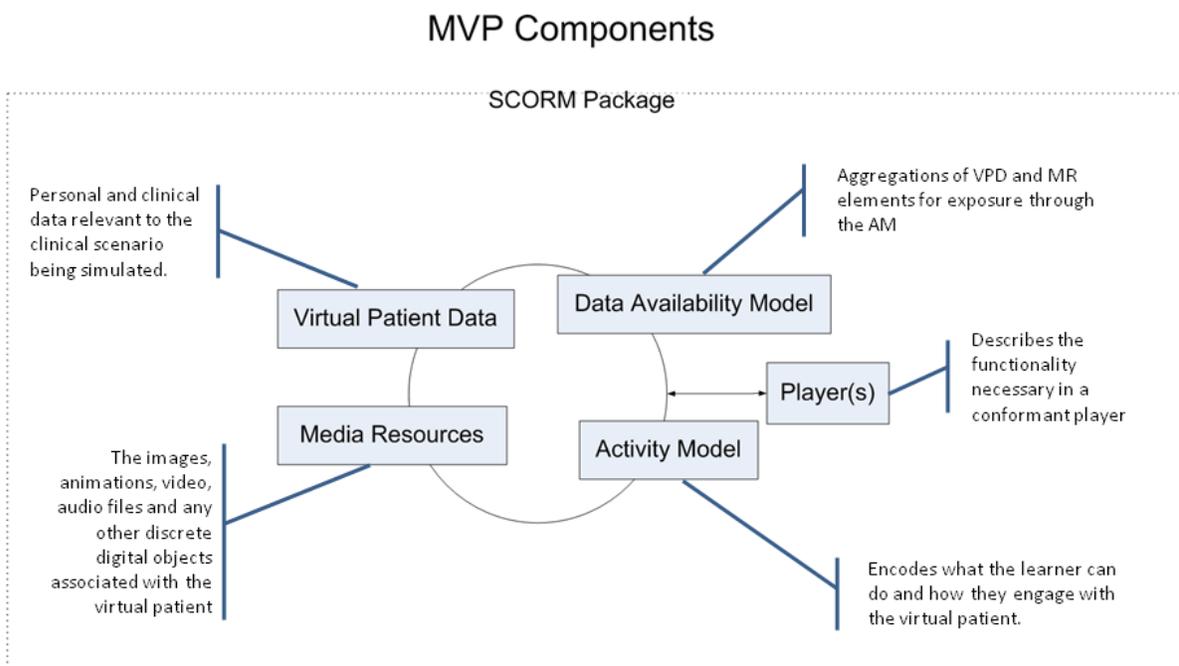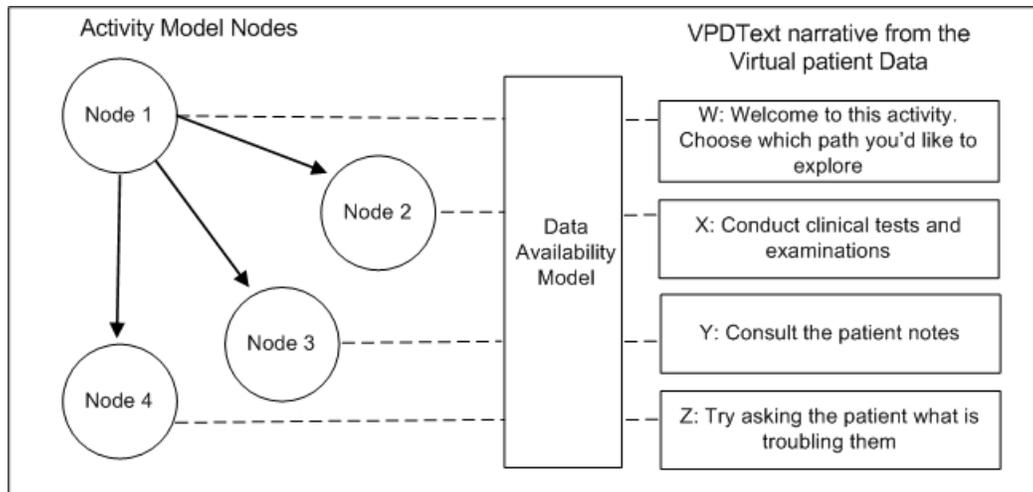# MedBiquitous Virtual Patient Summary

Virtual patients are notoriously difficult and costly to author, adapt and exchange. Historically this has limited their uptake and utility, despite their being able to provide high quality learning opportunities. A standard to enable their exchange across systems has the potential to scale their development and implementation across health professions education, including resource limited settings.

There are many different ways that virtual patients can be created and employed. The MedBiquitous Virtual Patient standard (MVP) has been designed to be sufficiently abstract and adaptable so that it can accommodate a number of forms and uses.

The MVP architecture consists of five components. A functional player specification that describes core functionality is part of the MVP architecture. Conformant MVP packages may contain a player that conforms to the player specification to enable widespread use of virtual patients. Systems importing virtual patients may ignore the player if they have virtual patient player capabilities. The five components are shown in figure 1.

MVP Components

SCORM Package

Personal and clinical data relevant to the clinical scenario being simulated.

Aggregations of VPD and MR elements for exposure through the AM

Virtual Patient Data

Data Availability Model

Player(s)

Describes the functionality necessary in a conformant player

Media Resources

Activity Model

The images, animations, video, audio files and any other discrete digital objects associated with the virtual patient

Encodes what the learner can do and how they engage with the virtual patient.

The Activity Model accesses the Data Availability Model, which references data points within Virtual Patient Data. The result is a path through the content with interactions designed for the learner. The figure that follows illustrates one example.

Activity Model Nodes

VPDText narrative from the Virtual patient Data

Node 1 → Node 2, Node 3, Node 4

Data Availability Model

W: Welcome to this activity. Choose which path you'd like to explore

X: Conduct clinical tests and examinations

Y: Consult the patient notes

Z: Try asking the patient what is troubling them

In addition to passively displaying data elements there are some situations in which data elements need to be triggered to display related elements. For instance, in the case of ordering tests, only those tests that have been requested should be shown to the user.

Some of the general functions included in the Activity Model are:

- Structuring a path through the activity
- Learner interactions with content and data
- User interface controls, including content and activity sequencing based on learner actions or role
- Scoring criteria (both for assessment and content/activity sequencing purposes)
- Timer capabilities
- Learner redirection based on nodes visited and VPD data triggered

MedBiquitous Virtual Patient is an American National Standard. For more information, visit: http://www.medbiq.org/std_specs/standards/