LMR and Services Demo

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Overview

• CDS Service Goals
• Success Factors
• CDS Web Service Authored Rules
• CDS Web Service Architecture
• CDS Web Service and LMR Reminders
• LMR Reminder Display
• LMR Reminder Acknowledgement Display
• Recorded Demonstration
CDS Service Goals

• To understand the requirements for being able to interoperate across differing institutions, applications, and technologies in the area of clinical decision support, and in particular, to define standards for:
  – Terminology
  – Inputs to a CDS service
  – Outputs from a CDS service

• To demonstrate the workability of the above standards by means of design and implementation of:
  – Rules needed for the demonstrations

• A prototype service
Success Factors

1. Executable rules authored as represented by KTS team
2. Public web service delivered that executes the rules
3. Implementation of web service in EHR/LMR
1. Executable Rules Authored – L4

```xml
<Annotations source="log.rules.base_type">
  <details key="baseType" value="model.brl.ActionRule"/>
</Annotations>

<name>OP0000009_Consider Anti-platelet therapy (Not on antiplatelet_Contraindications present)</name>
<uuid>_qJy1stznEd6ZdxsFwkG2cQ</uuid>
<locale>en_US</locale>
<definition><![CDATA[if it is not true that thePatient has Active Clinical State with code "108972005", code system is SNOMED, qualifier name code system is SNOMED, qualifier value "16629005" and qualifier value code system is SNOMED and thePatient has Active Clinical State with code "108972005", code system is SNOMED, qualifier name code system is SNOMED, qualifier value "410536001", qualifier name code system is SNOMED, qualifier value "405177001" and qualifier value code system is SNOMED then declare 'theAction' as an action; set theAction to a new empty Action of the Recommendation with rule name "OP0000009", rule package "Anti-platelet Therapy Rules", version "1", guideline "Anti-platelet", operator "and";
  //add Message Request with the Message "Patient has CAD or equivalent, consider starting anti-platelet therapy, but potential contraindications exist." and Target Code "309343006" to the Request List of theaction; add Message Request with the Message "Because you have diabetes or heart disease, you might benefit from aspirin or other similar medications to prevent heart attacks and strokes, but there may be a good reason why your doctor has not prescribed it. If you are not taking aspirin regularly, you may want to discuss whether or not you should take aspirin with your doctor." and Target Code "116154003" to the Request List of theaction; declare 'the RequestList' as a request list; set 'the RequestList' to add new RequestList; set the operation of 'the RequestList' to "or";
  add Substance Administration Request with product code "C0004057", route "C38288", alternative text "Start aspirin" to 'the RequestList';
  add Substance Administration Request with product code "C0070166", route "C38288", alternative text "Start clopidogrel" to 'the RequestList';
  add 'the RequestList' to request lists of theaction;
  add Knowledge Asset Request with title "Help me choose: Anti-platelet", identifier "http://help me choose: Anti-platelet", identifier type "URL", knowledge resource type "308910008", alternative text "to theaction;]]>]]></definition>
</extension :ExtendedActionRule>
```
2. Public web service that executes rules

Components and communication mechanisms between consuming applications, ECRS service, and CCD Factory service

Communication mechanisms that are used from the various parts of the Enterprise CDS Framework
CDS Web Service and LMR Reminder

1. LMR Patient Session Opened
2. LMR Calls CDS Web Service
3. CCD is created and CDS Rules fire
4. CDS Web Service produces a Response Object that is fed back to LMR
   a. Patient qualifies for CDS Reminder
   b. Patient doesn’t qualify for CDS Reminder
5. If patient qualifies the CDS Reminder fires and displays in patient record
6. Reminder satisfied by
   a. Physician acknowledging through a coded response
   b. Physician adhering to recommendation and patient complying
   c. Physician documenting contraindication
“Patient with DM overdue for HbA1C (rec: q 6 months)”
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