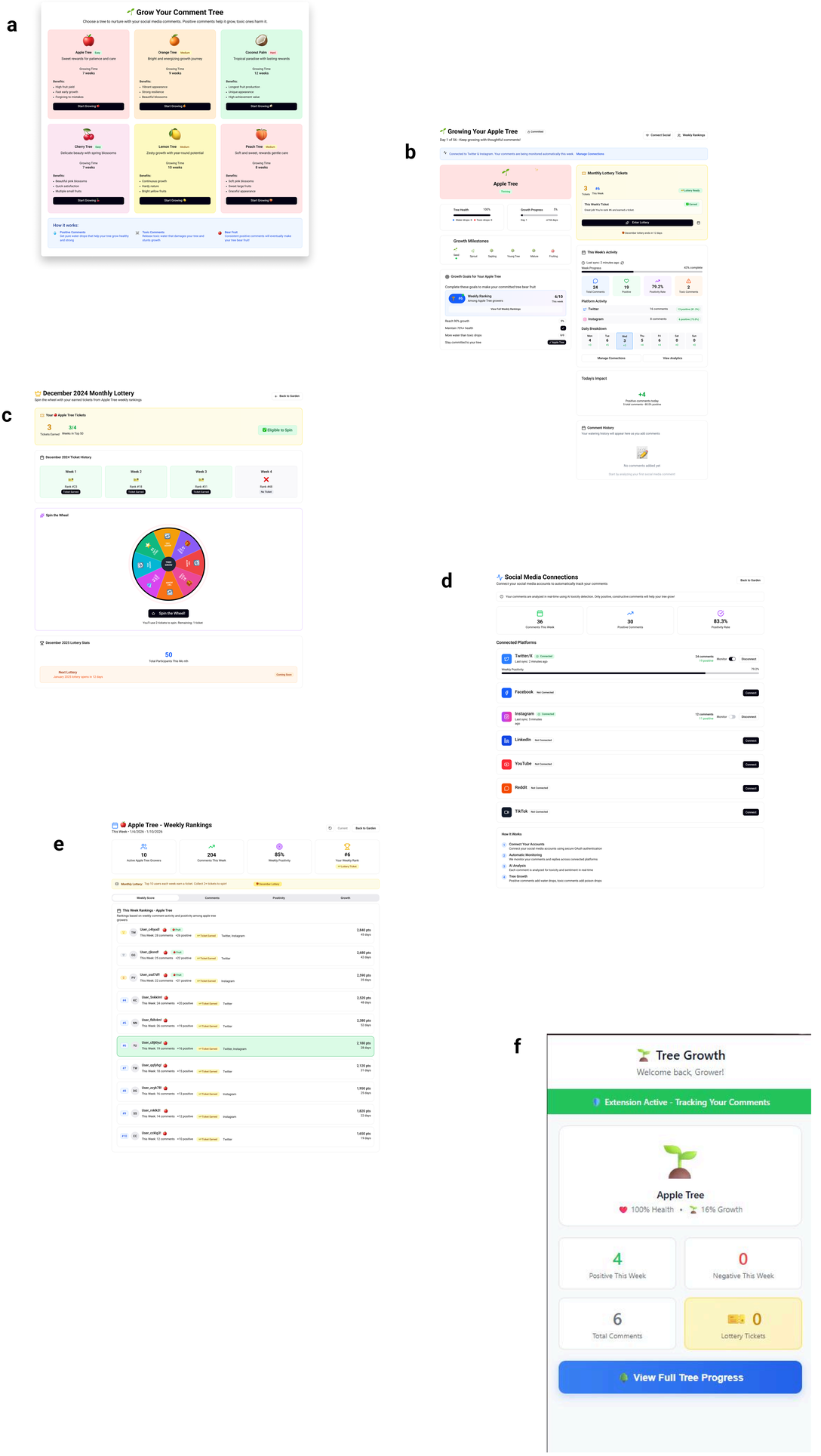

Supplementary Figure 1: Interface Display

a. Tree Selection Screen: Initial onboarding interface where participants select one of six tree species to grow: Apple (🍎, 60 days, easy), Orange (🍊, 75 days, medium), Pine (🌲, 90 days, hard), Cherry Blossom (🌸, 45 days, easy), Lemon (🍋, 65 days, medium), or Rose (🌹, 80 days, hard). Each tree card displays growth duration, difficulty level, and aesthetic benefits. This commitment mechanism was designed to increase participant investment in maintaining positive behavior. The "How It Works" section explains the water/poison drop feedback system and tree death consequences.

b. Main Dashboard - Tree Visualization:** Central game screen showing the participant's active tree with animated growth stages (seedling → sapling → young tree → mature tree → fully grown). Real-time visual feedback system displays water drops (💧) for positive comments and poison drops (☠️) for toxic comments, with corresponding animations affecting tree health. Progress indicators show days remaining until full growth and current health status. The tree emoji updates dynamically based on health level (healthy, wilting, or dead state).

c. Bi-weekly Lottery Wheel: Gamification feature showing accumulated lottery tickets (earned by maintaining top 10 weekly ranking). Participants spend 2 tickets per spin to win virtual prizes). The lottery interface displays ticket balance, earning history ("Top 10 in Week 1: +2 tickets"), and next drawing date. This reward mechanism provides extrinsic motivation beyond the intrinsic tree-growing feedback.

d. Social Media Platform Connections: Settings panel for managing which platforms the extension monitors. Participants toggle monitoring on/off for: Twitter/X, Reddit, Facebook, YouTube, Instagram, and TikTok. Detection algorithms run in content scripts on each platform, identifying comment submission events and extracting comment text for real-time AI analysis. A connection status indicator shows "Monitoring Active" or "Paused" for each platform.

e. Weekly Leader-board Ranking: Dashboard card displaying participant's current leader-board position (top 10 highlighted with blue gradient badge), weekly ranking change, and total water drops earned. The ranking system creates social comparison and competitive motivation. Participants in the top 50 positions earn lottery tickets (shown with live counter). Weekly goals checklist tracks milestones: "Post 10 positive comments" (achieved/pending), "Maintain tree health >80%", "Reach top 50 ranking", and "Earn 5+ water drops daily."

f. Browser Extension Popup View: Quick-access interface (380×600 px) displaying real-time tree health (green progress bar, 0-100%), growth progress (gray bar, 0-100%), cumulative water drops (positive comments) and poison drops (toxic comments), and current tree emoji visualization. Participants access this popup while browsing social media to monitor immediate feedback on their commenting behavior. The monitoring status toggle indicates active comment tracking.