

Designing Web Application to Simulate Agricultural Management for Smart Farmer: Land Development Department's Integrated Management Farm

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Abstract : LDD's IM Farm or Land Development Department's Integrated Management Farm is the agricultural simulation application developed by Land Development Department relies on actual data in simulation game to grow 12 cash crops which are rice, corn, cassava, sugarcane, soybean, rubber tree, oil palm, pineapple, longan, rambutan, durian, and mangosteen. Launching in simulation game, players could select preferable areas for cropping from base map or Orthophoto map scale 1:4,000. Farm management is simulated from field preparation to harvesting. The system uses soil group, and present land use database to facilitate player to know whether what kind of crop is suitable to grow in each soil groups and integrate LDD's data with other agencies which are soil types, soil properties, soil problems, climate, cultivation cost, fertilizer use, fertilizer price, socio-economic data, plant diseases, weed, pest, interest rate for taking on loan from Bank for Agriculture and Agricultural Cooperatives (BAAC), labor cost, market prices. These mentioned data affect the cost and yield differently to each crop. After completing, the player will know the yield, income and expense, profit/loss. The player could change to other crops that are more suitable to soil groups for optimal yields and profits.

Keywords : agricultural simulation, smart farmer, web application, factors of agricultural production

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