

# Visual Exploration of Preference-based Routes in Ski Resorts

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## Motivation

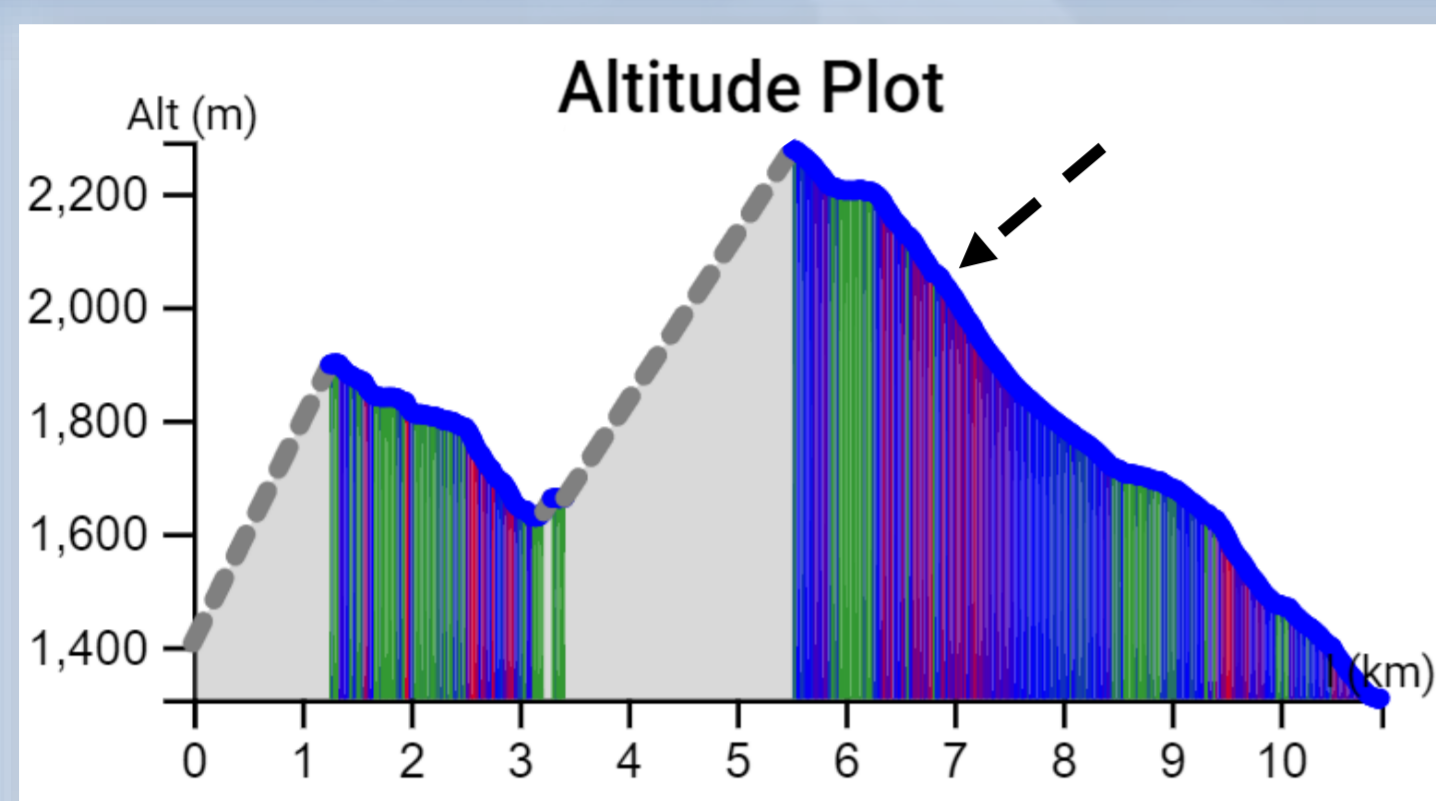
- Ski resorts are a network of lifts and pistes
- Lift types: t-bar chairlift gondola cable car
- Piste types: ● easy ● intermediate ● advanced
- Preferences vary among skiers (novice - expert)

## Design

- Topographic Map layout
- Triangles encode segment steepness
- Routing according to preferences
- Additional route information

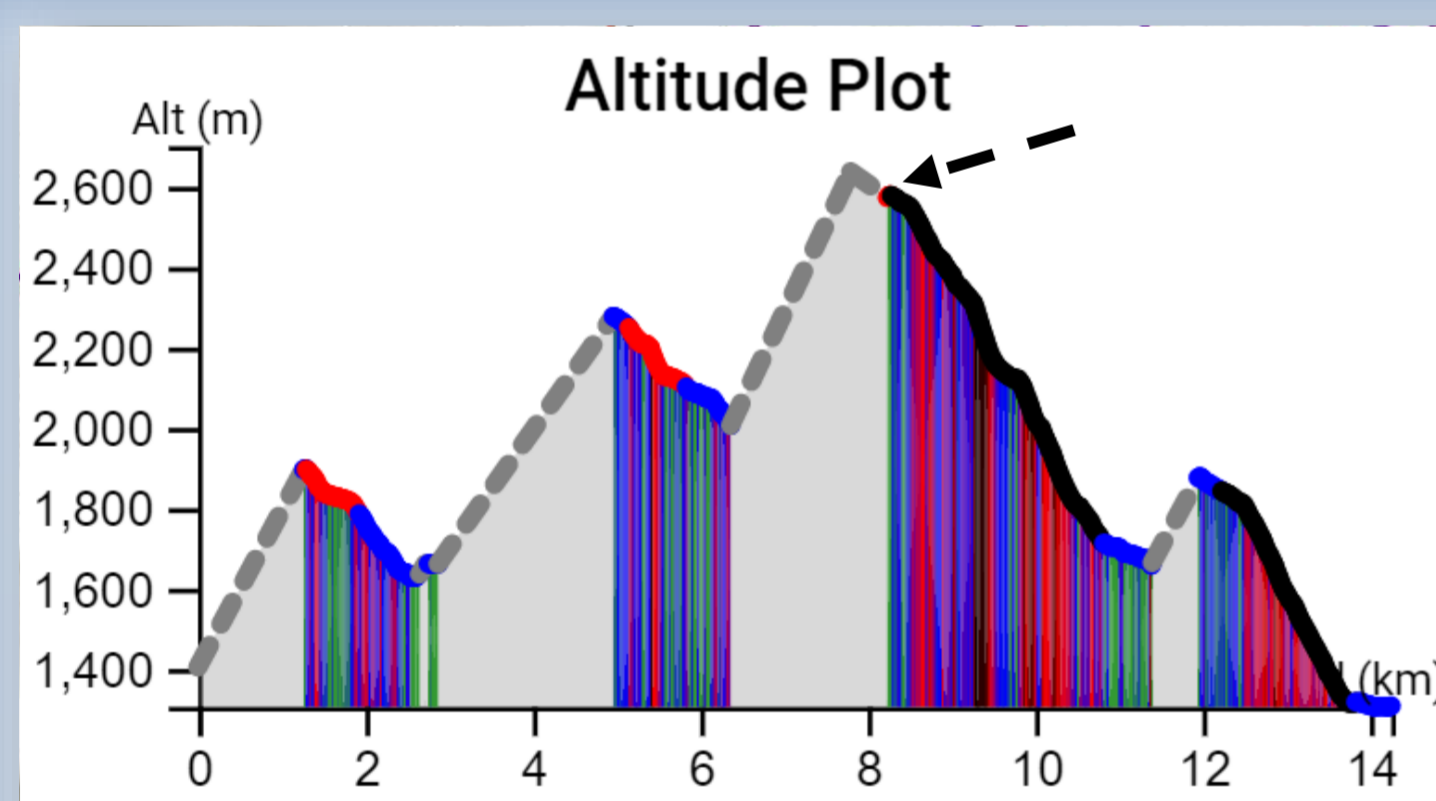
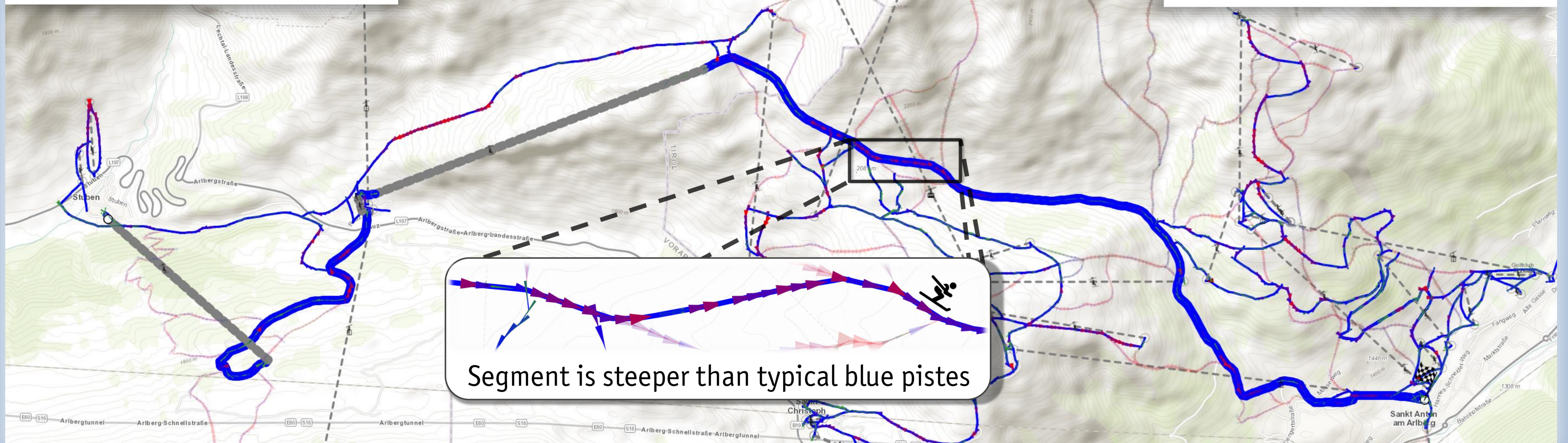
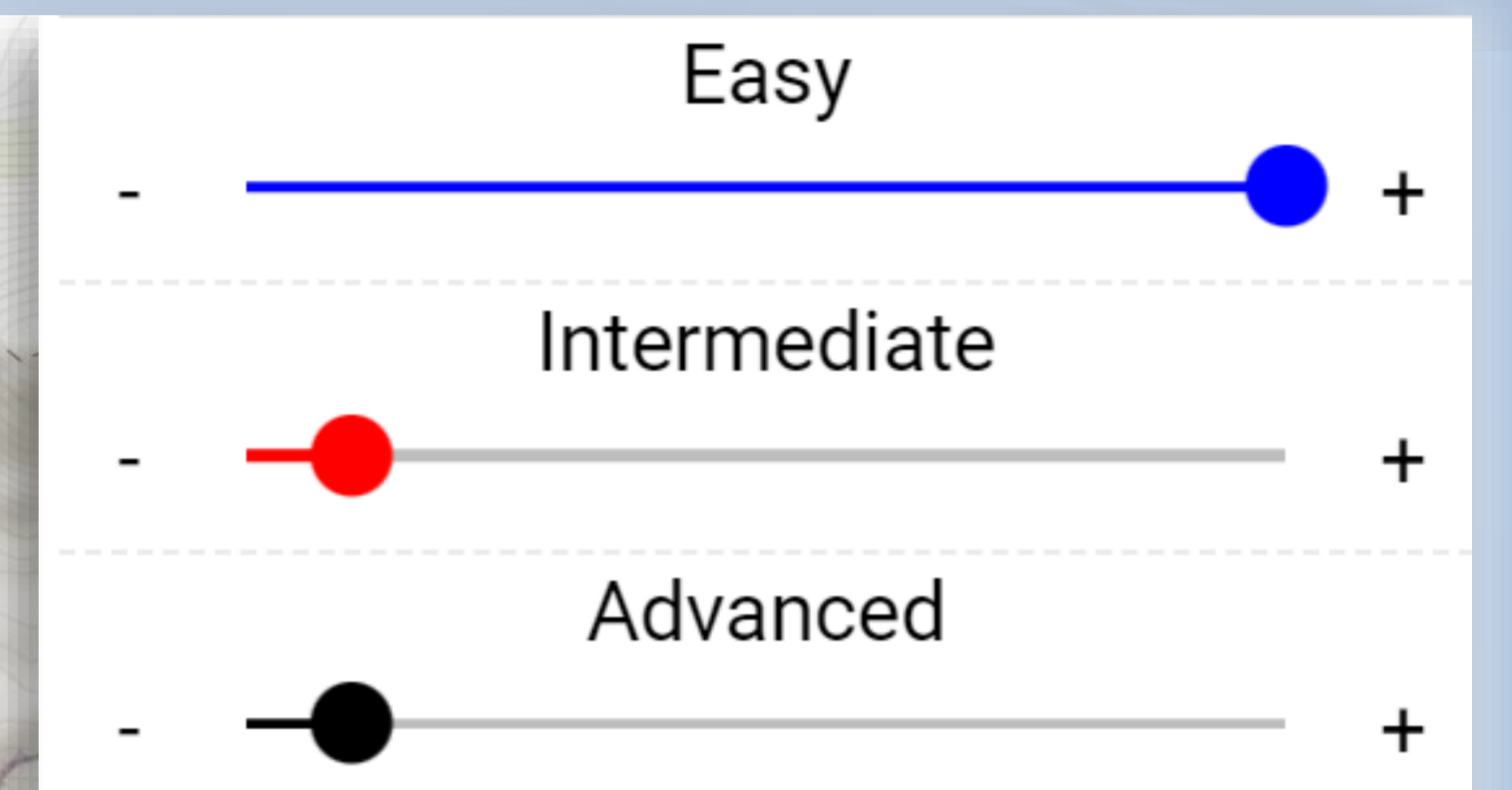
## Use Cases

- Route planning in large, unknown ski resorts
- Piste type and steepness exploration
- Exposing discrepant steepness sections
- Displaying uphill segments



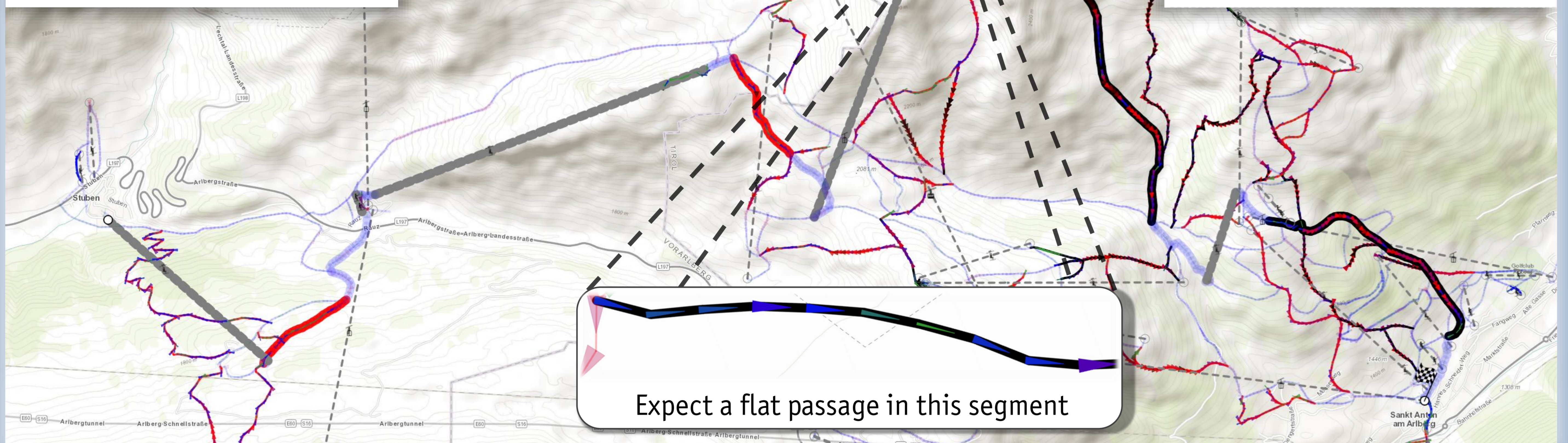
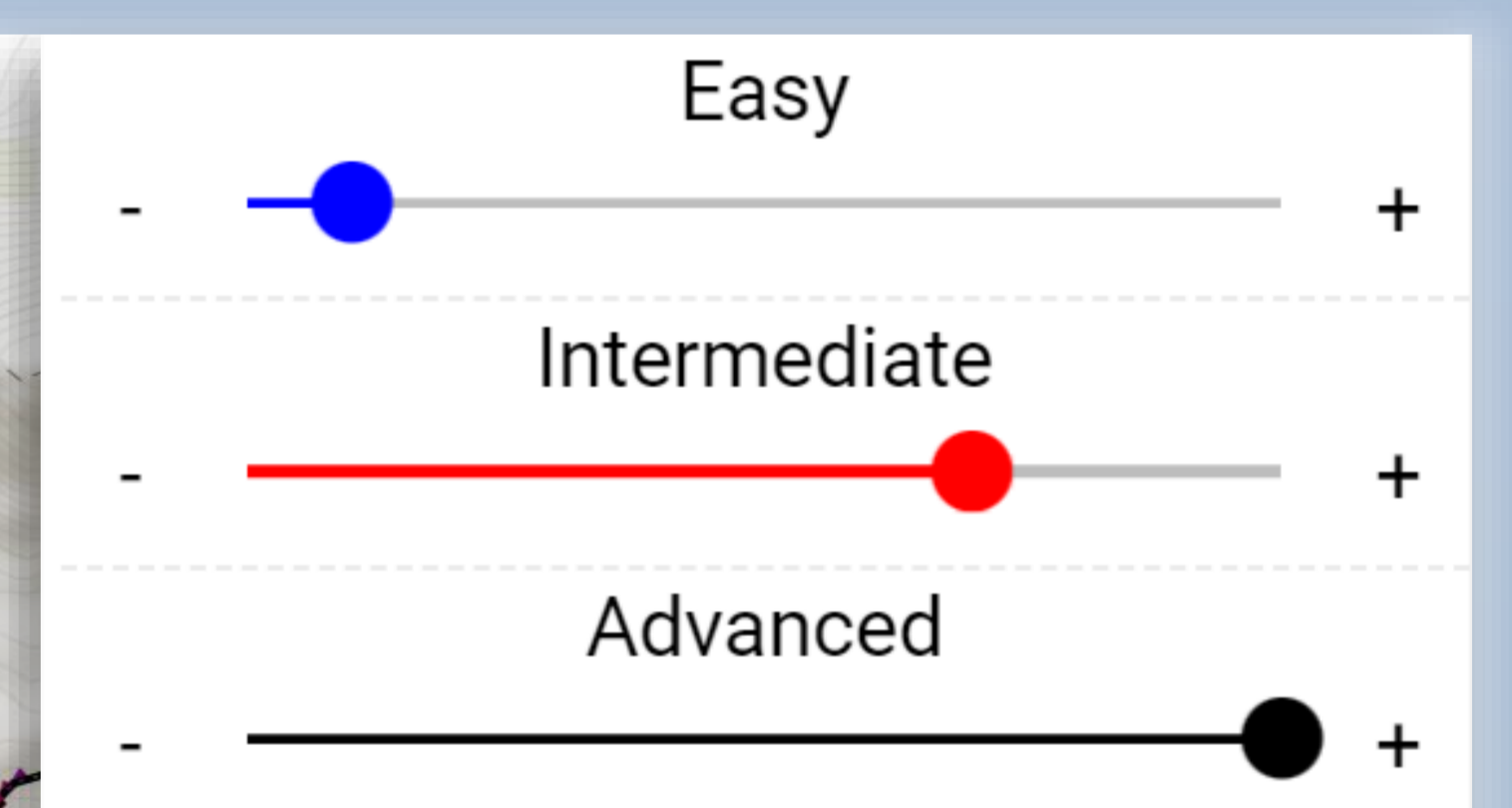
## Easy Route

Maximizes on blue pistes  
Avoids red and black pistes



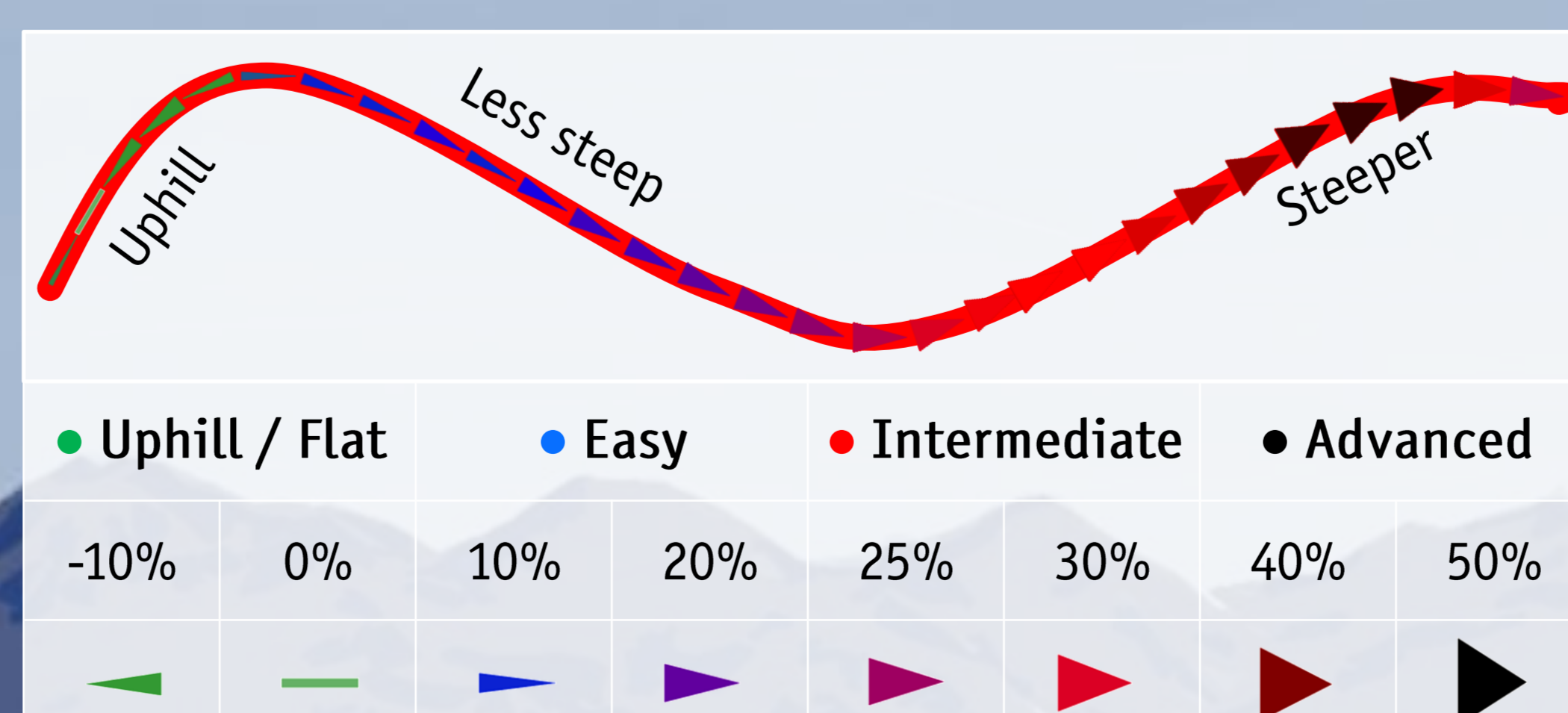
## Advanced Route

Maximizes on black pistes  
Takes additional lifts



## Discussion

- Steepness is not the only criteria for difficulty
- Occlusion of piste color by triangle
- Red-Green Color blindness



## Outlook

- Multi-criteria preference-based routing
  - Steepness, altitude, compass direction, grooming
- Identical start & end location
  - Prize-collecting Traveling Salesman

