Software Engineering Forum

S·E·F

Распознавание рукописного ввода для Web-приложений с использованием Silverlight

Александр Поклонский, Анастасия Гончарик,
Минск, EPAM Systems

Software Engineering Forum

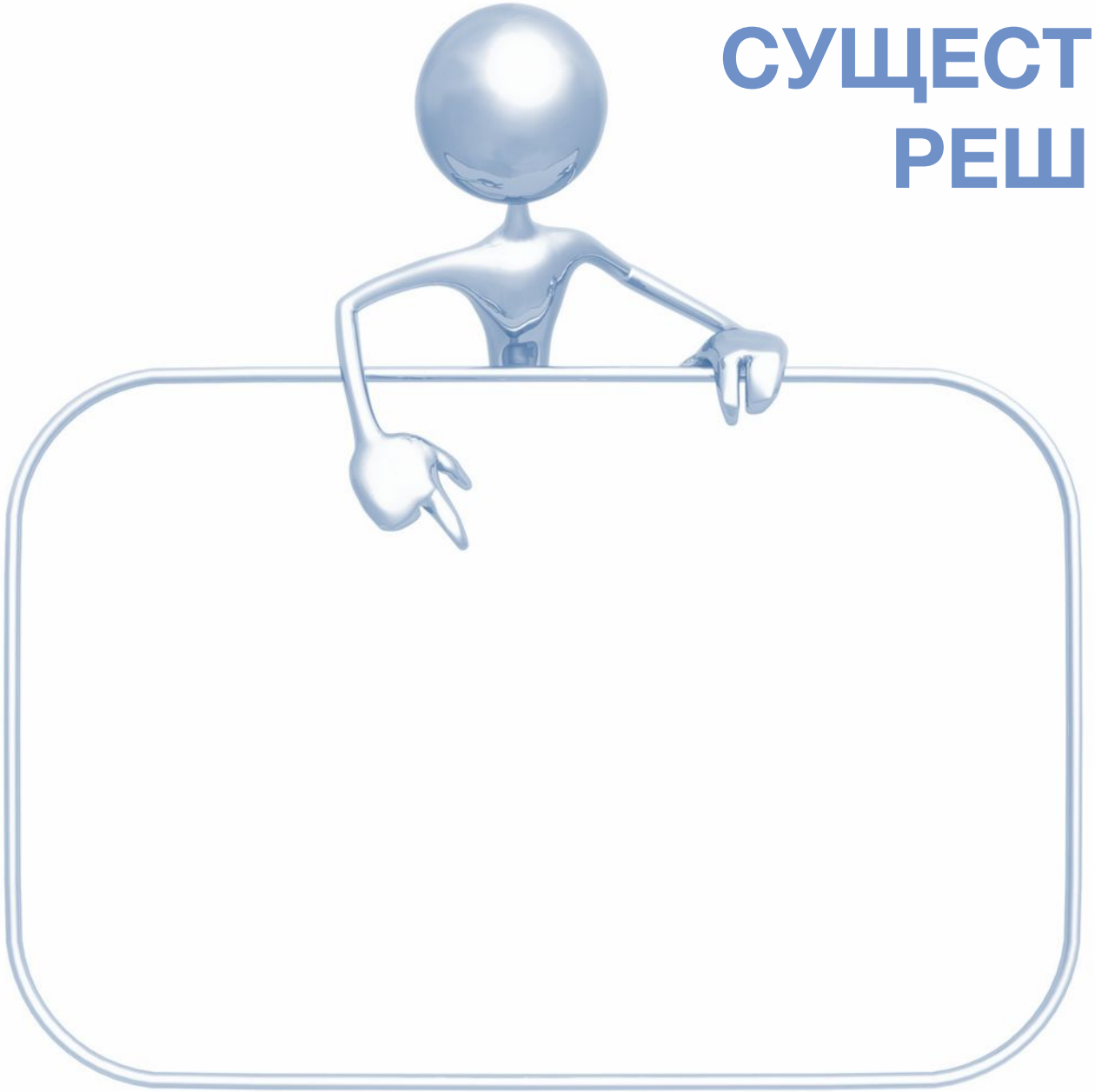
S·E·F

Software Engineering Forum

S·E·F

ИДЕЯ:
ЧТО И ЗАЧЕМ РАСПОЗНАВАТЬ В

СУЩЕСТВУЮЩИЕ РЕШЕНИЯ



Software Engineering Forum

S·E·F

ЦЕЛИ:

- Рукописный ввод текста
- Аутентификация
- Защита от авто регистраций
- Навигация
- Печать подписей
- другие…

Software Engineering Forum

S·E·F

СРЕДСТВО:

Software Engineering Forum

S·E·F

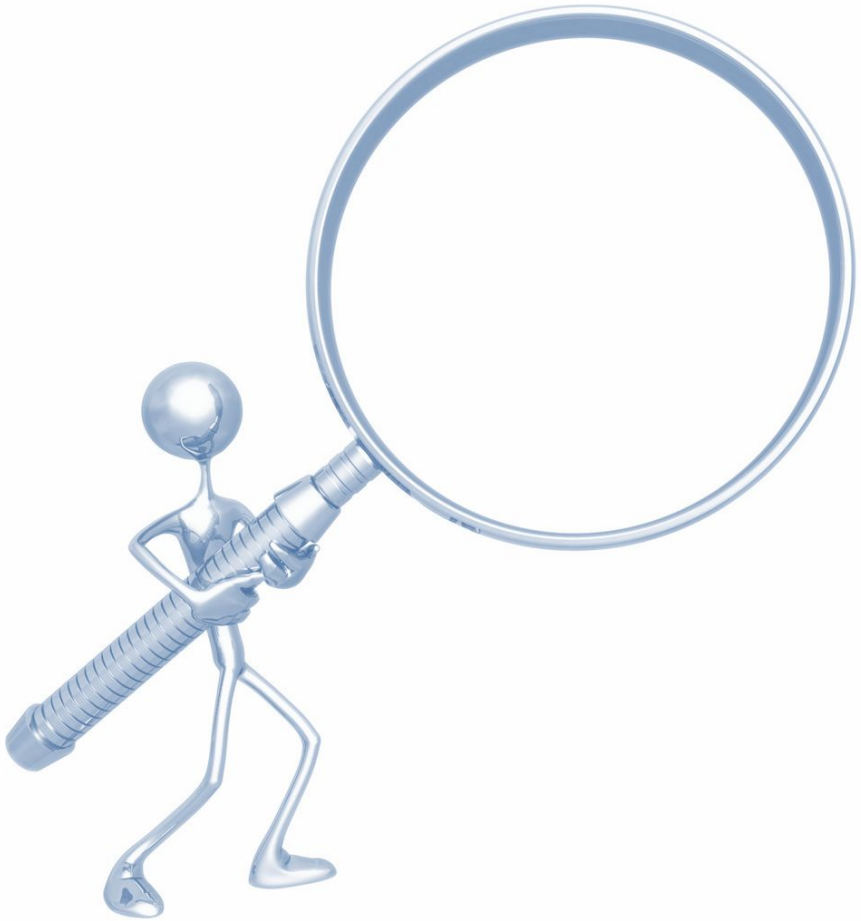
ВОЗМОЖНОСТИ

- События мыши
- Динамическое создание изображений
- WCF сервисы
- HTML Bridge
- InkPresenter
- Tablet PC SDK

Software Engineering Forum

S·E·F

План действий



- Алгоритмы распознавания
- Ввод информации
- Формат представления
- Данные и обработка
- Взаимодействие с сервером

Software Engineering Forum

S·E·F

Table 3—A substantive example of table format

Type of source(s)	Type of calculation					
	First cycle		Interrupting		Medium-voltage circuit breaker close and latch[a]	
	Rate multiplier	Winding multiplier (See Note 2)	Rate multiplier	Winding multiplier (See Note 2)	Rate multiplier	Winding multiplier (See Note 2)
Induction motors Above 75 kW at 1800 r/min	1.0	1.0	0.667	1.5	1.000	1.0
Above 190 kW at 3600 r/min	1.0	1.0	0.667	1.6	1.000	1.0
All others 37 kW and above	1.0	1.0	0.333	3.0	0.833	1.2
All smaller than 37 kW	1.0	1.0	NEGLECT	NEGLECT	—	—

NOTE 1—This table is provided as an example. The structure of actual tables may vary depending on the data being displayed.

NOTE 2—Use 0.75 as the multiplier for hydrogenerators without amortisseur windings.

…иногда результат оставляет желать лучшего

Software Engineering Forum

SEF

.NET:

- Ink
  - Ink
  - Ink Analysis
  - Ink Blog Sample
  - Ink Class
  - Ink Clipboard Sample
  - Ink Collection
  - Ink Collection Sample
  - Ink Controls
  - Ink Cursors
  - Ink Data
  - Ink Data Formats
  - Ink Erasing Sample
  - Ink Hit Test Sample
  - Ink Interoperability
  - Ink method [Ink]
  - Ink Object Events
  - Ink Property [InkCollector Class] (Auto
  - Ink Property [InkCollector]
  - Ink Property [InkDisp Class]
  - Ink Property [InkOverlay Class] (Auton
  - Ink property [InkOverlay]
  - Ink Property [InkPicture Control] (Auto
  - Ink property [InkPicture]
  - Ink Property [InkStrokes Class]
  - Ink Property [Stroke]
  - Ink property [Strokes]
  - Ink Recognition
  - Ink Recognition Sample
  - Ink Segments and Alternates
  - Ink Serialization Sample
  - Ink Web Control Sample
  - Ink Zoom Sample

```
<!--Bind the
    Listbox,
    a ListBox
<InkCanvas Na
           Ca
           He
           De

           Ec

           >
</InkCanvas>

<!--Bind the
    the secon
<InkCanvas Ba
           Ca
           He
           St
           De

           Ec

  <InkCanvas.
    <ScaleTra
  </InkCanvas

</InkCanvas>
```

Microsoft Tablet PC - Tablet PC SDK Versions

Tablet PC SDK Versions

Description of the various versions of the Microsoft® Windows® XP Tablet PC Edition Software Development Kit (SDK).

Developers who want to use the latest features of the Tablet PC SDK should use the latest version of the software development kit (SDK), which is Windows XP Tablet PC Edition Development Kit 1.7.

Version 1.7

Tablet PC SDK 1.7 extends the development functionality beyond that available in version 1.5. See What's New in Tablet PC SDK Version 1.7 for a review of the new features.

In the past, the functionality of version 1.5 was in a separate binary, but in Tablet PC SDK 1.7, all functionality has been placed into one single binary.

Version 1.5

Version 1.5 of the SDK superceded version 1.1. It provided pen input panel and ink analysis features.

Note: If you are installing the Tablet PC SDK version 1.5, after installation you must re-establish references to the Microsoft ink assembly in applications written against previous versions of the Tablet PC SDK before compiling and running.

Version 1.1

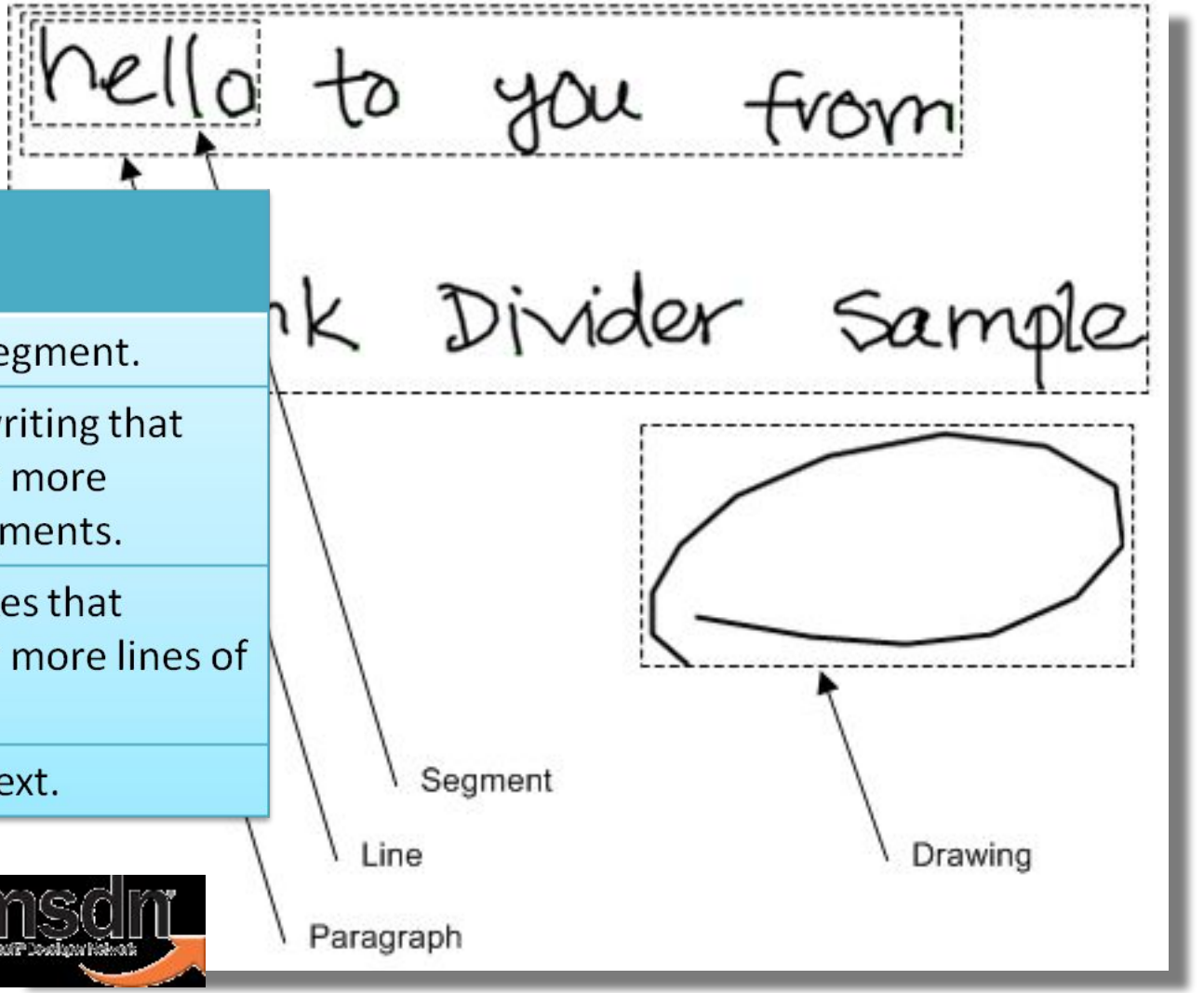
Version 1.1 of the SDK superceded version 1.0. The version 1.1 release consisted solely of updates to the documentation; the platform binaries were not changed between version 1.1 o
shipped version of Windows XP Tablet PC Edition. Therefore, applications develope
1.1 SDK do not need to redistribute any components to use platform features whe
PCs.

Software Engineering Forum

S·E·F

РАСПОЗНАВАНИЕ ИЗНУТРИ

Name	Description
Segment	A recognition segment.
Line	A line of handwriting that contains one or more recognition segments.
Paragraph	A block of strokes that contains one or more lines of handwriting.
Drawing	Ink that is not text.

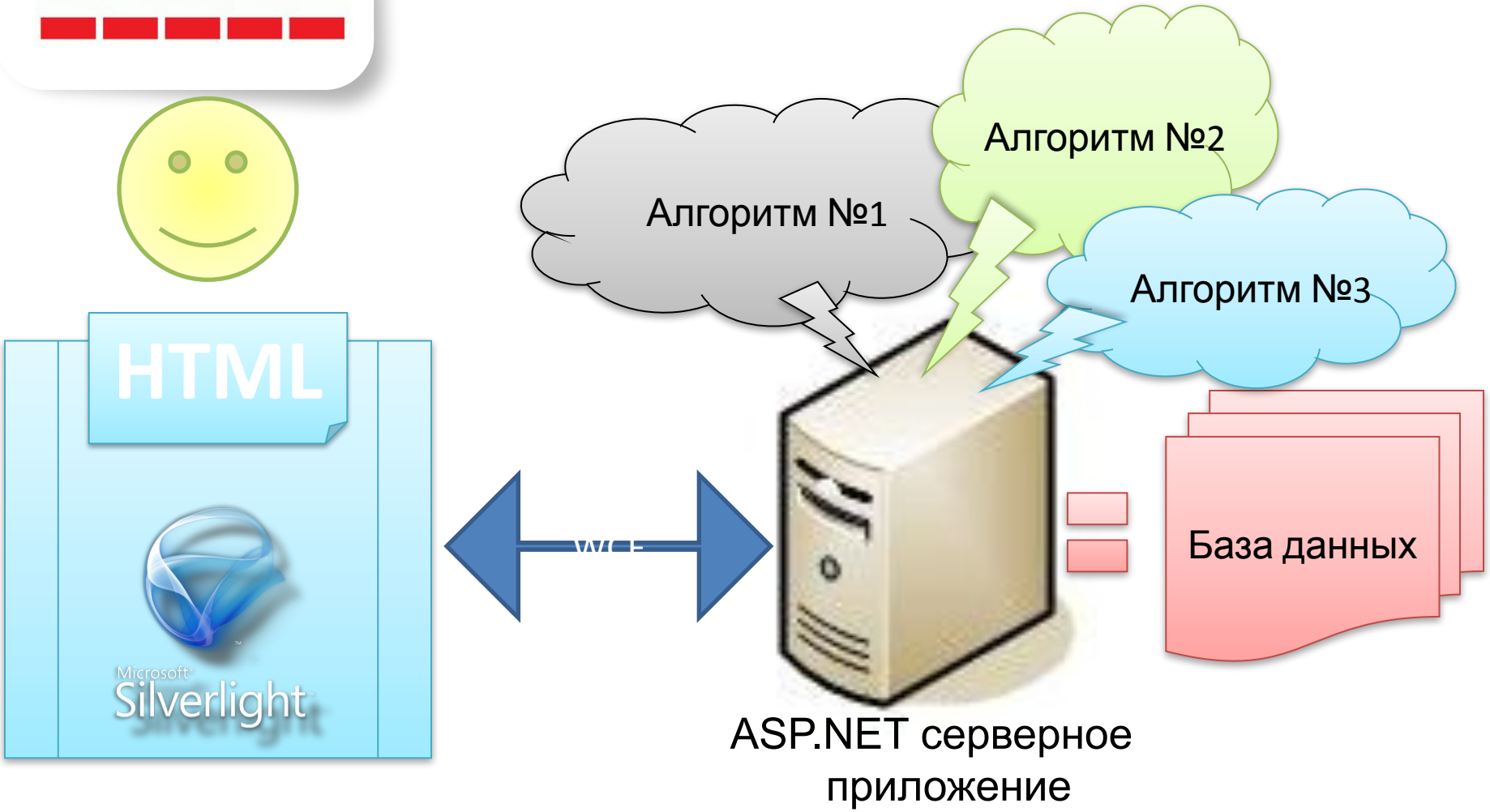


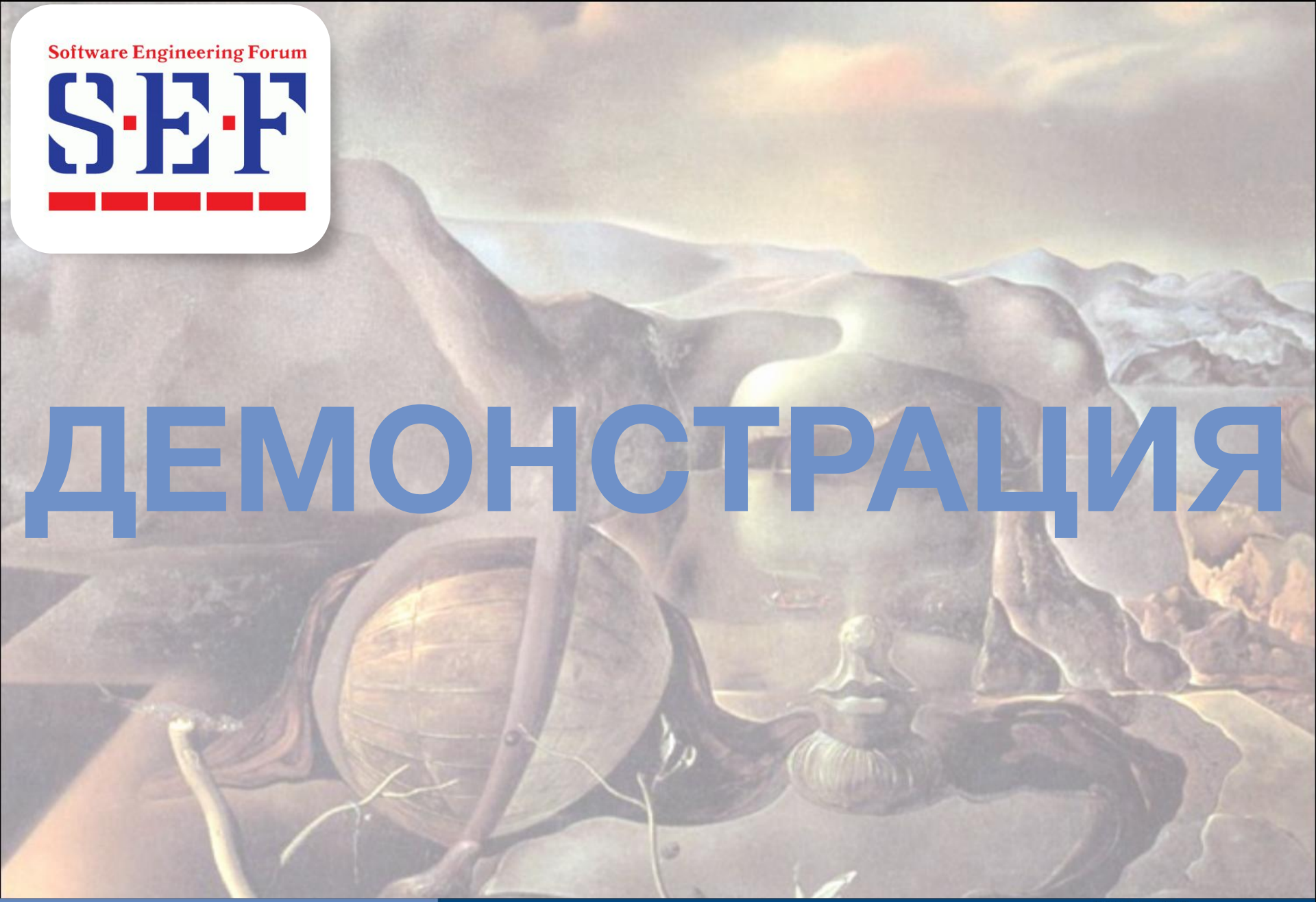
msdn

Software Engineering Forum

S·E·F

СХЕМА:





Software Engineering Forum

S·E·F

ИДЕИ РАЗВИТИЯ: Резюме

- использование для мобильных устройств
- возможность печати рукописного изображения
- расширенное управление web-контентом при помощи распознавания рукописных символов
- дополнительная защита и улучшенная аутентификация пользователей
- построение систем автоматического документооборота

Ссылки

http://silverlight.net
http://msdn.microsoft.com
http://lipitk.sourceforge.net
http://www.cuneiform.ru

ДОКЛАД ПОДГОТОВИЛИ

Анастасия Гончарик

Anastasiya_Goncharik@epam.com

Александр Поклонский

Aliaksandr_Paklonski@epam.com