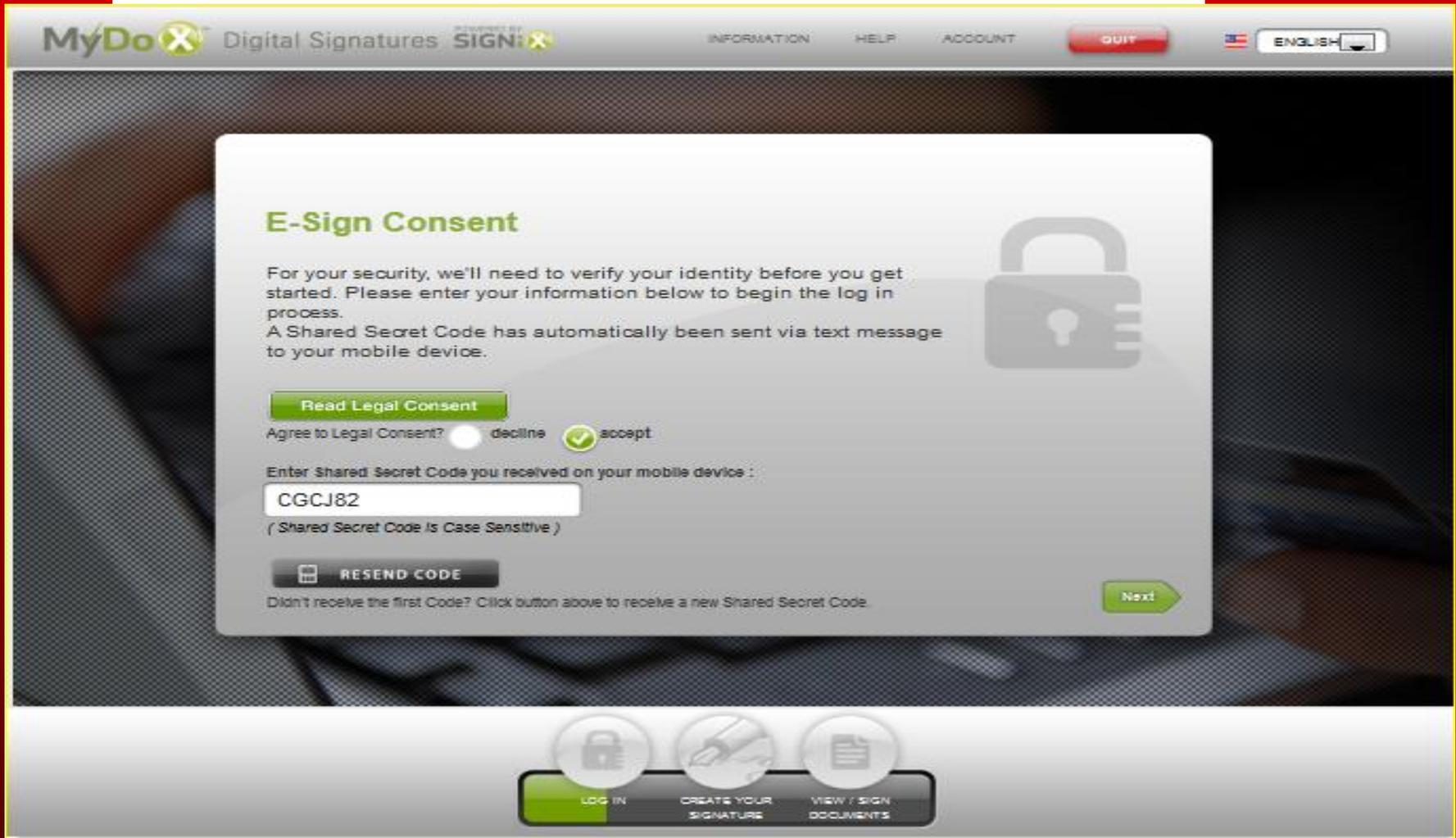
3. Signlx

- Web-based signing solution for external signers
- Departments can upload unlimited docs for signing
- Workflow notifies multiple signers, administrators
- Housing contracts - using successfully for 1+ year
- UH using apprx. 5,200 licenses of 10,000 purchased
- Other UH departments investigating use:
 - Facilities rental
 - University Advancement



The screenshot shows the MyDoX Digital Signatures website interface. At the top, there is a navigation bar with the MyDoX logo, the text "Digital Signatures", and "POWERED BY SIGNiX". To the right of the navigation bar are links for "INFORMATION", "HELP", and "ACCOUNT", along with a red "QUIT" button and a language selector set to "ENGLISH". The main content area features a large, bold heading "Let's Get Started!" centered on a background of a hand typing on a keyboard. Below the heading are three circular icons: a padlock for "Log In", a fountain pen for "Create Your Signature", and a document for "View/Sign Documents". A prominent green "START" button is positioned below these icons.

Immediate Signing of Residence Agreement



The screenshot shows the MyDoX Digital Signatures interface. At the top, there are navigation links for INFORMATION, HELP, ACCOUNT, and a QUIT button. A language dropdown menu is set to ENGLISH. The main content area is titled "E-Sign Consent" and includes the following text: "For your security, we'll need to verify your identity before you get started. Please enter your information below to begin the log in process. A Shared Secret Code has automatically been sent via text message to your mobile device." To the right of this text is a large padlock icon. Below the text, there is a "Read Legal Consent" button. Underneath, it asks "Agree to Legal Consent?" with radio buttons for "decline" and "accept", where "accept" is selected. A text input field contains the code "CGCJ82" with a note "(Shared Secret Code Is Case Sensitive)". A "RESEND CODE" button is located below the input field. At the bottom of the consent form is a "Next" button. A footer bar contains three icons: a padlock for "LOG IN", a pen for "CREATE YOUR SIGNATURE", and a document for "VIEW / SIGN DOCUMENTS".

Immediate Signing of Residence Agreement

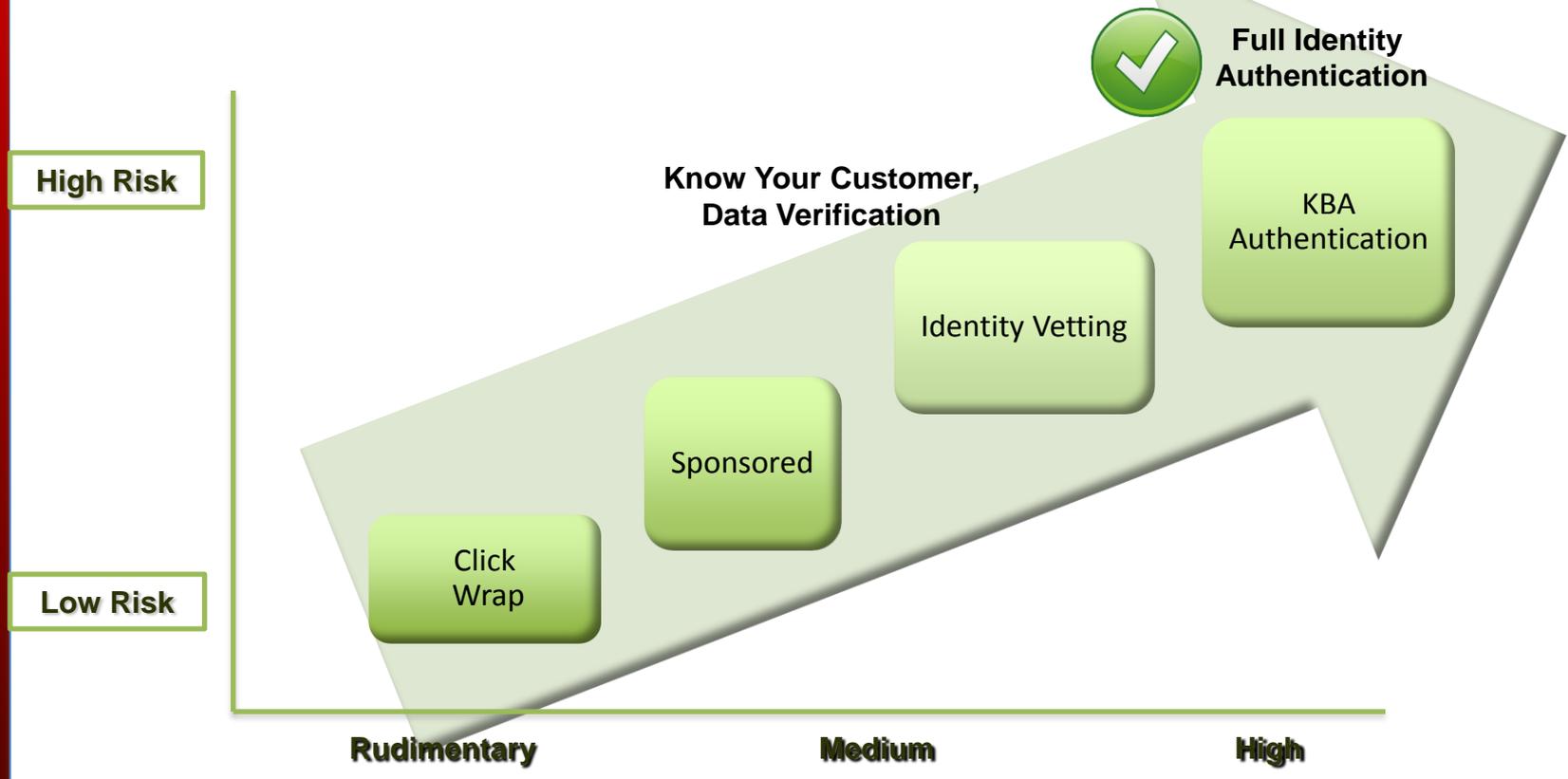
Implement Secure Digital Signatures: Proposal

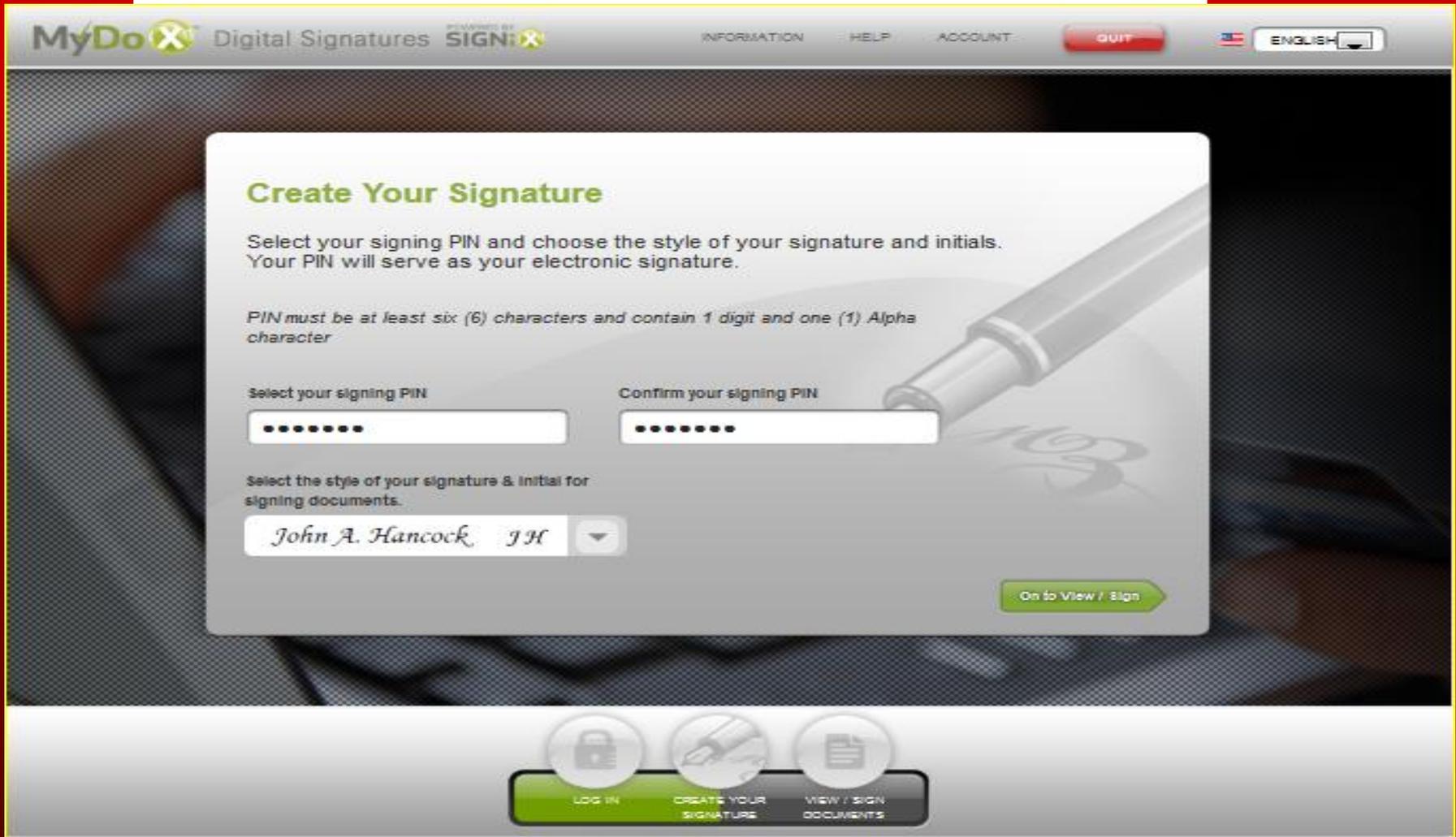
SIGNiX Optional Services:

Authentication Options: Charge/Attempt

1. Internal Click-thru: No Charge
2. Authentication w/Question(s) created by Authorized User: No Charge
3. SMS Text Shared Secret: \$0.25/attempt
4. Basic Authentication with SSN & DOB entered and validated with outside 3rd party data provider: \$1.00/attempt
5. Full Knowledge-Based Authentication (KBA): \$2.50/attempt

Your documents have different levels of risk attached to them.
The higher the risk, the more protection is available to achieve the reward.





MyDoX Digital Signatures POWERED BY SIGNiX INFORMATION HELP ACCOUNT [QUIT](#)  ENGLISH

Create Your Signature

Select your signing PIN and choose the style of your signature and initials. Your PIN will serve as your electronic signature.

PIN must be at least six (6) characters and contain 1 digit and one (1) Alpha character

Select your signing PIN

Confirm your signing PIN

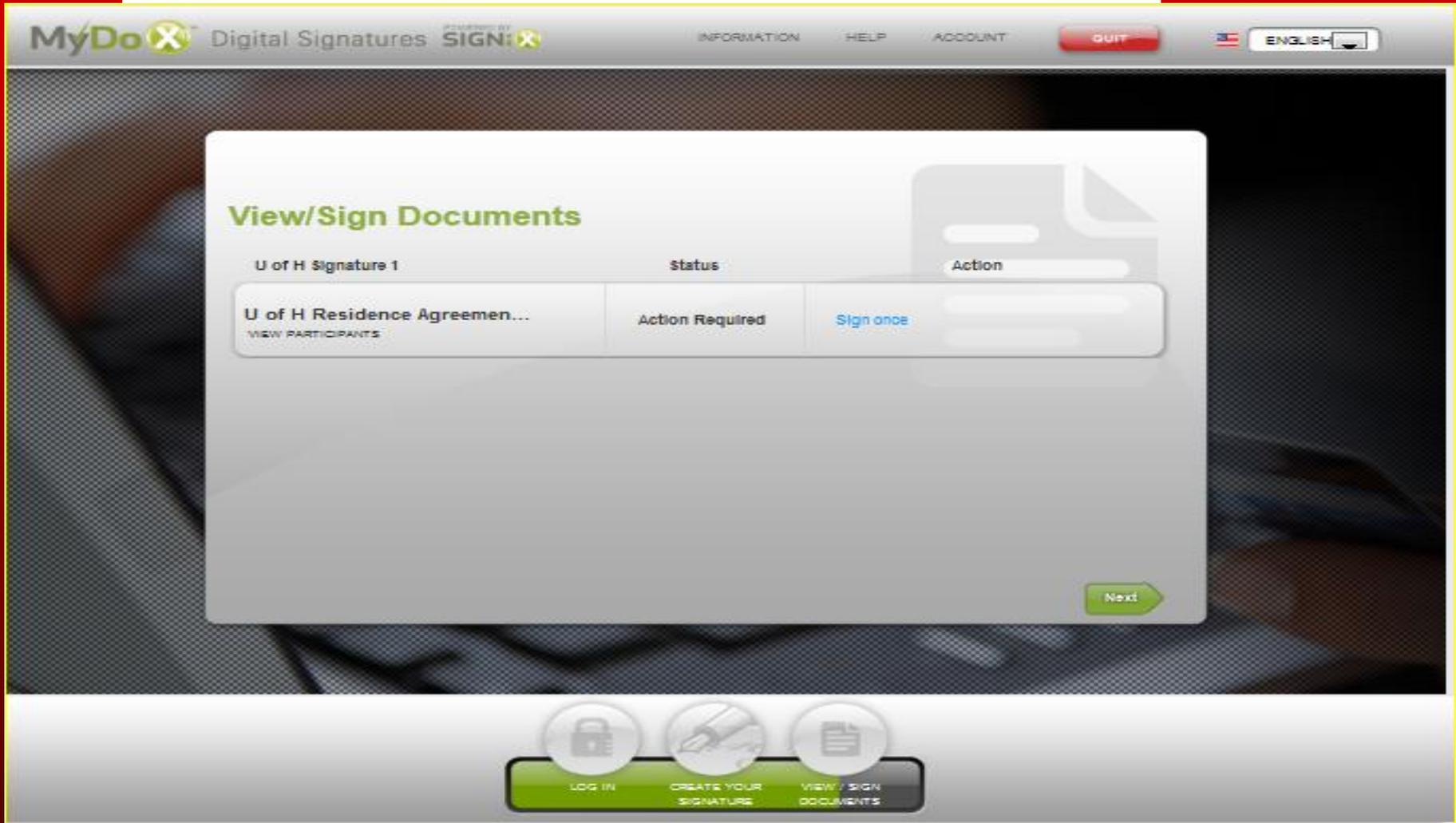
Select the style of your signature & Initial for signing documents.

John A. Hancock *JH* 

[On to View / Sign](#)

 LOG IN  CREATE YOUR SIGNATURE  VIEW / SIGN DOCUMENTS

Immediate Signing of Residence Agreement



The screenshot displays the MyDoX Digital Signatures interface, powered by SIGNiX. The top navigation bar includes links for INFORMATION, HELP, ACCOUNT, and a GUIT button. A language dropdown menu is set to ENGLISH. The main content area is titled "View/Sign Documents" and features a table with the following data:

U of H Signature 1	Status	Action
U of H Residence Agreemen... <small>VIEW PARTICIPANTS</small>	Action Required	Sign once

A "Next" button is located at the bottom right of the main content area. The bottom navigation bar contains three icons: a padlock for LOG IN, a pen for CREATE YOUR SIGNATURE, and a document for VIEW / SIGN DOCUMENTS.

Immediate Signing of Residence Agreement

MyDoX Digital Signatures POWERED BY SIGNiX INFORMATION HELP ACCOUNT **QUIT** ENGLISH

DOCUMENT TITLE: **U of H Residence Agreement** cancel

Action: Sign once

Click the <Tab> key to go directly to the next signature or initials on this document.

1

information on payments and section five (5) for information on Termination of Agreement.

This Agreement is legal and binding for the period set forth in this Agreement and is in effect when University receives the Deposit and an executed copy of this Agreement.

Student represents to University and University does rely herein that Student is eighteen (18) years of age or older at the time this Agreement is executed. If Student is under the age of eighteen (18) years, then one of Student's parents or legal guardians has signed this Agreement and that person is hereby made a party to this Agreement, subject to the Terms and Conditions attached to this Agreement.

Student's occupancy is governed by the regulations set forth in the University of Houston's "Residence Halls Service Agreement Terms and Conditions", which are incorporated herein, and the "Housing Guide" and "University of Houston's Student Handbook", which are provided at the beginning of the semester, or viewed on line, or upon request, as now written or as may be amended from time to time by the Board of Regents. **Student acknowledges by his/her signature below and by initialing each page, receiving the University of Houston "Residence Halls Service Agreement Terms and Conditions" provided within this Agreement, and he/she agrees to abide by them.**

"State law requires that you be informed of the following: (1) with few exceptions, you are entitled on request to be informed about the information University collects about you by use of this form; (2) under sections 552.021 and 552.023 of the Government Code, you are entitled to receive and review the information; and (3) under section 559.004 of the Government Code, you are entitled to have University correct information about you that is

[Click Here to Sign](#)

Student Signature	Date	Parent/Guardian Signature	Date
Student ID #: 123-456-789		Name: New Parent	

Return or mail your Residence Halls Service Agreement to:
UH Housing Services
4361 Wheeler, Room 108
Houston, TX 77004
Note: Modification of this Form requires approval of OGC
Office of the General Counsel
Residence Halls Service Agreement
OGC-S-2000-06 Revised 02.3.11
Page 1 of 8

LOG IN CREATE YOUR SIGNATURE VIEW / SIGN DOCUMENTS

Immediate Signing of Residence Agreement

MyDoX Digital Signatures POWERED BY SIGNiX INFORMATION HELP ACCOUNT QUIT ENGLISH

DOCUMENT TITLE
U of H Residence Agreement cancel

Action : Sign once

Click the <Tab> key to go directly to the next signature or initials on this document.

Intent to Sign

Enter your PIN to acknowledge viewing

I am New Student and I agree to be legally bound by this electronic signature.

Sign

information r
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"State law req
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(3) years, then one of Student's
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nd the "Housing Guide" and
of the semester, or viewed on
he Board of Regents. **Student**
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orm; (2) under sections 552.021
the information; and (3) under

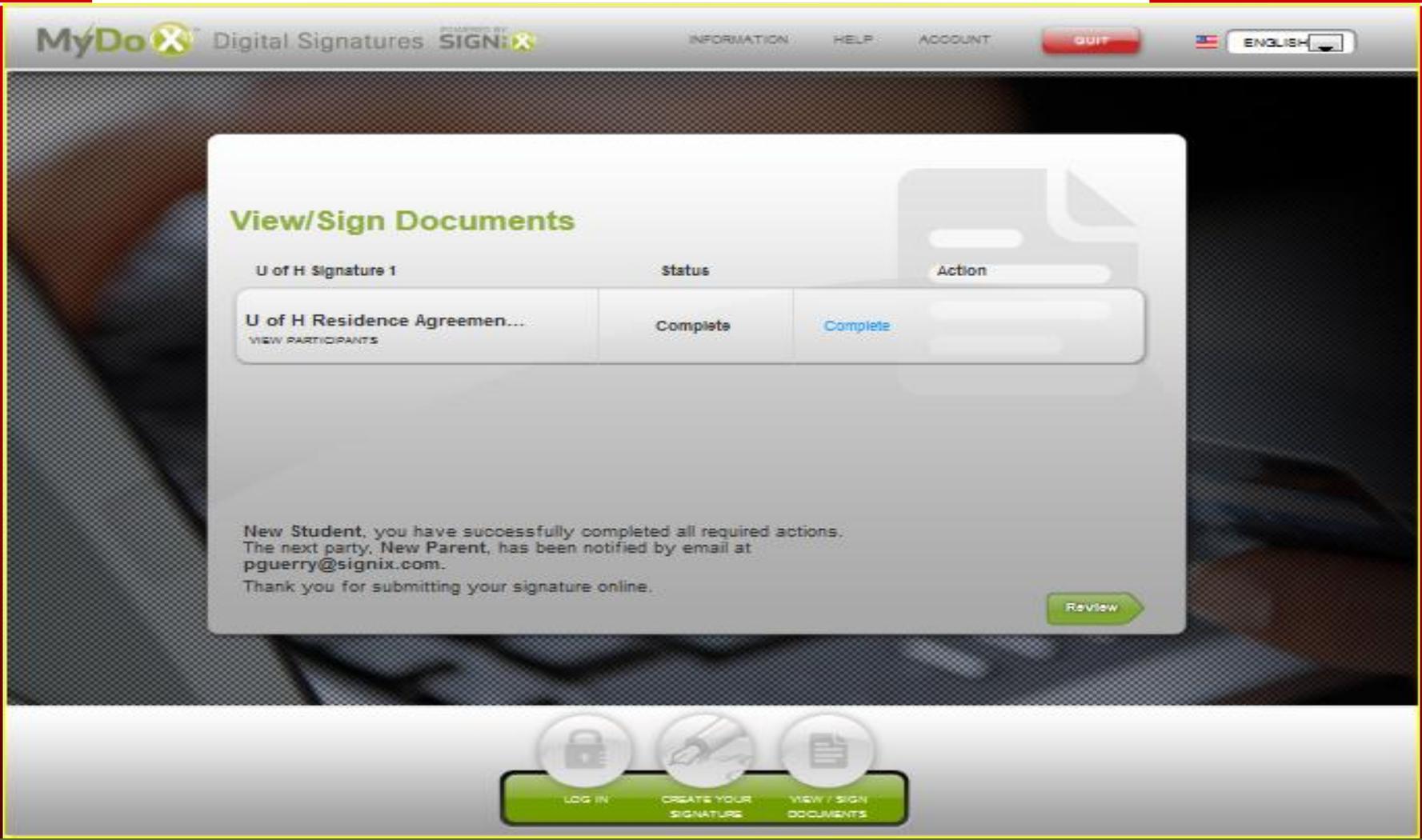
[Click Here to Sign](#) SIGNED DATE

Student Signature	Date	Parent/Guardian Signature	Date
Student ID #:123-456-789		Name: New Parent	

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LOG IN **CREATE YOUR SIGNATURE** **VIEW / SIGN DOCUMENTS**

Immediate Signing of Residence Agreement



MyDoX Digital Signatures PRESENTED BY SIGNiX

INFORMATION HELP ACCOUNT **QUIT** ENGLISH

View/Sign Documents

U of H Signature 1	Status	Action
U of H Residence Agreemen... <small>VIEW PARTICIPANTS</small>	Complete	Complete

New Student, you have successfully completed all required actions. The next party, New Parent, has been notified by email at pguerry@signix.com. Thank you for submitting your signature online.

[Review](#)

LOG IN CREATE YOUR SIGNATURE VIEW / SIGN DOCUMENTS

Immediate Signing of Residence Agreement

MyDoX Digital Signatures POWERED BY SIGNiX INFORMATION HELP ACCOUNT **QUIT** ENGLISH

DOCUMENT TITLE: **U of H Residence Agreement** Remove All Signatures Commit Signatures cancel Action: Sign only

Click the <Tab> key to go directly to the next signature or initials on this document.

1

are not allowed to live in University Housing.

Student must pay to the University a three hundred dollar (\$300) deposit (the "Deposit"), which will be used as a security deposit, as allowed by Texas law. **Under the Terms and Conditions please read section one (1) for information on payments and section five (5) for information on Termination of Agreement.**

This Agreement is legal and binding for the period set forth in this Agreement and is in effect when University receives the Deposit and an executed copy of this Agreement.

Student represents to University and University does rely herein that Student is eighteen (18) years of age or older at the time this Agreement is executed. If Student is under the age of eighteen (18) years, then one of Student's parents or legal guardians has signed this Agreement and that person is hereby made a party to this Agreement, subject to the Terms and Conditions attached to this Agreement.

Student's occupancy is governed by the regulations set forth in the University of Houston's "Residence Halls Service Agreement Terms and Conditions", which are incorporated herein, and the "Housing Guide" and "University of Houston's Student Handbook", which are provided at the beginning of the semester, or viewed on line, or upon request, as now written or as may be amended from time to time by the Board of Regents. **Student acknowledges by his/her signature below and by initialing each page, receiving the University of Houston "Residence Halls Service Agreement Terms and Conditions" provided within this Agreement, and he/she agrees to abide by them.**

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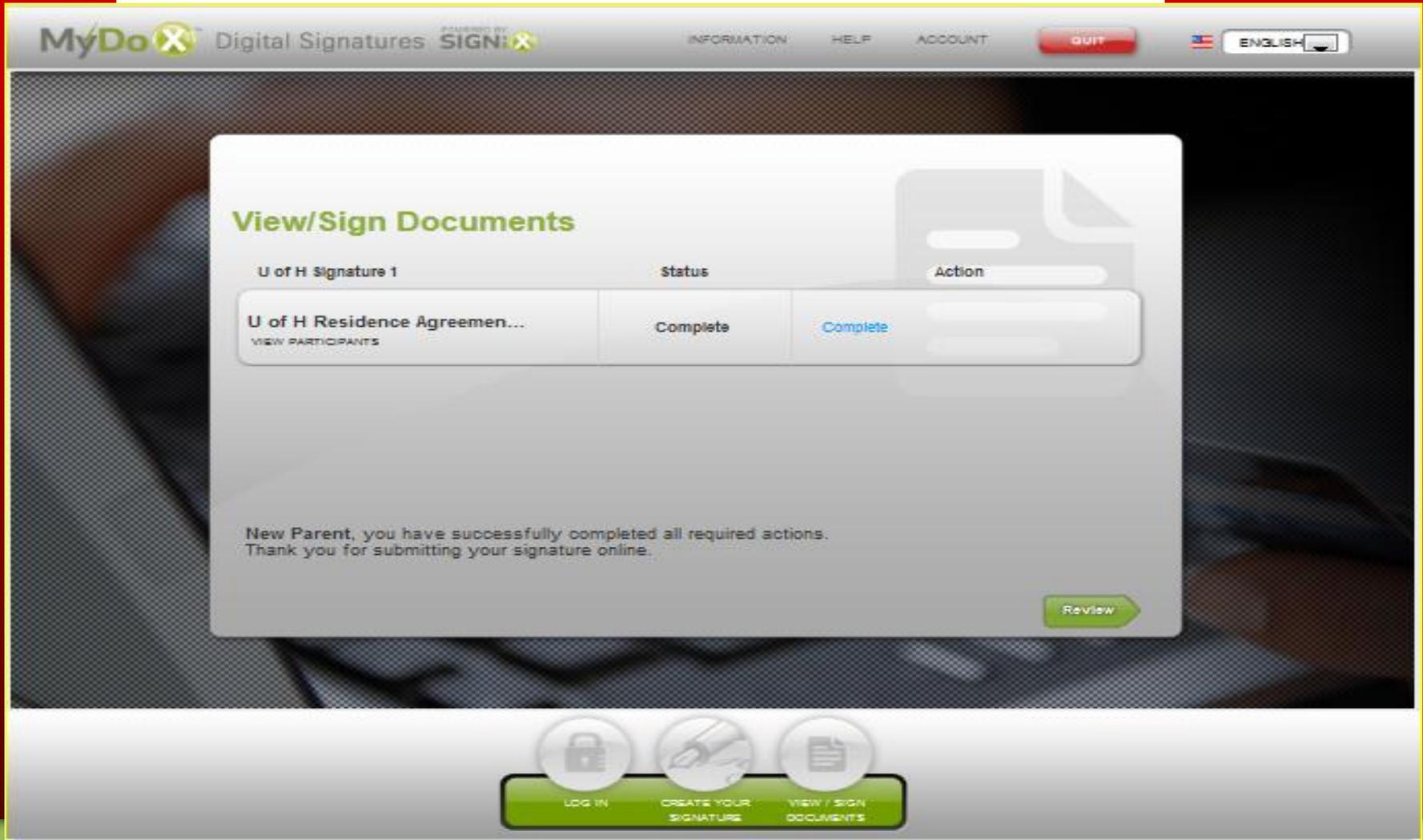
2011-12-20 17:11 EST Click Here to Sign SIGNED DATE

<u>New Student</u>			
Student Signature	Date	Parent/Guardian Signature	Date
Student ID #: 123-456-789		Name: New Parent	

Return or mail your Residence Halls Service Agreement to:
UH Housing Services
4361 Wheeler, Room 108
Houston, TX 77004
Note: Modification of this Form requires approval of OGC
Office of the General Counsel
Residence Halls Service Agreement

LOG IN CREATE YOUR SIGNATURE VIEW / SIGN DOCUMENTS

Immediate Signing of Residence Agreement



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View/Sign Documents

U of H Signature 1	Status	Action
U of H Residence Agreemen... <small>VIEW PARTICIPANTS</small>	Complete	Complete

New Parent, you have successfully completed all required actions.
Thank you for submitting your signature online.

[Review](#)

At the bottom, there are three icons: a padlock for "LOG IN", a pen for "CREATE YOUR SIGNATURE", and a document for "VIEW / SIGN DOCUMENTS".

Immediate Signing of Residence Agreement

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New Student 

2011-12-20 17:11 EST

New Parent 

2011-12-20 17:15 EST

Student Signature Date
Student ID #: 123-456-789

Parent/Guardian Signature Date
Name: New Parent

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Houston, TX 77004

Note: Modification of this Form requires approval of OGC

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Immediate Signing of Residence Agreement

Identified Electronic Signing Options – cont.

What **CANNOT** be used (due to State requirements):

- Adobe-internal signing (without FOBs) or Adobe Echosign
- True “Digital Signatures” using certificates issued by vendors not approved by TxDIR
- All Symantec certificates are ok

Implement Secure Digital Signatures: E-mail Encryption

- Certificates purchased for UH faculty/staff allow for email encryption
- Currently, 70 staff participating in Pilot
- Campus deployment plan and user documentation being finalized with campus ISOs

Digital Signatures: Next Steps

- What we are doing –
 - Addressing questions about options and appropriate use
 - Preparing user guidance documentation
 - Serving as liaison for UH departments onboarding with Signlx
 - Working with campus ISOs on email encryption deployment

Digital Signatures: Next Steps

- What you can do –
 - Review your business processes requiring signatures
 - Identify areas where signature capture devices could be used
 - Identify candidates for Signlx implementations
 - Implement appropriate business procedures/processes to utilize options
 - Work with your ISO regarding encrypted email deployment for your staff and faculty
 - Provide input on user guidance needed

Questions?

- Business Process/Appropriate Use
 - Mike Glisson, Controller
- Technology - DS Certificates/ SignIx/Encrypted Email:
 - Brian Walker/UIT Security
- Assistance w/ specific Signature Capture Devices:
 - Local IT Support or Vendor