1) A good O-O design would include a deferred class FIGURE or something similar, with subclasses RECTANGLE and LINE_SEGMENT. SQUARE should inherit from RECTANGLE. In FIGURE deferred features move (p: POINT) and name: STRING could be declared. Strict command-query separation should be used. In class APPLICATION, feature make should be altered to call move and name on the FIGUREs. Feature move_and_get_name should be removed. The resulting code should include contracts, e.g. RECTANGLE's move could ensure upper_left.x = old upper_left.x + p.x. The principles applied include abstraction (to form the FIGURE hierarchy) and command-query separation. The language mechanisms facilitating the solution include inheritance, Design by Contract, polymorphic attachment and dynamic binding.

2) Class EVENT_CHANNEL [G] should maintain a private list of subscribers of type LINKED_LIST[PROCEDURE[ANY,G]]. The subscribe procedure should extend this list, and publish should traverse it and call every element with a one-element TUPLE as argument.

3) C.f
   A.g
   A.f
   A.f
   C.f