# EXHIBIT 1

Michael Shamos, Ph.D. - February 10, 2020

Page 1

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 1               IN THE UNITED STATES DISTRICT COURT
                 FOR THE DISTRICT OF MASSACHUSETTS
 2

 3        _____
          UNILOC 2017, LLC              )
 4                                      )    Civil Action No.
                     Plaintiff,         )    1:19-cv-11272-RGS
 5                                      )
               VS.                      )
 6                                      )
          PAYCHEX, INC.,                )
 7                                      )
                     Defendant.         )
 8        _____  )
 9        UNILOC 2017, LLC,             )    Civil Action No.
                                        )    1:19-cv-11278-RGS
10                   Plaintiff          )
                                        )
11        VS.                           )
                                        )
12        ATHENAHEALTH, INC.,           )
                                        )
13                   Defendant.         )
          _____)
14

15
                         DEPOSITION
16                          OF
                    MICHAEL SHAMOS, Ph.D.
17                Monday, February 10, 2020
                         9:07 a.m
18

19        Deposition of Michael Shamos, Ph.D., a witness
          herein, taken in accordance with Pennsylvania Rules
20        of Civil Procedure No. 4007.1, by and before
          Dutcheen O. Cameron, Registered Merit
21        Reporter-Certified Realtime Reporter and Notary
          Public in and for the Commonwealth of Pennsylvania,
22        at the offices of Reed Smith, LLC, 225 Fifth Avenue,
          Pittsburg, Pennsylvania, 15222, on Monday,
23        February 10, 2020, at 9:07 a.m.

24
          Reported by: Dutcheen O. Cameron
25
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 1        is that in general parlance, the term application

 2        program is used to distinguish the program from an

 3        operating system program.  So an application program

 4        is able to be invoked by a user to perform functions

 5        for the user.  Now, you can have standalone

 6        applications, for sure.  You can also have

 7        applications that run in a browser.  And there are

 8        many of those.  I've run many applets through

 9        browsers, and those applets can be very extensive in

10        terms of their capabilities so that one would refer

11        to them as applications.  Now, if you want to get

12        into the fine distinction between an applet and an

13        application, if you want to make that distinction,

14        this is as described in Exhibit 6, that would be a

15        way of making the distinction.

16           Q.   And actually -- well, isn't the description

17        excuse me -- strike that.

18                Isn't the distinction being made in 5, 6

19        and 7 -- you can read as much of these you want,

20        they say basically the same thing -- that an

21        application is a standalone program that is not an

22        operating system and performs useful work, while an

23        applet, in fact, isn't a standalone, it needs to run

24        inside a browser, and that is the distinction?

25           A.   Well, there's no question that an applet --
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1          thought something slightly different.   So let's talk

2          about those separately.

3               A.   Yes.

4               Q.   What did you mean when you said "a package

5          file written in Java"?

6               A.   So the term that we're talking about here

7          is file packet or file package.   We're not talking

8          about other kinds of packages.   So a Java package is

9          not necessarily the same thing as a file package.

10         So when somebody -- if somebody came up to me and

11         said, hey, I got a Java package in my pocket, it

12         would be ambiguous.   It could mean a couple of

13         things that I just explained.

14              Q.   Okay.   So when you say a package written in

15         Java, what do you mean by that?

16              A.   Okay.

17              Q.   What is that example?

18              A.   So for decades people have referred to

19         software packages.   Software package is generally a

20         collection of programs that interact with one

21         another in order to perform some function.   And so

22         when we say -- if we just use the word package, it

23         means an application that consists of a package, a

24         software package.   Okay?   There are many ways of

25         distributing software packages.    Sometimes they're

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1        small, sometimes they're very, very large.   So

2        package was a term for a bunch of stuff that you

3        have to put together in order to run an application.

4        So I'm very familiar with Mathematica, which is one

5        of the programs that CMU has licensed.   And it

6        operates in two different ways; one is it runs on a

7        network server, or if you have the relevance status

8        at the university, you can actually download the

9        full application to your own client computer and run

10       it locally.   I have it on this laptop.   I don't have

11       to be connected to any network in order to run

12       Mathematica.

13            Q.    What does it have to do with a package?

14            A.    I'm getting there.   So Mathematica is

15       referred to as a package.   It's a package that

16       performs mathematical operations.   And the reason

17       it's a package is it's not just one thing.   There's

18       a Mathematica code.   There's a Mathematica launcher,

19       actually.   There are mathematical files --

20       Mathematica files that are required during

21       execution.   The program itself will go out and read

22       files from your disc that it needs.   This whole

23       thing together, put together would be referred to as

24       the Mathematica package.   It's a package of

25       software.   I'm not talking about shrinkwrapped with

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