DyeWorks – TWU 2011 Game Development Program

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Presented to ESLI visitors
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TRINITY WESTERN UNIVERSITY

Game Development Program

- Interdisciplinary, project-based capstone course
- 3rd and 4th year students from
  - Computing, Art, Music, Business, Communic., ...
- 15 credit hours for Certificate in Game Design:
  - 3cr discipline-specific prep work (Su-Fa 2010)
    - Game design, management, software engineering
  - 6cr production (Spr 2011)
  - 6cr beta production and post-prod. (Sum 2011)
- Objectives: interdisciplinary teamwork, production, and creating a fun, compelling game!

2009: Label: Rise of Band

- In 2009, we produced “Label: Rise of Band”
  - Turn-based, strategy game
  - You play an independent music label
  - Decide how to spend money, time
- All original artwork, sound/music
- Implementation in Python / pygame
- Freely downloadable: labelriseofband.com

2011: DyeWorks

- In 2011, we are producing "DyeWorks":
  - Collect materials, make dyes, and conquer the market to earn the biggest profit as a manufacturer in the historical world of the booming 19th century textile industry!
- Target market is grade 8-9 (13-14 year olds)
- Educational game, touching on chemistry, exploration, marketing, fashion design, etc.
  - Original concept: life of E.I. duPont
- Story: your family has died of typhoid and left you in charge of the business: make decisions and build up the family business!

Mission Statement

- Our mission is to educate and entertain grade 7-10 students about the historical aspects of the dye industry of the 19th century by creating an original computer game while providing a learning experience for the interdisciplinary Game Development Team within the framework of a Christian worldview.

Game structure: goal

- Game player attention span is limited, so we offer six mini-games, each playable within a few mins
  - Can play each mini-game several times
- "Shell" game ties them all together, provides navigation and "levels" of difficulty
- Maximize profit by:
  - maximizing price per unit
  - minimizing cost per unit
  - maximizing total sales
- Each mini-game affects one of these components

Mini-games

- Chemistry research game (affects price):
  - mix colours and create new dyes
- Temperature control game (affects cost):
  - pots of dyes: don't let them overcook!
- Resource gathering game (affects sales):
  - Mario-like exporation of environments, gather plants
- Transportation game (affects cost):
  - Decide on fastest/cheapest route to deliver goods
- Marketing game (affects sales):
  - Send out more salespeople than competitors
- Clothing / fashion matching game (affects price):
  - Match with fashion magazines, using our dyes

Team organization

- 3 Executive Producers (faculty):
  - Kevin Schut, Alma Barranco, Sean Ho
- 1 Program Manager: Tabitha Ewert (Bus. student)
- Skills-based teams:
  - Game design team (lead: Kevin Schut)
  - Art team (lead: Alenka Kyslik)
  - Writing team (lead: Heather Cerny)
  - Software team (lead: Joy Roodnick)
- Interdisciplinary teams:
  - User Interface, Quality Assurance, ...

Pre-Production

- Concept: mission (of project), concept (of game), genre, stakeholders, risk analysis: → pitch
- Features: decomposition of the task
  - Assets: art, sound, text
  - Software components
  - Prioritize: MoSCoW must / should / could / won't
- Milestones: date + deliverables
- Schedule / Game Plan:
  - Dependencies amongst features/assets/tasks
  - Estimate needed time/resources (this is hard!)
  - Feasibility: reduce features if necessary

Agile development model

- "Waterfall" method does each stage completely before moving on, in a rigid fashion:
  Requir. → Planning → Production → QA → Release
  - Hard to determine requirements in advance
  - Hard to estimate needed time/HR/tools
- Agile (aka Spiral) methods are "iterated waterfall"
  - Scrum is one such method
  - Each iteration through the spiral is a sprint
    - Sprints need to be short! 1-4 weeks
  - Early prototypes → early feedback