

```

Module "Record" : Record {
  TypeFunc "RecordType" : * }

Module "Getter" => string => Record : Getter name r {
  TypeFunc "GetType" : *
  Func "get" -> r.RecordType : GetType }
}

Module "Setter" => string => Record : Setter lt r => {
  TypeFunc "SetType" : *
  Func "set" -> (r.RecordType) -> SetType : (r.RecordType)
}

TypeFunc "EmptyRecord" : Record
TypeFunc "RecordField" => string => * => Record : Record
TypeFunc "GetField" => string => Record : Getter
TypeFunc "SetField" => string => Record : Setter

-----
EmptyRecord => Record {

  -----
  RecordType => unit

  -----
  cons -> ()
}

-----
RecordField name type r => Record {
  Func "cons" -> type -> r.RecordType : RecordType

  -----
  RecordType => (type * r.RecordType)

  -----
  cons x xs -> (x,xs)
}

name = lt
-----
GetField lt (RecordField name type r) => Getter name r {
  GetType => type
  get (x,xs) -> x
}

name <> lt
-----
GetField lt (RecordField name type r) => Getter name r {
  TypeFunc "Getfield1" : Getter

  -----
  GetField1 => GetField lt r

  -----
  GetType => GetField1.GetType

  -----
  get (x.xs) -> GetField1.get xs
}

name = lt
-----
SetField lt (RecordField name type r) => Setter name r{
  -----

```

```

SetType => type

-----
set (x,xs) v -> (v,xs)
}

name <> lt
-----
SetField lt (RecordField name type r) => Setter name r {
  TypeFunc "SetField1" : Setter

  -----
  SetField1 => SetField lt r

  -----
  SetType => SetField1.SetType

  -----
  set (x,xs) v -> SetField1.set xs v
}

=====
Ship
{
  Position : Vector3
  Velocity : Vector3
}

TypeFunc "Ship" : Record

-----
Ship => RecordField "Position" Vector3 (RecordField "Velocity" Vector3 EmptyRecord)

let ship =
{
  Position = Vector3.Zero
  Velocity = Vector3.Zero
}

Func "ship" : Ship.RecordType

-----
ship -> Ship.cons(Vector3.Zero,(Vector3.zero,()))

let getPos = Ship.Position

Func "getPos" -> Ship : Vector3

GetField "Position" Ship => getter
getter.get ship -> f
-----
getPos -> f

let new_ship = { ship with Velocity = Vector3(0,1,0) }

Func "setVel" : Ship.RecordType

SetField "Velocity" Ship => setter
setter.set ship -> s
-----
setVel -> s

```